MINUTES
TOWN OF AMHERST
AMHERST PLANNING BOARD MEETING
May 16, 2024
6:30 PM

The Planning Board will hold a public work session at 6:00PM in the Amherst Municipal Building, 5583 Main Street, Williamsville, NY 14221 on the same date.

This meeting is being video recorded.

ROLL CALL

Attendee Name	Organization	Title	Status	Arrived
Michael Chmiel	Town of Amherst	Chair	Present	
John B. Davis	Town of Amherst	Board Member	Absent	
Harbinder Gill	Town of Amherst	Board Member	Present	
Dal Giuliani	Town of Amherst	Board Member	Absent	
Carrie H. Kahn	Town of Amherst	Board Member	Present	
Brittany Lee Penberthy	Town of Amherst	Board Member	Present	
Joseph P. Raffaele Jr.	Town of Amherst	Board Member	Present	
Dan Howard	Town of Amherst	Planning Director	Present	
Daniel J. Ulatowski	Town of Amherst	Assistant Planning Director/ZEO	Present	
Scott Marshall	Town of Amherst	Principal Planner	Present	
Gary Palumbo	Town of Amherst	Associate Planner	Present	
James Quinn	Town of Amherst	Assistant Planner	Present	

Amy Carrato	Town of Amherst	Community Development Assistant	Present	
Nora B. Robshaw	Town of Amherst	Deputy Town Attorney	Present	

Note: There will be no public hearing or opportunity to speak for the projects listed under the Unfinished Business section of this agenda.

Please note the following time limits for speakers at public hearings:

- **Presentation by Petitioner: 15 minutes**
- **Rebuttal by neighborhood/resident spokesperson: 15 minutes**
- **Individual speakers: 3 minutes**

PUBLIC HEARINGS

SITE PLANS & RELIEF FROM CONDITIONS OF SITE PLANS

1. PROPOSED SELF-STORAGE FACILITY, SP-2023-12
Property located at 2495 Wehrle Drive
416 Homez Inc., Petitioner

1/18/2024

No comments were heard on this proposal.

Following discussion, Ms. Penberthy moved to adjourn the request. The motion was seconded by Mr. Gill and carried. Ayes 5, Noes 0, Absent 2 (Giuliani, Kahn).

2/15/2024

Proposed single story, 70,786+/- sf. climate controlled self-storage facility including vehicle use areas, landscaping and other associated site work. Vehicular access to the site from Wehrle Drive to the site is via an existing shared driveway with the parcel to the south at 2491 Wehrle Drive that aligns with Berkley Road to the north. Parking for 16 vehicles is provided (11 in the northwest portion of the site, 3 along the east side and 2 along the south side of the building). Site work will also include piping a portion of Town Ditch 18A which runs east west just south of the proposed building.

Mark Dean, Dean Architects, represented the petitioner, explained the proposal and was available to answer questions from the Board. Mike Metzger, Metzger Civil Engineering, was also present.

In response to the Board's questions, Mr. Dean stated the petitioner is working with NYSOPRHP.

No further comments were heard on this proposal.

Following discussion, Ms. Penberthy moved to keep the public hearing open and adjourn the request. The motion was seconded by Mr. Giuliani and carried. Ayes 6, Noes 0, Absent 1 (Gill).

4/16/2024

No further comments were heard on this proposal. The hearing was closed.

Following discussion, Ms. Penberthy moved to approve the Negative Declaration. The motion was seconded by Ms. Kahn and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

Following the approval of the Negative Declaration, Ms. Penberthy moved to approve the request based on the resolution. The motion was seconded by Mr. Raffaele and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Brittany Lee Penberthy, Board Member
SECONDER:	Joseph P. Raffaele Jr., Board Member
AYES:	Chmiel, Gill, Kahn, Penberthy, Raffaele Jr.
ABSENT:	Davis, Giuliani

2. PROPOSED TRADITIONAL NEIGHBORHOOD DEVELOPMENT AND 2 MIXED-USE BUILDINGS, SP-2022-03A
Property located at 4300 Millersport Highway
Cimato & Sons, Petitioner

May 16, 2024

Proposed development consisting of 38 patio homes, 40 townhomes (Phase 1), and water, sewer, stormwater and road improvements. The previously proposed Agricultural Park at the north end of the site has been eliminated in order to shift the housing out of the regulated wetlands identified in an updated delineation.

Sean Hopkins, Esq., Hopkins Sorgi & McCarthy, represented the petitioner, explained the proposal and was available to answer questions from the Board. Pat Bittar, Wm Schutt & Associates, was also present.

In response to the Board's questions, Mr. Hopkins stated there will be internal sidewalks, a sidewalk waiver is requested for Smith Road, Millersport Highway and New Road, development on a public road will generate tax revenue for the Town, the Town Board has to approve a public road, and many public roads in Amherst are only used by those who reside there.

Jonathan and Ashley Rich, 210 Smith Road, spoke in opposition of the proposal.

No further comments were heard on this proposal. The hearing was closed.

Ms. Penberthy moved to reopen the public hearing. The motion was seconded by Ms. Kahn and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

Following discussion, Ms. Penberthy moved to adjourn the request. The motion was seconded by Ms. Kahn and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

RESULT:	**ADJOURNED [UNANIMOUS]**	**Next: 6/25/2024 6:30 PM**
MOVER:	Brittany Lee Penberthy, Board Member	
SECONDER:	Carrie H. Kahn, Board Member	
AYES:	Chmiel, Gill, Kahn, Penberthy, Raffaele Jr.	
ABSENT:	Davis, Giuliani	

3. PROPOSED COMMERCIAL/APARTMENT BUILDING, SP-2024-03
Property located at 6812, 6814 & 6832 Main Street and 29 & 37 Tennyson Terrace
6812 Main Street LLC, Petitioner

Proposed demolition of an existing single-family home and an existing commercial building and construction of a commercial/apartment building consisting of 13,500± sf of commercial space and 34 residential apartments for lease.

Sean Hopkins, Esq., Hopkins Sorgi & McCarthy, represented the petitioner, explained the proposal and was available to answer questions from the Board. Pat Sheedy, Carmina Wood Design, Dave Sutton, Sutton Architecture, and Paul Bliss were also present.

In response to the Board's questions, Mr. Hopkins stated the exterior of the buildings will be consist to the neighboring buildings.

Kathleen McHugh, 64 Tennyson Terrace, and Jane & Wayne Dietz, 61 Tennyson Terrace, spoke in opposition of the proposal. Sean Brennan, 43 Caesar Boulevard, spoke in favor of the proposal.

No further comments were heard on this proposal. The hearing was closed.

Following discussion, Ms. Kahn moved to approve the Negative Declaration. The motion was seconded by Mr. Raffaele and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

Following the approval of the Negative Declaration, Mr. Gill moved to approve the request based on the resolution. The motion was seconded by Mr. Raffaele and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Harbinder Gill, Board Member
SECONDER:	Joseph P. Raffaele Jr., Board Member
AYES:	Chmiel, Gill, Kahn, Penberthy, Raffaele Jr.
ABSENT:	Davis, Giuliani

SUBDIVISIONS & RELIEF FROM CONDITIONS OF SUBDIVISIONS

None

REZONING & RELIEF FROM CONDITIONS OF REZONINGS

None

MISCELLANEOUS

4. REQUEST TO AMEND FIGURE 6 OF THE BICENTENNIAL COMPREHENSIVE PLAN FROM "RECREATION, OPEN SPACE AND GREENWAYS" AND "INDUSTRIAL-OFFICE" TO "COMMERCIAL/MIXED USE AND FIGURE 6A TO "SUBURBAN CENTER" FOR 62 ACRES OF LAND, BCPA-2024-01
Property located at 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard (portion)
SBLC Development Corporation, Petitioner

Proposal to amend the Bicentennial Comprehensive Plan to change the land use designation on Figure 6 from “Recreation, Open Space & Greenways” and “Industrial Office” to “Commercial/Mixed Use” and Figure 6A to create a “Suburban Center” to allow for the potential future rezoning and construction of two mixed-use buildings each consisting of 4,000 sq. ft. of first floor commercial space (8,000 sq. ft. total) and 15 - 1st floor apartments and 20 - 2nd floor apartments, 86 townhome style units with attached garages, 55 lots for detached single-family homes, 64 multifamily units (140 residential units total) and all related site improvements including roadways, stormwater management, landscaping, lighting, utility improvements and connections.

Sean Hopkins, Esq., Hopkins Sorgi & McCarthy, represented the petitioner, explained the proposal and was available to answer questions from the Board.

In response to the Board's questions, Mr. Hopkins stated the isn't a demand for industrial uses in Amherst and there is a strong demand for apartments in WNY.

No further comments were heard on this proposal. .

Following discussion, Ms. Penberthy moved to deny the request based on the resolution. The motion was seconded by Mr. Gill and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

RESULT:	**DENIED [UNANIMOUS]**
MOVER:	Brittany Lee Penberthy, Board Member
SECONDER:	Harbinder Gill, Board Member
AYES:	Chmiel, Gill, Kahn, Penberthy, Raffaele Jr.
ABSENT:	Davis, Giuliani

OTHER COMMUNICATIONS

None

All public hearings are completed and closed at the termination of public discussion for each agenda item unless otherwise specified by the Chair.

UNFINISHED BUSINESS

Note: All public hearings have been completed. There will be no public hearings for items listed under this section.

SITE PLANS & RELIEF FROM CONDITIONS OF SITE PLANS

None

SUBDIVISIONS & RELIEF FROM CONDITIONS OF SUBDIVISIONS

REZONING & RELIEF FROM CONDITIONS OF REZONINGS

None

MISCELLANEOUS

None

OTHER COMMUNICATIONS

None

DIRECTOR'S REPORT

MINUTES APPROVAL

April 18, 2024
Ms. Penberthy moved to approve the minutes. The motion was seconded by Mr. Gill and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

ADJOURNMENT

The Planning Board meeting of date was adjourned at 7:54 pm.

Amherst Planning Board
5583 Main Street
Williamsville, NY 14221

Meeting: 05/16/24 06:30 PM
Department: Planning
Category: Site Plan and Relief from Conditions of Site Plan
Prepared By: Amy Carrato
Initiator: Dan Howard
Sponsors:
DOC ID: 28243

ADOPTED

PLANNING BOARD ITEM (ID # 28243)

Proposed Self-Storage Facility, SP-2023-12

Property located at 2495 Wehrle Drive
416 Homez Inc., Petitioner

1/18/2024

No comments were heard on this proposal.

Following discussion, Ms. Penberthy moved to adjourn the request. The motion was seconded by Mr. Gill and carried. Ayes 5, Noes 0, Absent 2 (Giuliani, Kahn).

2/15/2024

Proposed single story, 70,786+/- sf. climate controlled self-storage facility including vehicle use areas, landscaping and other associated site work. Vehicular access to the site from Wehrle Drive to the site is via an existing shared driveway with the parcel to the south at 2491 Wehrle Drive that aligns with Berkley Road to the north. Parking for 16 vehicles is provided (11 in the northwest portion of the site, 3 along the east side and 2 along the south side of the building). Site work will also include piping a portion of Town Ditch 18A which runs east west just south of the proposed building.

Mark Dean, Dean Architects, represented the petitioner, explained the proposal and was available to answer questions from the Board. Mike Metzger, Metzger Civil Engineering, was also present.

In response to the Board's questions, Mr. Dean stated the petitioner is working with NYSOPRHP.

No further comments were heard on this proposal.

Following discussion, Ms. Penberthy moved to keep the public hearing open and adjourn the request. The motion was seconded by Mr. Giuliani and carried. Ayes 6, Noes 0, Absent 1 (Gill).

4/16/2024

No further comments were heard on this proposal. The hearing was closed.

Following discussion, Ms. Penberthy moved to approve the Negative Declaration. The motion was seconded by Ms. Kahn and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

Following the approval of the Negative Declaration, Ms. Penberthy moved to approve the request based on the resolution. The motion was seconded by Mr. Raffaele and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

HISTORY:

01/18/24	**Planning Board**	**ADJOURNED**	**Next: 02/15/24**
02/15/24	**Planning Board**	**ADJOURNED**	**Next: 05/16/24**

ATTACHMENTS:

- SP-2023-12 application 011824 (PDF)
- SP-2023-12 drawings 011824 (PDF)
- SP-2023-12 signed neg dec 051624 (PDF)
- SP-2023-12 signed resolution 051624 (PDF)

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Brittany Lee Penberthy, Board Member
SECONDER:	Joseph P. Raffaele Jr., Board Member
AYES:	Chmiel, Gill, Kahn, Penberthy, Raffaele Jr.
ABSENT:	John B. Davis, Dal Giuliani

TOWN OF AMHERST

APPLICATION & REVIEW PROCEDURE

MAJOR SITE PLAN

MATERIALS MUST BE PROVIDED IN AN ELECTRONIC FORMAT THAT CONTAINS PDF FILES OF THE APPLICATION, EAF, SITE PLAN DRAWING SET SURVEY, LANDSCAPE PLAN, PRELIMINARY BUILDING FLOO PLANS / ELEVATIONS & ANY OTHER SUPPORTING INFORMATION. THIS MUST BE SUBMITTED WITH YOUR APPLICATION. APPLICATIONS WILL NOT BE TRANSMITTED WITHOUT THIS ELECTRONIC INFORMATION.

THIS ALSO APPLIES TO REVISED MATERIALS THAT AR SUBMITTED.

This application package includes the following:

- Application Procedures
- Application Form & Checklist
- Stormwater Pollution Prevention Plan Checklist
- Appendix A Town of Amherst EAF Addendum
- Appendix B Criteria for Required 8½" x 11" Sketches
- Appendix C Erie Sewer District No. 5 – Commercial / Industrial New & Existing Buildings Requirements

- IMPORTANT-

1. A pre-submittal consultation with Planning Department staff is *strongly recommended* prior to submitting an application. The pre-submittal meeting gives the applicant an opportunity to discuss with staff such items as:
   - classifying the action as a major site plan, minor site plan, or minor site plan adjustment;
   - determining what specific information will be required to be submitted with the application;
   - identifying and discussing issues that must be addressed as part of the SEQR review;
   - identifying any potential variances required to implement the project as proposed.

   An appointment is required for all meetings with Planning Department staff.

2. This site plan petition is subject to the requirements of 6 NYCRR Part 617, State Environmental Quality Review Act (SEQR), and Chapter 104 of the Town of Amherst Code, as amended. The Planning Board cannot make a SEQR determination unless a complete Environmental Assessment Form (EAF), including Town of Amherst EAF Addendum, and any required supplementary information such as traffic impact studies, archaeological reports, wetland delineations or geotechnical reports, are submitted. SEQR issues may be discussed with Planning Department staff at a recommended pre-submittal meeting. Unlisted Actions require a Short EAF; Type I Actions require a Full EAF. The following is a link to the NYSDEC website and fillable forms with instructions*:*
   http://www.dec.ny.gov/permits/6191.html.

3. **Review by the Town Design Advisory Board (DAB) is required for Major Site Plans located in the following Mixed-Use zoning districts:**

   Traditional Infill 2.5 (TI-2.5)
   Traditional Infill 4 (TI-4)
   Shallow Corridor 3 (SC-3)
   Deep Corridor 3 (DC-3)
   Deep Corridor 5 (DC-5)
   Center 2.5 (CTR-2.5)
   Center 5 (CTR-5)
   Center 8 (CTR-8)

   The application for DAB review is required to be filed in conjunction with the major site plan application.

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

4. The application shall be executed or consented to in writing by the owner of the property.

5. **Any variances from the Zoning Board of Appeals, or any decision from the Town Board (e.g. removal of deed restrictions) must be obtained prior to action by the Planning Board on a Site Plan application.**

6. Submittal of an application grants permission to Town staff and Planning Board members to access the parcel(s) under consideration.

7. All site plan drawings must be prepared by a Registered Architect, Professional Engineer, Landscape Architect, or Land Surveyor (as applicable) licensed to practice in New York State.

8. If you wish to include a Coordinated Sign Plan application with the site plan petition, a separate application must be completed. Contact the Planning Department for a copy of a Coordinated Sign Plan application package.

9. All drawings should be no larger than 24 in. x 36 in. If site characteristics warrant larger plan sheets, they may be accepted subject to Planning Department concurrence. All drawings must also reserve a 4 in. x 6 in. area in the lower right hand corner for official Town use.

APPLICATION PROCEDURES

1. Applicant secures application package from the Planning Department, 5583 Main Street, Williamsville, NY 14221. (716) 631-7051. Forms are also available online at: www.amherst.ny.us, (keyword: Planning).

2. Applicant prepares information as required on the Site Plan Submittal Checklist, attached. NOTE: Some proposals may not require all items on the checklist; please verify with the Planning Department.

3. Applicant schedules an appointment with the Planning Department to review the following:
   - a complete set of site plan drawings, preliminary building elevations and floor plans (no larger than 24" x 36" in size)
   - Environmental Assessment Form (EAF) & Town EAF Addendum
   - any supporting reports and materials
   - verification from the Town Assessor that the address in the application is correct

4. Applicant schedules an application submittal appointment with the Planning Department. NO SITE PLAN WILL BE ACCEPTED FOR REVIEW WITHOUT A PRE-SET SUBMITTAL APPOINTMENT.

5. At the submittal appointment, applicant provides fourteen (14) complete and collated sets of drawings and application information to the Planning Department **(materials will not be accepted unless folded into 9" x 12" in size),** including**:**
   - application form
   - Environmental Assessment Form (EAF)
   - supporting reports / materials
   - complete set of site plan drawings, preliminary building elevations and floor plans (**at least one (1) set of drawings must bear a raised or wet seal and signature of the design professional** who prepared the plans; the remaining copies may be submitted with a facsimile of the seal and signature)
   - digital files of all materials in pdf format
   - an 8½" x 11" reduction of the sketch plan or plat drawing (see Appendix B)

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

6. After approval for filing by the Planning Department, applicant submits all necessary fees to the Town Clerk. **(See Schedule of Fees on first page of application and make checks payable to: Town of Amherst.)**

7. The applicant returns a copy of the filing receipt to the Planning Department.

8. The Planning Department transmits remaining thirteen (13) copies of the application and supporting materials to:
   - Assessor
   - Commissioner of Building
   - Town Engineer
   - Superintendent of Highways
   - Traffic/Safety Board
   - Fire Chiefs' Association
   - Plumbing Division
   - Right-of-Way Agent
   - Police Department (if applicable)
   - Zoning Enforcement Officer
   - Other Town and outside agencies, as applicable

9. Within 30 days of its receipt of the complete application for Site Plan approval, each agency completes its review and notifies the Planning Department in writing of its comments or recommendations as required by Ordinance.

10. The applicant may be required to submit revised plans, reports, or materials to address review agency comments. The procedures for submittal of revised plans are as follows:

    - A cover letter addressing all comments received to date is required.
    - "Highlight" the area of change on the drawings and provide a notation describing the change.
    - Revised plans/materials are required. Planning staff should be contacted to determine the number of sets needed.
    - All revised plans and materials must also be provided in an electronic format that contains pdf files of the revised information.

11. The Planning Board reviews the EAF to determine whether a Draft Environmental Impact Statement (DEIS) is required. The petitioner will be advised in the event that a DEIS is required and afforded the opportunity to prepare it. If the petitioner declines, the Planning Board will prepare the DEIS at the petitioner's expense. The public hearing will be held on the DEIS concurrently with the Planning Board hearing on the application.

12. Planning Board Meeting Procedures:

    The applicant or representative presents the project at the public hearing before the Planning Board and is available to answer any questions. The Planning Board may take any of the following actions:

    - Adjourn the hearing to a future Planning Board meeting (hearing remains open).
    - Close the hearing and table action on the site plan to a future Planning Board meeting. (The Planning Board may remove the item from the agenda until such time as all required information is provided.)
    - Close the hearing and make a decision on the site plan.

    All determinations on matters before the Planning Board are made after all public hearings on that meeting's agenda are completed.

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

13. A copy of the Planning Board's determination will be provided to the applicant, his / her representative, the Building Commissioner and the Town Clerk approximately 1 week following the Planning Board meeting at which it was heard.

14. If the Planning Board approves a Site Plan with conditions, the Planning Department will work with the applicant to ensure that all conditions of the approval are satisfactorily addressed. When all conditions are satisfied, the applicant submits **seven (7) final copies** of the complete set of all site plan drawings, folded into 9" x 12". For site plans in the Mixed-Use zoning districts, building elevations will also be required.

    All 7 sets must have original wet seals and include the required 4 in. x 6 in area in the lower right hand corner for official Town use. These drawings will be stamped and signed "Approved" by the Planning Director and transmitted to Town Departments for their files and use.

15. A building permit will not be issued by the Building Department until the stamped and signed Site Plan is issued by the Planning Director.

NOTE: Please check with the Planning Department to determine the deadline date for filing applications. Due to the public hearing notice requirements and department reviews, no site plan application will be placed on the Planning Board agenda after the deadline for filing has closed. Scheduling may be delayed if an application is incomplete.

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

TOWN OF AMHERST PLANNING DEPARTMENT

Application for Major Site Plan Review

For Official Use

File #: _____ **Acreage** _____ **Fee $** _____

Address Verified by Assessor's Office _____ VERIFIED BY DATE

Materials Received by Planning Department _____ RECEIVED BY DATE

Fee Paid to Town Clerk _____ RECEIVED BY DATE

Site Plan Review		**Fill In Applicable Fees**
1 acre or less	$1,250.00	_____
Each additional acre or fraction thereof	$ 650.00/acre	_____
Amendments to Site Plans	$1,200.00	_____
Request for Relief of / Change to Conditions of Site Plan Approval	$1,200.00	_____
Request for Extension of Site Plan Approval	$ 450.00	_____
Stormwater Pollution Prevention Plan		
1 - 4.99 Acres	$ 500.00	_____
5 - 10 Acres	$ 750.00	_____
>10 Acres	$1,000.00	_____
Affidavit Fee for Public Hearing	$ 15.00	_____
	TOTAL FEE:	**$**_____

To Be Completed By Applicant

Petitioner:

Name: 416homez Inc.

Address: 4493 South Buffalo Street (H3)

Orchard Park (city) NY (state) 14127 (zip code)

Phone: 716-806-8261 Fax: _____

E Mail: vickyghotra90@gmail.com

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Representative (Architect, Engineer, Landscape Architect, Surveyor, or Attorney)**:**

Name: Dean Architects PLLC

Address: 3284 Walden Ave

Depew (city) NY (state) 14043 (zip code)

Phone: 716-651-0381 Fax: 716-651-0382

E Mail: markd@deanarchitects.com

Project Location (must be verified by Town Assessor's Office)**:**

Address: 2495 Wehrle Drive.

SBL No(s): 81.02-3-20.1

Project Name: Climate Controlled Self Storage

Project Description: Construction of new single story 70,786 sf. Climate Controlled Self Storage Building with associated parking, loading areas, access roads and landscaping.

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

If this petition is an amendment to a previously approved site plan, please describe the proposed changes (include type and size of existing structures and number of existing parking spaces):

NA

	existing	proposed	total
Gross Floor Area (non-residential):	0	70,786 SF	70,786 SF
Gross Floor Area Residential:	0	0	0
Number of Residential Units:	0	0	0
Number of Parking Spaces:	0	11	11

Acreage of Parcel: 8.457 Acre

(list each parcel separately)

Frontage on Public Roads: Wehrle - 213.53'

(list each road separately)

Existing Zoning District(s) RD Research and Development

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Site Plan Submittal Requirements and Checklist

The following checklist outlines the information required by the Planning Department to accept a Site Plan application for review. ***It is strongly recommended that you make an appointment with Planning Staff to determine which items apply to your application***.

Item No.	Item	Submitted	Official use
I Basic Drawing Information			
1.0	**Drawing size not to exceed 24" x 36"**	X	
2.0	**Title of Drawing**	X	
3.0	**Name and address of Applicant**	X	
4.0	**Name of person preparing drawing**	X	
5.0	**Wet seal/raised seal and signature of NYS licensed architect, engineer, landscape architect, or surveyor (as applicable)**	X	
6.0	**Project address**	X	
7.0	**Zoning of subject property and adjacent parcels**	X	
8.0	**North point, scale, date, and revision date(s)**	X	
9.0	**4" x 6" reserved area in lower right hand corner for official Town use**	X	
II Structures, Paved Areas, & Open Space			
1.0	**Existing and Proposed Streets**	X	
1.1	Names of all existing and proposed streets	X	
1.2	Width and radii of proposed curb-cuts	X	
1.3	Existing curb-cuts on adjacent and opposite properties	X	
1.4	Show ROW width, pavement dimensions, lane widths, pavement markings, and proposed signage on proposed streets	X	
1.5	Show proposed ROW consistent with planned NYSDOT, Erie County, or Town road projects (if applicable)	X	
1.6	Show location of proposed cross access to adjacent parcels along with a draft easement		
1.7	Designation of Fire Lanes (if applicable)	X	
1.8	Fire apparatus access roads	X	
1.9	Label any proposed roads as public or private	X	
1.10	Location and dimensions of sidewalks	X	
1.11	Typical cross sections and profiles of proposed streets, pedestrian walkways, and bikeways	X	
2.0	**Proposed Structures**	X	
2.1	Location and complete dimensions of proposed structures	X	
2.2	Setback dimensions of structure(s) to all property lines	X	
2.3	Proposed use of structures	X	
2.4	Gross square feet area of each structure	X	
2.5	Location of all building entrances	X	
2.6	Indicate type of roof construction/materials	X	
2.7	Location, height, and design detail of existing and proposed fences and walls	X	
2.8	Location of light standards and building mounted lights	X	
2.9	Location of dumpster and detail of dumpster enclosure with gate	NA	
2.10	Layout and dimensions of the lot(s) proposed for development	X	

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Town of Amherst Planning Department 5583 Main Street Williamsville-NY-14221
(716) 631-7051- Fax: (716) 631-7153

Item No.	Item	Submitted	Official use
II Structures, Paved Areas, & Open Space (cont'd)			
3.0	**Floor Plans with individual rooms and spaces labeled** (fully dimensioned)	X	
4.0	**Building elevations with height dimensions from finished grade to the highest point of the roof and to midpoint of gable or hip of a pitched roof.** (fully dimensioned)	X	
4.1	Show screening of mechanical equipment	X	
5.0	**Parking/Loading/Stacking Areas**	X	
5.1	Location and complete dimensions of all paved areas	X	
5.2	Setback dimensions of all paved areas to property lines	X	
5.3	Dimension of typical parking space and drive aisles	X	
5.4	Location and layout of handicapped parking spaces & access aisles	X	
5.5	Detail of vertical signage for handicapped parking and access aisles	X	
5.6	Indicate minimum parking requirement & number of spaces provided	X	
5.7	Proposed signage for directing and guiding traffic	X	
5.8	Curb cut permits from NYS, Erie County, or Town (if applicable)	NA	
5.9	Pedestrian connections (from proposed structures to public sidewalk network)	X	
6.0	**Location and proposed development of all open spaces, including parks, playgrounds, and open reservations**	NA	
III Utilities and Drainage			
1.0	**Engineers Report** (bound separately from the Stormwater Pollution Prevention Plan [SWPPP])	X	
1.1	Stamped/sealed and signed by NYS licensed architect or professional engineer	X	
1.2	Proposed water service sizing, RPZ pressure and fire safety flow and pressure calculations	X	
1.3	Proposed sanitary sewer facility load calculations (avg. & peak flows) including calculation of the peaking factor	X	
1.4	Proposed storm drainage facility calculations (see information included with this application)	X	
2.0	**Grading Plan**	X	
2.1	Existing and proposed grades indicated (proposed grades may not exceed 1 on 3)	X	
3.0	**Water Service**	X	
3.1	Location, size and material of existing and proposed facilities	X	
3.2	Location of existing and proposed fire hydrant location(s)	X	
3.3	Indicate use of sprinklers, location of Fire Department connection, and proposed fire protection systems	X	
3.4	Existing and proposed meter/RPZ size and location	X	
3.5	Applicable construction details	X	
4.0	**Sanitary Sewers**	X	
4.1	Locations, sizes, slopes, inverts, and materials of all existing and proposed facilities	X	

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Town of Amherst Planning Department 5583 Main Street Williamsville-NY-14221
(716) 631-7051- Fax: (716) 631-7153

Item No.		Submitted	Official use
III Utilities and Drainage (cont'd)			
4.2	Applicable construction details	X	
4.3	Proposed water/oil/grease interceptor sizing calculations by a professional engineer (if applicable)	NA	
5.0	**Storm Drainage**	X	
5.1	Locations, sizes, slopes, inverts, and materials of existing and proposed storm drainage facilities	X	
5.2	Connection of roof drains to proposed drainage system	X	
5.3	Applicable Town Standard construction details	X	
5.4	Existing and proposed swales and ditches	X	
5.5	Detention area cross-section and high-level elevations	X	
5.6	County and State approval for tie-in to existing sewers		
6.0	**Stormwater Pollution Prevention Plan (SWPPP) as applicable** (bound separately from the Engineer's Report) **See attached checklist.**	X	
7.0	**Natural Gas Service**	X	
8.0	**Location of transformers, generators and other mechanical equipment; include detail drawings (if applicable)**	NA	
9.0	**Downstream Sanitary Capacity Analysis (DSCA) Report** (must be submitted if proposed average flows are greater than 2,500 gallons per day)	NA	
9.1	The DSCA Report must include a detailed downstream sewer capacity analysis and the calculations of and commitment to (via Developer commitment letter) the required financial contribution to the Town's I/I mitigation fund based on peak flow conditions. The contribution must be based on $250 per gallon per minute of mitigated flow	NA	
IV Lighting Plan			
1.0	**Photometric plan showing light spread in foot candles at property lines**	X	
1.1	Detail of all light standards, including dimension of height from finished grade	NA	
1.2	Detail of all exterior lighting fixtures	X	
V Landscape Plan			
1.0	**Wet/raised seal and signature of a licensed Landscape Architect**	X	
2.0	**Provide a calculation of the total Parking area and a calculation of interior parking area in square feet and as a percentage**	X	
3.0	**Indicate location, size, number and type of proposed landscape materials**	X	
4.0	**Indicate location, type and size of <u>all</u> existing trees 4" caliper or larger and indicate which will be removed or retained**	X	
VI Other Required Information/General Requirements			
1.0	**Complete boundary survey that includes all existing structures, acreage, legal description with reference to a property line, street, or other known feature, and easements plotted to scale by a NYS licensed land surveyor**	X	

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Town of Amherst Planning Department 5583 Main Street Williamsville-NY-14221
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Item No.		Submitted	Official Use
VI Other Required Information/General Requirements (cont'd)			
1.1	Copies of all easements, reciprocal access agreement or similar leag documents	NA	
2.0	**Topographic Survey with a 30 ft. buffer outside all property lines by a NYS licensed land surveyor**	X	
3.0	**Draft of any deed restrictions, covenants, provisions for home associations and common ownership, and reciprocal easement agreements (as applicable).**	NA	
4.0	**For assessment purposes, state intent to apply for condominium status (if applicable).**	NA	
5.0	**Completed and signed Environmental Assessment Form**	X	
5.1	Soil boring report and geotechnical report prepared by a qualified Professional Engineer (if applicable)	IN PROGRESS	
5.2	Traffic Impact Study (if applicable)	NA	
5.3	Archaeological survey (if applicable	NA	
5.4	Wetland Delineation report (if applicable)	X	
6.0	**Show existing zoning(s) of both the subject property and adjacent parcels on the Site Plan and the Landscape Plan**	X	
7.0	**Location of NYSDEC wetlands (including buffer area) and/or federal wetlands; indicate jurisdictional status**	X	
8.0	**Location of Floodway and floodplain** (if applicable)	NA	
9.0	**Documentation pertaining to any conditions of zonings, including copies of required deed restrictions; indicate date of rezoning and the parcel address under which it was rezoned (if applicable)**	NA	
10.0	**Documentation related to any required variances granted by the ZBA**	NA	
11.0	**For residential site plans, provide a statement from the appropriate school district that adequate school sites and facilities are available.**	NA	
12.0	**8 1/2" X 11" reduction of primary site plan drawing (see appendix "B" of application package for specifications)**	X	
13.0	**A CD containing a PDF of all site plan drawings (Must also be provided with revised drawings)**	X	
VII Additional Required Information for Projects in the Mixed Use Districts			
1.0	**Design Advisory Board Application**	NA	
1.1	Required for Major Site Plan	NA	
1.2	Required at the Planning Directors Discretion for Minor Site Plans	NA	
2.0	**Block & Street Network Plan**	NA	
2.1	Designation of Core, Local & Alley streets	NA	
2.2	Dimensions of Blocks	NA	
3.0	**Block Usage Plan (as applicable)**	NA	
3.1	Designation of site usage for each block including open space areas	NA	
4.0	**Phasing Plan**	NA	

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Town of Amherst Planning Department 5583 Main Street Williamsville-NY-14221
(716) 631-7051- Fax: (716) 631-7153

For official use only:

_____
Approved/Date

X:\Current_Planning\Application Forms 2013 Working Doc\Major Site Plan\Site Plan Submittal Requirements and Checklist (3).doc

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Town of Amherst Planning Department 5583 Main Street Williamsville-NY-14221
(716) 631-7051- Fax: (716) 631-7153

TOWN OF AMHERST
State Environmental Quality Review
ENVIRONMENTAL ASSESSMENT FORM
-- ADDENDUM --

1. For each applicable category of proposed <u>new</u> structures, including additions to existing structures, provide the following information for all soil types on the project site (*according to Soil Survey of Erie County, NY; Table 11, Building Site Development, pp 294-305):*

Soil Name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Wassiac Silt Loam	**Severe**	**Moderate**	**Severe**	**Moderate**	**Moderate**

2. If the Soil survey indicates either "severe" or "moderate" suitability for the proposed types of construction, a geotechnical and hydrological analysis based on one test per 3.5 acres of project area must be provided (per Town Board resolution, 3/17/03, amended 6/16/03).

In Progress Geotechnical report attached _____ Not applicable

3. Is your property located: On Youngs Road between Dodge and Klein Roads? □ Yes **X** No
On Wehrle Dr. between Spindrift Dr. and Oakwood Rd? □ Yes **X** No

If so, the property may be within an area of the Town that is affected by a moratorium on connections to the sanitary sewer system.

4. Are there alternative locations on the site for this project? □ Yes **X** No

5. Location and size of real property owned by petitioner within one (1) mile of subject proposal:
2495 Wehrle Drive 8.457 A

6. Are you aware of current or future plans or intentions by others in the Town of Amherst to develop property within 1000± ft. of the present project request: □ Yes **X** No

Describe_____

(Potential environmental impacts from adjacent or nearby projects undergoing the approval process will receive a coordinated environmental review to determine cumulative effects on common receivers (e.g. traffic and drainage corridors) and other relevant environmental concerns.)

7. Maximum number of vehicular trips to be generated per peak hour upon completion of project **8**
Source: **ITE Handbook**

8. Will blasting occur during construction? □ Yes **X** No

9. Does the project propose to connect and be tributary to the public sanitary sewer system? **X** Yes □ No

10. Proposed net additional gallons per day (gpd) of sanitary sewer discharge upon completion of project:
400 gpd average flow **10gpm** peak flow.

(Average flows of 2,500 gpd or greater will require an Engineer's Report that includes a detailed downstream sewer capacity analysis and the identification of and commitment to required I/I offset work during peak wastewater flow conditions.)

11. Based on the Town's *2011 Reconnaissance Level Survey of Historic Resources,* is your property 'blue-rated' for historic significance? □ Yes **X** No

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

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State Environmental Quality Review
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Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Climate Controlled Self Storage Building		
Project Location (describe, and attach a general location map): 2495 Wehrle Drive, Amherst, NY SBL 81.02-3-20.1		
Brief Description of Proposed Action (include purpose or need): Construction of a new single story 70,786 SF Climate controlled Self Storage building with associated parking, loading areas, access roads and landscaping. the proposed action has been defined broadly to include all site work and improvements.		
Name of Applicant/Sponsor: 416homez Inc.	Telephone: 716-806-8261 E-Mail: vickyghotra90@gmail.com	
Address: 4493 South Buffalo Street (H3)		
City/PO: Orchard Park	State: NY	Zip Code: 14127
Project Contact (if not same as sponsor; give name and title/role): Same	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): Same	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☐Yes ☑No		
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	Major Site Plan approval	8-18-23
c. City, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☑Yes ☐No	Building Permit	TBD
e. County agencies ☐Yes ☑No		
f. Regional agencies ☐Yes ☑No		
g. State agencies ☐Yes ☑No		
h. Federal agencies ☐Yes ☑No		

i. Coastal Resources.
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☑Yes ☐No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☐Yes ☑No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

NYS Heritage Areas:West Erie Canal Corridor

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes ☑No

If Yes, identify the plan(s):

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
RD Research and Development

b. Is the use permitted or allowed by a special or conditional use permit? ☐ Yes ☑ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site?

C.4. Existing community services.

a. In what school district is the project site located? Clarence Central School District

b. What police or other public protection forces serve the project site?
Amherst police, NY State Police

c. Which fire protection and emergency medical services serve the project site?
Main Transit Fire Department

d. What parks serve the project site?
Garison Park, Patriots and Heroes Park, Sunset Park

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Commercial - Self Storage

b. a. Total acreage of the site of the proposed action? 8.457 acres
b. Total acreage to be physically disturbed? 4.100 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 8.457 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: 12 months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases:

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

f. Does the project include new residential uses? ☐Yes ☑No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☑Yes ☐No

If Yes,

i. Total number of structures 1

ii. Dimensions (in feet) of largest proposed structure: 28' height; 300' width; and 325' length

iii. Approximate extent of building space to be heated or cooled: 70,786 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐Yes ☐No

If Yes,

i. Purpose of the impoundment: Bio-Retention, underground storm water detention.

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☑Other specify: On site temporary storm water retention

iii. If other than water, identify the type of impounded/contained liquids and their source.

iv. Approximate size of the proposed impoundment. Volume: 0.171 million gallons; surface area: 0.38 acres

v. Dimensions of the proposed dam or impounding structure: NA height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): manufactured underground stormwater storage units

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐Yes ☑No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)

If Yes:

i. What is the purpose of the excavation or dredging?

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards):
- Over what duration of time?

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☐No
If yes, describe.

v. What is the total area to be dredged or excavated? _____ acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐Yes ☐No

ix. Summarize site reclamation goals and plan:

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐Yes ☑No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description):

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐Yes ☐No
If Yes, describe:

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes ☐No
If Yes:

- acres of aquatic vegetation proposed to be removed:
- expected acreage of aquatic vegetation remaining after project completion:
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access):
- proposed method of plant removal:
- if chemical/herbicide treatment will be used, specify product(s):

v. Describe any proposed reclamation/mitigation following disturbance:

c. Will the proposed action use, or create a new demand for water? ☑Yes ☐No
If Yes:

i. Total anticipated water usage/demand per day: 400 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑Yes ☐No
If Yes:

- Name of district or service area: Erie County Water Authority
- Does the existing public water supply have capacity to serve the proposal? ☑Yes ☐No
- Is the project site in the existing district? ☑Yes ☐No
- Is expansion of the district needed? ☐Yes ☑No
- Do existing lines serve the project site? ☑Yes ☐No

iii. Will line extension within an existing district be necessary to supply the project? ☐Yes ☑No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project:
- Source(s) of supply for the district:

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐Yes ☑No
If, Yes:

- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑Yes ☐No
If Yes:

i. Total anticipated liquid waste generation per day: 400 gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):
Sanitary Waste only

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑Yes ☐No
If Yes:

- Name of wastewater treatment plant to be used: Town of Amherst Sewage Treatment Plant
- Name of district: Town of Amherst
- Does the existing wastewater treatment plant have capacity to serve the project? ☑Yes ☐No
- Is the project site in the existing district? ☑Yes ☐No
- Is expansion of the district needed? ☐Yes ☑No

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

- Do existing sewer lines serve the project site? ☑Yes ☐No
- Will a line extension within an existing district be necessary to serve the project? ☐Yes ☑No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☑No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑Yes ☐No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 2.299 acres (impervious surface)

_____ Square feet or 8.457 acres (parcel size)

ii. Describe types of new point sources. Drainage of detained water to existing town ditch

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

Drainage of detained water to existing town ditch

- If to surface waters, identify receiving water bodies or wetlands: Existing town ditch
- Will stormwater runoff flow to adjacent properties? ☐Yes ☑No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☑Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☑Yes ☐No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

grading and excavating equipment

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

Power Generation

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

Gas Furnaces

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐Morning ☐Evening ☐Weekend ☐Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

750 Kwh

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

NYSEG

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☑No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7 am - 5 pm
- Saturday: _____
- Sunday: _____
- Holidays: _____

ii. During Operations:

- Monday - Friday: 6 am - 9 pm
- Saturday: 6 am - 9 pm
- Sunday: 6 am - 9 pm
- Holidays: 6 am - 9 pm

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m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Construction vehicles and equipment 7 am - 5 pm M-F

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☑ No

Describe: _____

n. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Building wall packs mounted at 10' AFF, Area lights at 20' AFF, all lighting to be dark sky compliant

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☑ Yes ☐ No

If Yes:

i. Describe proposed treatment(s):

Lawn maintenance

ii. Will the proposed action use Integrated Pest Management Practices? ☑ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____
- Operation: _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: _____
- Operation: _____

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s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.55	2.84	+2.29
• Forested	0	0	
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	6.929	4.08	-2.85
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.038	0	-0.038
• Wetlands (freshwater or tidal)	0.94	0.94	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: Lawn	0	0.597	+0.597

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c. Is the project site presently used by members of the community for public recreation? ☐Yes ☑No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐Yes ☑No
If Yes,
i. Identify Facilities:

_____
_____

e. Does the project site contain an existing dam? ☐Yes ☑No
If Yes:
i. Dimensions of the dam and impoundment:
- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection:

_____
_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes ☑No
If Yes:
i. Has the facility been formally closed? ☐Yes ☐ No
- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

_____
_____

iii. Describe any development constraints due to the prior solid waste activities: _____
_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐Yes ☑No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

_____
_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐Yes ☑ No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐Yes ☐No

☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____
☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____
☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____
_____
_____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐Yes ☑No
If yes, provide DEC ID number(s): _____
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

_____
_____

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v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? + 10' feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %

c. Predominant soil type(s) present on project site:
Ovid Silt Loam 100 %
_____ %
_____ %

d. What is the average depth to the water table on the project site? Average: +8' feet

e. Drainage status of project site soils:
☐ Well Drained: _____ % of site
☑ Moderately Well Drained: 100 % of site
☐ Poorly Drained _____ % of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 100 % of site
☐ 10-15%: _____ % of site
☐ 15% or greater: _____ % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal Waters, Federal Waters, Federal Waters Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☑ Yes ☐ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____
Name - Pollutants - Uses:Ellicott Creek, Lower, and tribs – Nutrients;Silt/Sediment – Aquatic Life

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100-year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500-year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:

i. Name of aquifer: _____

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m. Identify the predominant wildlife species that occupy or use the project site:
Typical Suburban Species

n. Does the project site contain a designated significant natural community? ☐Yes ☑No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation):
ii. Source(s) of description or evaluation:
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐Yes ☑No
If Yes:
i. Species and listing (endangered or threatened):

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No
If Yes:
i. Species and listing:

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No
If yes, give a brief description of how the proposed action may affect that use:

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes ☑No
If Yes, provide county plus district name/number:

b. Are agricultural lands consisting of highly productive soils present? ☐Yes ☑No
i. If Yes: acreage(s) on project site?
ii. Source(s) of soil rating(s):

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent:

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No
If Yes:
i. CEA name:
ii. Basis for designation:
iii. Designating agency and date:

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e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☑ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Dean Architects PLLC - Mark Dean AIA Date 12-21-23

Signature _____ Title Principal

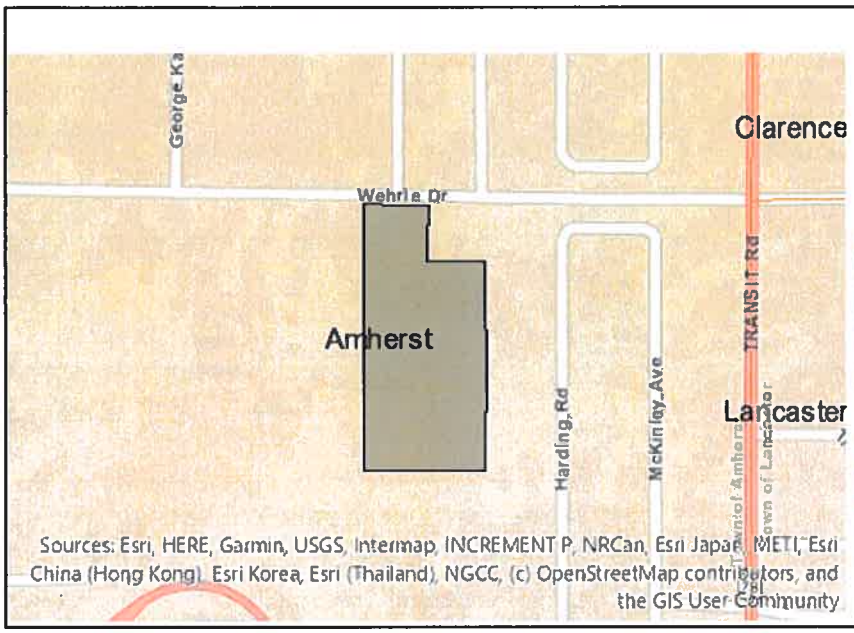
REGISTERED ARCHITECT MARK A DEAN 023853 STATE OF NEW YORK

PRINT FORM

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

EAF Mapper Summary Report

Monday, August 14, 2023 1:40 PM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYS Heritage Areas:West Erie Canal Corridor
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	Yes
E.2.h.v [Impaired Water Bodies - Name and Basis for Listing]	Name - Pollutants - Uses:Ellicott Creek, Lower, and tribs – Nutrients;Silt/Sediment – Aquatic Life
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

EARTH DIMENSIONS, INC.
* Soil & Hydrogeologic Investigations * Wetland Delineations
1091 Jamison Road, Elma NY 14059
(716) 655-1717 * Fax (716) 655-2915 www.earthdimensions.com

June 2, 2015 W15E15

John Melancon
9280 Main Street
Clarence, New York 14031

Re: Preliminary Wetland Investigation – 8.46± acres
2495 Wehrle Drive
Town of Amherst
Erie County, New York

Dear Mr. Melancon:

Earth Dimensions, Inc. (EDI) has completed a preliminary wetland investigation at the above referenced site for the purpose of identifying potential regulated wetlands and waterways within the subject parcel. The site investigation was conducted on June 2, 2015. As noted on the attached site location map, approximately 0.94± acre of wetland was identified. It appears that the 0.08 acre and 0.05 acre wetlands would be deemed isolated and unregulated. It appears the 0.13 acre wetland would likely be regulated by the U.S. Army Corps of Engineers (USACE). It is unclear if the 0.68 acre wetland would be regulated as it continued off site.

The New York State Department of Environmental Conservation (NYSDEC) On-line Resource Mapper does not depict any wetlands within or adjacent to the project site. Therefore, NYSDEC has no jurisdiction over any wetlands at the subject property.

If your proposed development avoids impacts to the identified wetland areas, it is our professional opinion that the project may move forward without any coordination with USACE and NYSDEC relative to Section 404 of the Clean Water Act. If any wetland impacts are proposed, a detailed wetland delineation would need to be completed and submitted to USACE for a jurisdictional determination prior to any soil disturbance at the site.

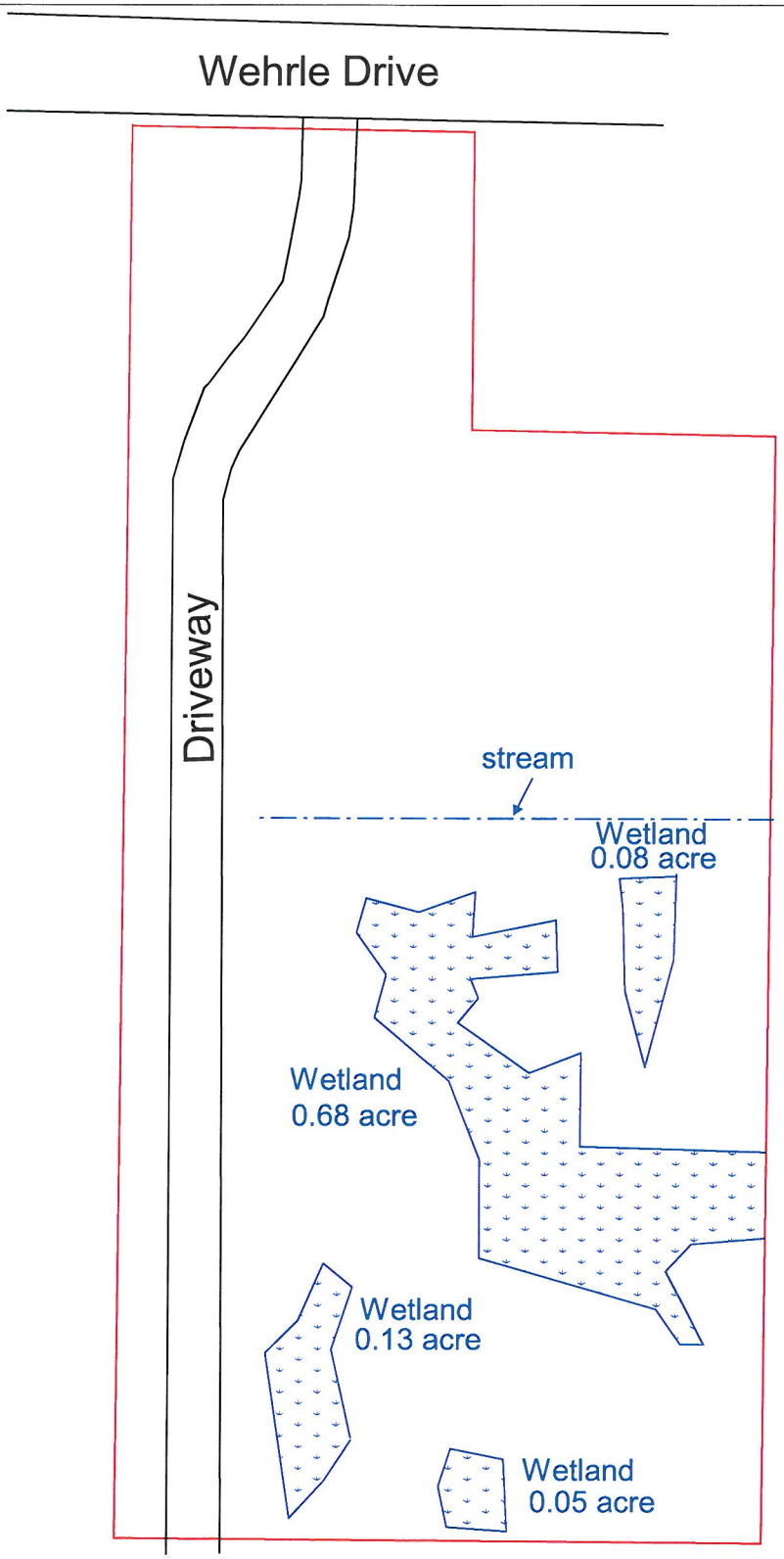
If you have any questions or would like a price quote to complete a detailed wetland delineation, please contact our office at (716) 655-1717 or email slivingstone@earthdimensions.com.

Very truly yours,
Earth Dimensions, Inc.

Scott J. Livingstone
Senior Soil Scientist

Encl.

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)



APPROXIMATE WETLAND ACREAGE

0.94 acre

*Please note, upon completion of a detailed wetland delineation, the amount and/or size of the wetlands may vary. A preliminary wetland investigation only provides the approximate size and location of federally jurisdictional wetlands.

N

EDI PROJECT CODE: W15E14

Map Date: 6/2/2015 SJL
Revised:

Baseline Map Provided by: NA

Scale: NOT TO SCALE

File Name:

Preliminary Wetlands Map
2495 Wehrle Drive
TOWN OF AMHERST ERIE COUNTY, NEW YORK

EARTH DIMENSIONS, INC.
* Soil and Hydrogeologic Investigations
* Wetland Delineations
1091 Jamison Road * Elma, NY 14059
(716) 655-1717 * Fax (716) 655-2915

LEGEND: WETLAND AREA

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

GLYNN GROUP
ENGINEERING & ARCHITECTURE, PLLC

Civil • Geotechnical
Structural • Architecture
Material Testing • Consulting

Climate Controlled Storage
2495 Wehrle Drive
Amherst, New York

Geotechnical Engineering Report

GGEA 23-1214

Prepared for:
416 Homez, Inc.
4493 South Buffalo Street H3
Orchard Park, New York 14213

Prepared by:
Glynn Group Engineering & Architecture, PLLC
415 South Transit Street
Lockport, New York 14094





October 26, 2023

GLYNN GROUP ENGINEERING & ARCHITECTURE, PLLC

415 South Transit Street, Lockport, New York 14094
voice 716.625.6933 / fax 716.625.6983
www.glynngroup.com

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

TABLE OF CONTENTS

1.0 INTRODUCTION
- 1.1 Scope
- 1.2 Contract
- 1.3 Exclusions

2.0 PROJECT BACKGROUND
- 2.1 Site Description and Proposed Development
- 2.2 Geologic Setting

3.0 FIELD EXPLORATION AND ANALYSIS
- 3.1 Methodology
- 3.2 Subsurface Conditions
- 3.3 Groundwater

4.0 GEOTECHNICAL EVALUATION AND RECOMMENDATIONS
- 4.1 Bearing Capacity and Foundations
- 4.2 Slab on Grade
- 4.3 Excavation, Backfill and Retaining Walls
- 4.4 Pavement
- 4.5 Stormwater Ponds
- 4.6 Expansive Soil
- 4.7 Liquefaction
- 4.8 Settlement
- 4.9 Seismic Site Class and Design Category
- 4.10 General Construction Recommendations
- 4.11 Conclusion

APPENDICES

- A Subsurface Exploration Logs
- B Project Location Plan
- C Subsurface Exploration Plan
- D Seismic Site Class and Design Category
- E Fill Specifications

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

1.0 INTRODUCTION

1.1 SCOPE

This report provides subsurface exploration data and geotechnical recommendations for the proposed construction of a new climate controlled storage facility at 2495 Wehrle Drive in the Town of Amherst, New York. Glynn Group Engineering & Architecture, PLLC (GGEA) has provided the following scope of services:

- Performed a site visit to examine site topography and establish five (5) soil borings within the footprint of proposed structure.
- Cleared utilities with UDig NY through drilling subcontractor.
- Mobilized drilling subcontractor with ATV drill rig and support crew.
- Provided SPT soil sampling at each boring location in accordance with ASTM D1586 "Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils". All borings were advanced to auger refusal on bedrock.
- Provided soil boring logs (prepared by subcontractor), to include SPT data, N values, soil classification, refusal depth and encountered groundwater conditions.
- Prepared a geotechnical report in accordance with the 2020 NYS Building Code to include subsurface design parameters, seismic site class and design category, groundwater conditions, expansive soil analysis, liquefaction analysis, foundation recommendations, slab on grade recommendations, pavement recommendations and construction recommendations.

1.2 CONTRACT

GGEA performed this study in accordance with a written proposal to 416 Homez, Inc. dated August 22, 2023. GGEA received the notice to proceed via signed contract from Vicky Singh Ghotra on September 1, 2023. All services provided by GGEA are subject to the Standard Terms and Conditions included in the geotechnical proposal.

1.3 EXCLUSIONS

The project efforts exercised by GGEA include geotechnical analysis, design recommendations and the preparation of this report. The scope of this report specifically excludes any review of former site use, in particular, environmental or pollution related concerns.

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

2.0 PROJECT BACKGROUND

2.1 SITE DESCRIPTION AND PROPOSED IMPROVEMENTS

The project site is located on the south side of Wehrle Drive approximately 1,100 feet west of Transit Road in the Town of Amherst, New York. The property encompasses approximately 8.4 acres and is identified as SBL 81.02-3-20.1. The property is relatively flat and characterized by a northern portion that is covered primarily by field grass and a southern portion that is covered by dense trees and shrubs. Historical aerials identify the site once served as an agricultural field. An existing unnamed paved roadway is located along the western limits of the property directly across from Berkley Road. The proposed construction is to consist of a 73,989 square foot one story climate controlled storage facility with an associated perimeter roadway and parking. A Project Location Plan has been included in Appendix B and a Subsurface Exploration Plan has been included in Appendix C.

2.2 GEOLOGIC SETTING

Geologic Maps of Western New York identify subsurface conditions to be composed of glacial till soils overlying shallow limestone bedrock of the Middle Devonian Onondaga Formation. The overburden soils at the site were deposited during the last glacial advance of the Pleistocene Epoch, referred to as the Wisconsinan Glacial Stage, which ended approximately 12,000 years ago. As the glacier advanced over the Western New York terrain, the ice mass carved, crushed and transported the underlying soil and rock to form glacial till, which typically consists of an unstratified dense matrix of silt, sand, rock and clay deposited beneath the ice. The underlying limestone bedrock was deposited in a warm shallow sea during the Middle Devonian approximately 390 million years ago.

3.0 FIELD EXPLORATION AND ANALYSIS

3.1 METHODOLOGY

The subsurface exploration consisted of five (5) SPT soil borings located throughout the property as identified on the Subsurface Exploration Plan included in Appendix C. GGEA performed a site visit on September 13, 2023 to examine the site topography and establish soil boring locations. GGEA's drilling subcontractor, Earth Dimensions Inc. (EDI), mobilized to the site on October 9, 2023 and completed drilling operations on the same day. Boreholes were backfilled with soil cuttings upon drilling completion.

Soil boring and sampling operations were performed using hollow stem augers to advance through overburden materials in accordance with ASTM D1586 "Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils". Resistance values, or blow counts, were recorded for each six-inch advancement of a twenty-four inch long, two inch diameter split spoon sampler. "N" values were calculated by totaling the resistance values for the 6/12 and 12/18 inch intervals. All data recorded during drilling operations can be found on the soil boring logs included in Appendix A.

Retrieved soil samples were logged and visually classified by EDI in accordance with the ASEE System of Definition for Visual Identification of Soils (Burmister Classification System) and ASTM D2488 "Standard Practice for Description and Identification of Soils (Visual – Manual Procedure)". Discrepancies observed between classifications noted on the soil boring logs and those identified in this report are due to the assignment of USCS classifications by GGEA.

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

3.2 SUBSURFACE CONDITIONS

All borings were advanced to auger refusal, which was encountered on limestone bedrock at depths ranging from 2.2 to 3.5 feet below existing grade. The site soils were found to typically consist of a thin layer of topsoil ranging from 0.4 to 1.5 feet overlying glacial till consisting of sandy silt with gravel (ML), sandy silty clay with gravel (CL-ML) and clayey gravel with sand (GC). Specific subsurface conditions can be found on the soil boring logs included in Appendix A, however representative soil profiles have been summarized follows:

B-1	0.0 – 1.0 ft	Topsoil.
	1.0 – 2.2 ft	Brown, damp, compact to very dense, sandy silt with gravel (ML). N value of 13.
	> 2.2 ft	Limestone bedrock.
B-2	0.0 – 0.5 ft	Topsoil.
	0.5 – 1.0 ft	Dark brown, damp, firm, sandy silty clay with gravel (CL-ML).
	1.0 – 2.2 ft	Light brown, damp, compact to very dense, sandy silt with gravel (ML). N value of 16.
	> 2.2 ft	Limestone bedrock.
B-3	0.0 – 1.0 ft	Topsoil.
	1.0 – 2.5 ft	Light brown, moist, compact to very dense, sandy silt with gravel (ML). N value of 16.
	> 2.5 ft	Limestone bedrock.
B-4	0.0 – 0.4 ft	Topsoil.
	0.4 – 3.0 ft	Brown, damp, dense, clayey gravel with sand (GC). N value of 40.
	> 3.0 ft	Limestone bedrock.

It is GGEA's opinion the extent of this exploration was sufficient to accurately characterize the subsurface conditions and provide information necessary for the preparation of this report. The soil borings portray the subsurface conditions encountered at the soil boring locations at the time of exploration. The stratification lines shown on the soil boring logs are approximate, whereas in-situ the changes between strata may be more gradual.

3.3 GROUNDWATER

Groundwater was not encountered in the augers upon the completion of drilling operations. Recovered soil samples were found to have a relatively low moisture content, with samples typically described as dry to moist. Based on these conditions, it is GGEA's opinion groundwater is not located within the overburden soils. The stabilized groundwater elevation is estimated at some depth within the limestone bedrock.

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

4.0 GEOTECHNICAL EVALUATION AND RECOMMENDATIONS

4.1 BEARING CAPACITY AND FOUNDATIONS

The subsurface conditions at this site are of good structural quality and will provide for the construction of a shallow foundation system consisting of perimeter frost walls supported by continuous strip footings and interior/exterior columns supported by square spread footings. GGEA provides design and construction recommendations for foundations as follows:

1. Although native soils were found to typically exhibit a high relative density, due to the relatively shallow and variable depth of bedrock (2.2 to 3.0 feet), GGEA recommends advancing all exterior perimeter foundations to bedrock. Excavations shall be advanced through overburden soils and weathered rock until refusal is encountered using a toothed bucket.
2. Per Section 1809.5 of the 2020 NYS Building Code, foundations bearing directly on bedrock are not subject to the locally prescribed frost protection depth of > 3.5 feet below final grade.
3. Foundations bearing directly on bedrock should be designed for a net allowable bearing capacity not to exceed 10,000 psf.
4. Pinning of foundations to bedrock is not necessary unless pinning is required to resist uplift, to resist lateral forces or if specified by Town Code Enforcement.
5. Interior spread footings shall be advanced to a minimum depth of 2.0 feet below existing grade and should be constructed to bear on competent glacial till soil or bedrock. In the event interior foundation subgrade is to be composed of glacial till soil, the soil shall be vibratory compacted and the net allowable bearing capacity shall be limited to 4,000 psf. The net allowable bearing capacity may be increased to 10,000 psf in the event foundations are advanced to bedrock.
6. If the storage facility is to consist of a pre-engineered metal building (PEMB), foundation lateral forces should be restrained by one of the following methods:

    (a) tie rods spanning the building width through the foundation frost walls,

    (b) hairpins extending from the perimeter column pedestals into the floor slab,

    or

    (c) oversizing the foundations to provide friction resistance between the concrete and soil. The coefficient of sliding for mass concrete on clean limestone bedrock is estimated at 0.70 per Chapter 3, Table 1 of NAVFAC 7.2.

4.2 SLAB ON GRADE

The building interior slab on grade should be designed and constructed in accordance with the following recommendations:

1. All slabs should be designed using a recognized standard procedure, such as identified in the text "Designing Floor Slabs on Grade" by Ringo and Anderson (ISBN 0-924659-34-3). The thickness of the concrete slab should be determined based on the intended usage and proposed loading (fork truck dynamic loading and static rack loading).

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

2. Topsoil and poor quality native soils should be removed beneath the footprint of the slab. Based on subsurface conditions encountered at the soil boring locations, excavation to a depth of approximately 1.5 feet is estimated to engage competent subgrade soil.
3. Once a competent subgrade elevation is achieved, the exposed subgrade should be compacted thoroughly with a smooth drum vibratory roller to produce a uniform density throughout. In place density testing of the subgrade is not required. The top surface of the subgrade should be pitched to drain to prevent ponding of stormwater.
4. After the subgrade is thoroughly compacted, proof roll the exposed subgrade with a fully loaded 10 wheel dump truck weighing at least 30 tons or a smooth drum roller having an effective force of at least 600 pounds per linear inch of roller width. Any area exhibiting weaving, yielding, rutting (>3/4 inch) or boiling should be reworked and compacted to produce an acceptable response *or* over excavated and replaced with Structural Fill. The depth of the undercut and type of Structural Fill will depend on the bearing condition at the base of the undercut, the weather at the time of construction and the soil material encountered. Proof rolling operations should be observed and directed by a qualified geotechnical professional.
5. After proof rolling of the prepared subgrade is successfully performed (including overexcavation and replacement of failing areas), Structural Fill should be installed as necessary to achieve the design subgrade elevation. The Structural Fill should be placed in maximum 9 inch lifts and compacted to 95 % modified proctor (ASTM D1557).
6. Upon successful installation of Structural Fill to the design subgrade elevation, a granular base composed of Select Structural Fill should be installed and compacted to 95 % modified proctor. The thickness of the granular base layer should be dictated by the slab design (prepared by others), however GGEA recommends a minimum granular base thickness of 8 inches.
7. Install subsurface utilities.
8. Install the concrete slab as designed. GGEA recommends a modulus of subgrade reaction (k) not to exceed 150 pci for properly prepared subgrade. The installation of a vapor barrier and specification of the concrete finish technique is at the discretion of the architect. Proper joint spacing and reinforcing steel spacing/placement will be critical to the long term performance of slab. The Portland Cement Association (PCA) recommends joint spacing in feet should be two to three times the slab thickness in inches.

Although not required for design, if the granular base is to be used as working surface for an extended period of time prior to concrete placement, the installation of a separation and reinforcement geotextile should be considered between the soil subgrade and granular base. GGEA recommends a woven geotextile such as US Fabrics US 250 (or equivalent). Any granular base that becomes contaminated with soil as a result of repeated construction traffic should be removed and replaced prior to placing concrete.

4.3 EXCAVATION, BACKFILL AND RETAINING WALLS

The native soils encountered within the construction depth of this project are composed primarily of loose topsoil overlying firm cohesive glacial till and compact to dense granular glacial till. Excavation through native soils can be accomplished with easy to moderate effort from standard excavation equipment, increasing in effort with depth. The limestone bedrock is of moderately hard composition and will require significant effort from a large hydraulic breaker (> 4,000 foot pounds) to remove.

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Native soils may be repurposed as Structural Fill, pending the soils are stockpiled and blended to create a homogenous material. The blended and stockpiled material must provide a USCS classification that meets the specification for Structural Fill (all soil material with the exception of USCS classifications of CH, MH, OH, OL, ML and CL-ML). Silt (ML) soil provide a potential for frost heave if subjected to water and freezing temperatures and therefore should not be used as Structural Fill where exposed to frost. Successful stockpiling and blending of excavated soils may result in a USCS classification acceptable for use as Structural Fill, however a large portion of the native soils are identified as ML and CL-ML on the boring logs, which is undesirable. Blending of the material with GC soils may yield a USCS classification that is acceptable for Structural Fill when laboratory tested.

The soils encountered at this site should be classified by an OSHA competent person in accordance with 29 CFR, Part 1926, OSHA Subpart P, "Excavations and Trenches" prior to and during excavation. From the testing and exploration program, GGEA estimates the site soils within the construction depth of this project can be classified as Type C under the OSHA classification guidelines. However, this classification may change depending on other site criteria and moisture conditions at the time of construction. An OSHA competent person should judge the potential need for excavation bracing and excavation geometry in the field.

Foundation backfill placed beneath structurally loaded areas (pavement, sidewalk, slab) should consist of properly placed and compacted Select Structural Fill. Foundation backfill placed in non-structural landscaped areas may consist of compacted Common Fill or Structural Fill. Excavated native soils may be repurposed as Common Fill pending they are free of topsoil. Excavated native soils may be repurposed as Structural Fill pending blending and testing as previously discussed.

In place density testing should be performed at a rate of one test per 50 feet of trench or 2,500 square feet of area per lift, at a minimum of one test per day of placement. Specifications regarding Common Fill, Structural Fill and Select Structural Fill are included in Appendix E. Foundation backfill shall be installed in a balanced condition with foundations completely backfilled prior to applying load.

If the project is to include the construction of retaining walls, the retaining walls should be backfilled with Structural Fill or Select Structural Fill compacted to 95% of modified proctor (ASTM D1557) density within 2 % of optimum moisture content. Clean poorly graded drainage stone should be installed directly behind the wall to allow for hydrostatic pressure relief through weeps or drain tile at the base. The drainage stone should be wrapped in a separation and filtration geotextile such as US 120NW or equivalent. The subgrade at the base of the retaining wall should be composed of bedrock and prepared in accordance with the recommendations of Section 4.1 of this report. GGEA provides the following estimated design parameters for native soils and compacted Select Structural Fill:

<u>Native sandy silt with gravel (ML)</u>

moist unit weight = 125 pcf

friction angle = 32^0

cohesion = 0 psf

Rankine theory

at rest pressure coefficient (Ko) = 0.47
active pressure coefficient (Ka) = 0.31
passive pressure coefficient (Kp) = 3.25

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

2020 NYS Building Code Table 1610.1 Lateral Soil Load
at rest pressure = 100 psf/ft of depth
active pressure = 45 psf/ft of depth

coefficient of sliding for mass concrete = 0.35

Native clayey gravel with sand (GC)

moist unit weight = 130 pcf

friction angle = 32^0

cohesion = 0 psf

Rankine theory
at rest pressure coefficient (Ko) = 0.47
active pressure coefficient (Ka) = 0.31
passive pressure coefficient (Kp) = 3.25

2020 NYS Building Code Table 1610.1 Lateral Soil Load
at rest pressure = 60 psf/ft of depth
active pressure = 45 psf/ft of depth

coefficient of sliding for mass concrete = 0.40

Select Structural Fill

moist unit weight = 145 pcf

friction angle = 40^0

Rankine theory
at rest pressure coefficient (Ko) = 0.36
active pressure coefficient (Ka) = 0.22
passive pressure coefficient (Kp) = 4.60

2020 NYS Building Code Table 1610.1 Lateral Soil Load
at rest pressure = 60 psf/ft of depth
active pressure = 30 psf/ft of depth

coefficient of sliding for mass concrete = 0.55

Foundations for retaining walls shall be prepared in accordance with the parameters established in Section 4.1 of this report.

4.4 FLEIXBLE PAVEMENT

GGEA provides design and construction recommendations for flexible pavement as follows:

1. Remove existing topsoil and poor quality subsoil materials to the design subgrade elevation. Any poor quality soil (soft, saturated, organic) should be removed and replaced with Structural Fill. The subgrade should be graded to drain.

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

2. Based on conditions observed at the soil boring locations, excavation to a depth of approximately 1.5 feet below existing grade is anticipated to engage competent subgrade.
3. Thoroughly compact the exposed subgrade with a smooth drum vibratory roller. In place density testing of the subgrade is not required.
4. After thorough compaction of the subgrade is performed, proof roll the exposed subgrade with a fully loaded 10 wheel dump truck weighing at least 30 tons or a smooth drum roller having an effective force of at least 600 pounds per linear inch of roller width. Any area exhibiting weaving, yielding, rutting or boiling should be reworked and compacted to produce an acceptable response or over excavated and replaced with Structural Fill. The depth of the undercut and type of Structural Fill will depend on the soil material encountered, weather conditions at the time of construction and the bearing conditions at the base of the undercut. The top surface of the subgrade should be pitched to drain to prevent ponding of stormwater. Proof rolling operations should be observed and directed by a qualified geotechnical professional.
5. Install Structural Fill as necessary to achieve the design subgrade elevation. Install in maximum 9 inch lifts and compact to 95 % modified proctor.
6. Once the design subgrade elevation is achieved, install a separation geotextile to prevent contamination of the overlying granular base layer with fines from the underlying subgrade soil. GGEA recommends an AASHTO Class 2 separation geotextile such as US Fabrics US 250 or equivalent.
7. Install a granular base layer composed of properly placed and compacted Select Structural Fill. GGEA recommends a minimum granular base thickness of 10 inches for automobile traffic and 12 inches for truck traffic.
8. If the design dictates, install ditches, lateral drains, weeps and storm drainage piping.
9. If catch basins are installed, special attention should be directed to the compaction of stone around the catch basins and the pipes. Failure to properly compact the stone will result in pavement settlement around the catch basins and ponding of water.
10. Construct a flexible pavement system consisting of asphalt concrete binder followed by asphalt concrete top (wearing course). GGEA provides recommended pavement sections as follows:

    Light Duty (primarily car traffic)
    10 inches Select Structural Fill – Compacted to 95 % Modified Proctor
    2.5 inches of asphalt concrete binder
    1.0 inch of asphalt concrete top

    Heavy Duty (mixed truck and car traffic)
    12 inches Select Structural Fill – Compacted to 95 % Modified Proctor
    3.5 inches of asphalt concrete binder
    1.5 inch of asphalt concrete top

Site contractors should be notified that roadways and parking areas will not support repeated travel by construction loads. Pavement and subgrade failure can be anticipated in areas that receive a high volume of heavy construction traffic. To preclude the overstressing of the pavement system it is recommended that haul roads be located in non-critical areas. As an option, the base course of stone can be overbuilt to a total thickness of 20 inches to serve as a haul route. The additional thickness of stone should be removed prior to paving along

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

with any areas of stone that have been contaminated with soil. Failure to remove fine-grained soils from the stone base may cause pavement distress in the form of heaving resulting from freeze thaw effects.

In the event the binder layer is used as a working surface during construction or there is a prolonged time period between binder and top placement such that daily activities occur over the binder surface, the surface must be power washed, not just swept, and a tack coat should be applied prior to installation of the top course. In addition, any yielding area of pavement binder should be removed and replaced prior to application of the top course.

4.5 STORMWATER PONDS

The relatively shallow depth to bedrock encountered at this site provides limitations to stormwater pond construction. Compaction of native soils with a smooth drum vibratory roller may produce a soil of low permeability that will hold water, however the use of a synthetic geomembrane pond liner should be considered to improve pond integrity where soil cover over bedrock cannot be maintained at 12 inches or more.

4.6 EXPANSIVE SOIL

Some cohesive soils undergo volumetric change (shrinkage and swelling) with changes in moisture content and degree of saturation, which are commonly referred to as expansive soils. This condition primarily occurs with fat clay (CH) soil, which is a cohesive soil that exhibits a liquid limit of 50 or greater. The liquid limit is the water content, in percent, of a soil that defines the boundary between the plastic and viscous fluid states. Expansive soils can be found in many areas throughout Western New York and have been associated with foundation problems.

Laboratory testing was not performed on recovered soil samples, however visual classification did not identify USCS soil classifications associated with expansion concerns.

4.7 LIQUEFACTION

Liquefaction is the process where saturated cohesionless (granular) soils, specifically, loose sands and silts, transform from a solid into a liquid as a result of an increase in the pore water pressure caused by repeated disturbance such as experienced during seismic events. Liquefaction results in an immediate loss of shear strength and bearing capacity, causing total and differential settling of the overlying structure.

The soils encountered at this site exhibit a high relative density and are not susceptible to liquefaction.

4.8 SETTLEMENT

Shallow foundations designed, constructed and maintained in accordance with the recommendations of this report will provide for negligible settlement, with estimated total and differential settlement of significantly less than 1.0 inch and 0.5 inches, respectfully.

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

4.9 SEISMIC SITE CLASS AND DESIGN CATEGORY

In accordance with Section 1613 (Earthquake Loads) of the 2020 NYS Building Code, GGEA has classified the site as **Seismic Site Class C.** The site classification is based on the summation of N values for the upper 100 feet of boring B-5 in accordance with ASCE 7-16 Equation 20.4-2. The design spectral response accelerations have been calculated as 0.149 g for the short period design spectral response acceleration (S_{DS}) and 0.046 g for the one second design spectral response acceleration (S_{D1}). In accordance with tables 1613.2.5(1) and 1613.2.5(2), using Risk Category II, the site is classified as **Seismic Design Category A.** Calculations have been provided in Appendix D.

4.10 GENERAL CONSTRUCTION RECOMMENDATIONS

GGEA provides general construction recommendations as follows:

1. Exposed soil bearing grades beneath foundations should be compacted to densify any soil that may have been disturbed by the excavation process. Compaction should be performed in accordance with the recommendations of item 5 in Section 4.1 of this report. Densification of the subgrade will assure the development of the anticipated bearing strength and reduce settlement potential.
2. Fine grained soils, such as those encountered within the proposed construction depth for this project, may lose considerable strength and bearing capacity if subjected to prolonged saturation. The accumulation of stormwater and/or perched groundwater within foundation excavations and subsequent deterioration of the foundation subgrade during construction should not be permitted. The foundation excavations should include temporary sumps located outside of the building footprint to permit water removal by means of suction pumps during construction. Likewise, water should not be permitted to accumulate in the foundation excavation after footings have been constructed and prior to backfilling. Care should be exercised to not allow pumped water to recycle back to into the excavations. Mud mats should be considered if the subgrade integrity cannot be maintained. Note this is applicable to soil foundation subgrade only and not bedrock.
3. If additional undercut is necessary during foundation excavation, the bottom should be graded to a uniform elevation and gradually sloped or stepped back to the design elevation. Undercut "pockets" should be avoided.
4. Conformance to OSHA standards is mandatory during excavation and trench work.
5. Topsoil and organic soils should be removed from all load bearing areas.
6. No fill material or concrete should be placed in water, over saturated subgrade or over frozen subgrade.
7. The foundation bearing grade should not be allowed to freeze either prior to or after placement of concrete. Insulating blankets should be used to cover bearing grades plus a one foot perimeter outside forms and constructed footings until backfill is placed.
8. Grading and contouring efforts should take care to address existing site drainage conditions and mitigate any conflicts with the proposed site development.
9. Continuous footings and associated wall loads should be proportioned to create nearly equal contact pressures throughout, which will serve to minimize differential settlement. Likewise, square spread footings and associated column loads should be proportioned to create nearly equal contact pressures at all locations.

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

10. Upon excavation, if encountered soils or moisture contents are found to be different than those identified on the soil boring log and represented within this report, the bearing capacity of the soil and/or rock will need to be reevaluated by a qualified geotechnical engineer. Likewise, the footing design may then require adjustment to accommodate for a change in bearing capacity or for conditions of varying bearing capacity.

4.11 CONCLUSION

This completes the geotechnical report for the proposed climate controlled storage facility at 2495 Wehrle Drive in the Town of Amherst, New York. This report has been prepared based on the encountered subsurface conditions at the soil boring locations and pertinent data supplied by 416 Homez, Inc. The information presented within this report is intended to serve as the basis for foundation design and should be communicated to the project architect/design professional, excavation contractor and foundation contractor. Please contact GGEA if major project changes are made or if encountered subsurface conditions vary from those noted in this report.

Sincerely,





G. Edward Lover, P.G.
Senior Geologist

Mark W. Glynn, P.E.
Consulting Engineer, Principal

/gel

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Appendix A

Subsurface Exploration Logs

Climate Controlled Storage
2495 Wehrle Drive
Amherst, New York

Geotechnical Engineering Report

GGEA 23-1214

October 26, 2023

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

GLYNN GROUP
ENGINEERING & ARCHITECTURE, PLLC

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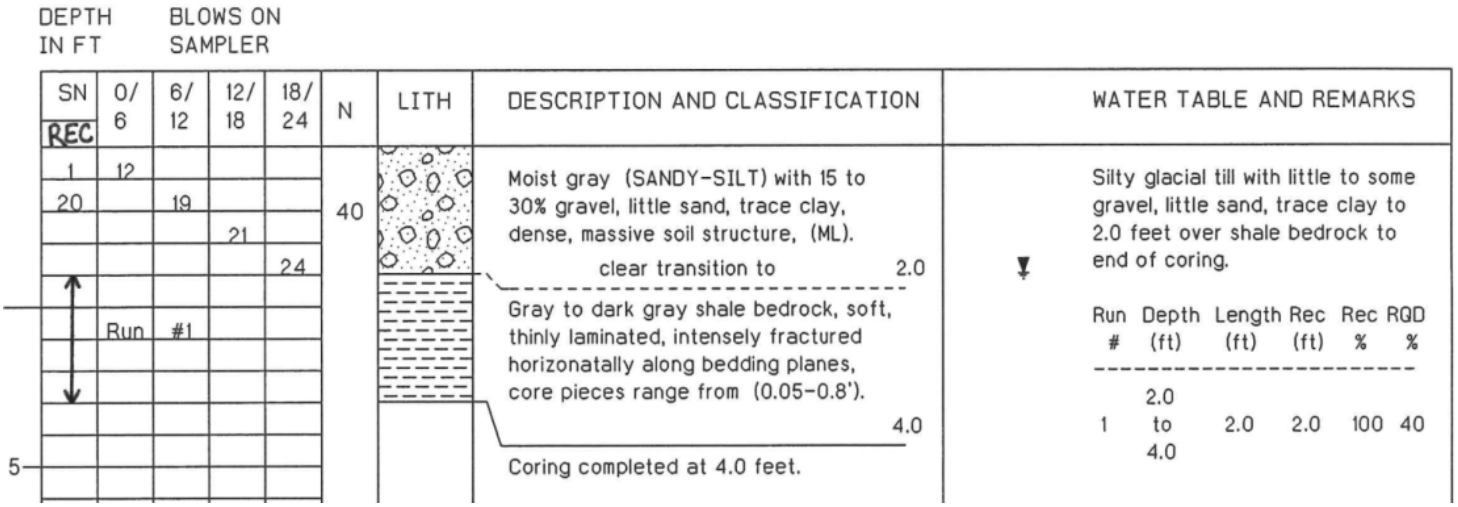
GEOTECHNICAL REFERENCE STANDARDS AND KEY TO SOIL BORING LOGS



Depth: The far left column provides the vertical scale of the boring log in feet below ground surface.

Sample Number (SN): The sample number is used for identification on sample containers and/or laboratory tests. Abbreviations are used for different samples and tests (Table 4.)

Sample Recovery (REC): Shown in the sample number column below the sample number in inches out of 24.

Blows: The number of blows obtained from each of the 6-inch intervals of a 24-inch Standard Penetration Test (ASTM D1586).

N-Value: The Standard Penetration Test N-Value, as specified by ASTM D1586 is defined as the number of blows required by a 140-pound hammer falling 30 inches per blow to drive a 2-inch outside diameter split spoon sampler 24 inches. The N-Value is the sum of the 6/12 and 12/18 value.

Lithology (LITH): A graphic representation of the soil and rock description and classification.

Description and classification:
All recovered soil and rock samples are described and classified in the field during the drilling process. Soil classifications are based on the Unified Soil Classification System ASTM D2487 and ASTM D2488. The relative proportion of soil mixtures with two or more soils is described in accordance with "Suggested Methods of Test for Identification of Soils" by D.M. Burmister, ASTM Special Technical Publication479, June 1970. Rock descriptions and classifications are frequently referenced from "Rock Core Evaluation Manual Geotechnical Engineering Manual GEM-23" by NYSDOT, 2015. Description and classification are based on visual observation, except where they have been modified to reflect results of laboratory tests as deemed appropriate.

- Soils Field Observations: Moisture (Table 2.), Color, Relative proportion of soil mixtures with two or more soils (Table 5.), Penetration Resistance (Table 3.), Soil Structure, and USCS Classification (Table 1.).
- Rock Field Observations: Color, Rock Type, Hardness (Table 6.), Grain size or Texture, Bedding (Table 7.), Fracturing (Table 8.), Size and Range, and additional observations. The field identification descriptors Rock Hardness, Bedding, and Fracturing are based off the NYSDOT GEM-23.
- The depths of stratum lines shown on the boring logs are based on interpretation and may not represent precise subsurface conditions.

Remarks: This section denotes depth of recovery, stratigraphy of soil and rock, depositional environment, and general documentation of drilling efforts and techniques.

Water Level: Water level readings are made in bore holes at times and under conditions stated on the boring logs. Fluctuations in the water level may occur due to factors other than those present at the time measurements are taken. The symbol " ▼ " denotes the water level below ground surface at a specified time.

RQD: Denotes the percentage of intact and sound rock retrieved from a borehole of any orientation. All pieces of intact and sound rock core equal to or greater than 100mm (4 in.) long are summed and divided by the total length of the core run. (ASTM D6032)

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GEOTECHNICAL REFERENCE STANDARDS AND KEY TO SOIL BORING LOGS

Table 1. Unified Soil Classification System

Major Divisions			Symbol	Typical Descriptions
Coarse Grained Soils	Gravel and Gravelly soils	Clean gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
			GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	More than 50% of coarse fraction retained on No. 4 Sieve.	Gravels with fines (appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	Sand and Sandy Soils	Clean sand (little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines (Wide Equal Range)
			SP	Poorly-graded sands, gravelly sands, little or no fines, predominately one size or intermediate size
More than 50% of material is larger than No. 200 Sieve size.	More than 50% of coarse fraction passing No. 4 Sieve.	Sands with fines (appreciable amount of fines)	SM	Silty sands, sand-silt mixtures
			SC	Clayey-sands, sand-clay mixtures
Fine Grained Soils	Silts and Clays	Liquid limit LESS than 50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
			CL	Inorganic clays or low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silty clays or low plasticity
	Silts and Clays	Liquid limit GREATER than 50	MH	Inorganic silts, micaccous or diatomaccous fine sand or silty soils
Less than 50% of material is smaller than No. 200 Sieve size.			CH	Inorganic clays or high plasticity, fat clays
			OH	Organic clays or medium to high plasticity, organic silts
Highly Organic Soils			PT	Peat, humus, swamp soils with high organic contents

NOTE: MULTIPLE SYMBOLS ARE USED TO DISTINGUISH DUAL AND BORDERLINE SOILS

Table 2. Relative Soil Moisture

Moisture Content	
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water

Table 3. Relative Soil Penetrative Resistance

Penetrative Resistance of Non-Cohesive Soils	
Term	Blows
Very Loose	0 - 4
Loose	5 - 10
Compact	11 - 30
Dense	30 - 50
Very Dense	>50

Penetrative Resistance of Cohesive Soils	
Term	Blows
Very Soft	0 - 2
Soft	3 - 4
Firm	5 - 8
Stiff	9 - 15
Very Stiff	15 - 30
Hard	> 30

Table 4. Sample Abbreviations

Symbol	Description
ST	Shelby Tube Sample
VS	Vane Shear Test
WR	Weight of rods: A zero blow count with the weight of rods only.
WH	Weight of hammer: A zero blow count with the weight of the rods plus the weight of the hammer.
50/#	Denotes if the number of blows exceeds 50 before 0.5 ft. interval. (ex. 50/4 or 50 blows over 4 inches)
Run	An individual advancement of core equipment

Table 5. Modified Burmister

Proportion of Soil Mixtures	
Trace	0 - 10%
Little	10 - 20%
Some	20 - 35%
And	35 - 50%

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

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GEOTECHNICAL REFERENCE STANDARDS AND KEY TO SOIL BORING LOGS

Table 6. Relative Rock Hardness

Relative Rock Hardness	Long Description
Very soft rock	Can be scratched with fingernail. Slight indentation produced by light blow of point of geologic pick. Requires power tools for excavation.
Soft rock	Hand-held specimen crumbles under firm blows with point of geologic pick.
Moderately soft rock	Shallow indentations (0.04 to 0.12 in. (1 to 3 mm)) can be made by firm blows with point of geologic pick. Can be peeled with pocket knife with difficulty.
Moderately hard rock	Cannot be peeled or scraped with knife. Can be distinctly scratched with a steel nail.
Hard rock	Intact hand-held specimen requires more than one hammer blow to break it. Can be faintly scratched by a steel nail.
Very hard rock	Cannot be scratched with a steel nail. Intact specimen breaks only by repeated, heavy blows with geologic hammer.
Extremely hard rock	Intact specimen can only be chipped, not broken, by repeated, heavy blows of a geologic hammer.

Table 7. Rock Bedding

Bedding	Description
Very Thick-Bedding	Greater than 4 ft. (>1.2 m)
Thick-Bedded	1 ft. to 4 ft. (0.3 m to 1.2 m)
Medium-Bedded	4 in. to 12 in. (100 mm to 300mm)
Thin-Bedded	1.2 in. to 4 in. (30 mm to 100 mm)
Very Thin-Bedded	0.5 in. to 1.2 in. (13mm to 30mm)
Thickly Laminated	0.1 in. to 0.5 in. (3 mm to 13 mm)
Thinly Laminated	Les than 0.1 in. (< 3 mm)
None	

Table 8. Degree of Rock Core Fracturing

Degree of Fracturing	Description
Unfractured	No observed fractures.
Very slightly fractured	Core recovered in lengths greater than 3 ft. (1 m).
Slightly to very slightly fractured	Core recovered in lengths from 1 to 3 ft. (0.3 m to 1 m).
Slightly fractured	Core recovered mostly in lengths from 1 to 3 ft. (0.3 to 1 m) with few scattered lengths less than 1 ft. (0.3 m) or greater than 3 ft. (1 m).
Moderately to slightly fractured	Core recovered mostly in lengths averaging 1 ft. (0.3 m).
Moderately fractured	Core recovered mostly in lengths from 0.33 to 1 ft. (0.1 to 0.3 m) with most lengths about 0.67 ft. (0.2 m).
Intensely to moderately fractured	Core recovered in lengths of 0.33 to 0.67 ft. (0.1 to 0.2 m) with most lengths about 0.5 ft. (0.15 m).
Intensely fractured	Core recovered mostly in lengths from 0.1 to 0.33 ft. (0.03 to 0.1 m) with most lengths less than 0.33 ft. (0.1 m) and with fragmented intervals
Very intensely to intensely fractured	Core recovered as short core lengths averaging less than 0.1 ft. (0.03 m).
Very intensely fractured	Core recovered mostly as chips and fragments with a few scattered short core lengths.

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

EARTH DIMENSIONS, INC.
Geotechnical and Environmental Drilling | Wetland Delineations and Consulting
1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | EDI@earthdimensions.com

EDI Job Code: 15E15b **Hole Number** B-1-23 **Surface Elevation:**
Project Name: 2495 Wehrle Drive **Northing:** **Easting:**
Project Location: Town of Amherst, Erie County, NY **Date Started:** 10/9/2023
Client: Glynn Group Engineering & Architecture, PLLC **Date Completed:** 10/9/2023

Depth (ft)	SN	Rec (in)	Blows on Sampler 0/6	6/12	12/18	18/24	N	LITH	Description and Classification	Water Table and Remarks
	1	12	5	6	7	50/5	13		Dry to moist dark brown (SANDY-SILT) topsoil fill with 0 to 5% gravel, little to some sand, trace to little organic matter, trace clay and asphalt remnants, firm, massive soil structure, (ML). 1.0	Coarse silty topsoil fill with little to some sand, trace to little organic matter, trace clay, gravel, and asphalt remnants to 1.0 feet over coarse silty glacial till with some sand, trace to little gravel to auger refusal.
	2	0	50/1						Dry brown to light brown (SANDY-SILT) with 5 to 15% gravel, some sand, trace clay, compact to very dense, massive soil structure, (ML). 2.2	No water at completion.
5									Advanced augers to refusal at 2.2 feet.	Note: Advanced bore hole with 2 1/4" ID x 6" OD hollow stem auger casing with continuous split spoon sampling to auger refusal at 2.2 feet. Bore hole was backfilled with cuttings to ground surface upon completion.
10										
15										
20										

N=NUMBER OF BLOWS TO DRIVE 2" SPOON 12" WITH 140lb. WEIGHT FALLING 30" PER BLOW

Logged By: Kyle Shearing

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

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1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | EDI@earthdimensions.com

EDI Job Code: 15E15b **Hole Number** B-2-23 **Surface Elevation:**
Project Name: 2495 Wehrle Drive **Northing:** **Easting:**
Project Location: Town of Amherst, Erie County, NY **Date Started:** 10/9/2023
Client: Glynn Group Engineering & Architecture, PLLC **Date Completed:** 10/9/2023

Depth (ft)	SN	Rec (in)	Blows on Sampler 0/6	6/12	12/18	18/24	N	LITH	Description and Classification	Water Table and Remarks
	1	16	4	4	12	50/2	16		Dry dark brown (SAND-SILT-CLAY) topsoil with little to some sand, trace to little clay and organic matter, firm, weakly granular soil structure, (ML-CL). 0.5	Silty topsoil with little to some gravel, trace to little clay and organic matter to 0.5 feet over silty glacial till with little sand and clay, trace to little gravel, trace organic matter to 1.0 feet over coarse silty glacial till with some sand, little to some limestone and chert stone fragments, trace clay to auger refusal.
	2	0	50/1						Dry dark brown to grayish brown (SAND-SLIT-CLAY) with 5 to 15% mostly angular gravel, little sand and clay, trace organic matter, firm, massive soil structure, (ML-CL). 1.0
5									Dry light brown gravelly (SANDY-SILT) with 15 to 30% mostly limestone and chert stone fragments, some sand, trace clay, compact to very dense, massive soil structure, (ML) tending toward (GM),(SM). 2.2
10									Advanced augers to refusal at 2.2 feet.	No water at completion.
15										Note: Advanced bore hole with 2 1/4" ID x 6" OD hollow stem auger casing with continuous split spoon sampling to auger refusal at 2.2 feet. Bore hole was backfilled with cuttings to ground surface upon completion.
20										

N=NUMBER OF BLOWS TO DRIVE 2" SPOON 12" WITH 140lb. WEIGHT FALLING 30" PER BLOW

Logged By: Kyle Shearing

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

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Geotechnical and Environmental Drilling | Wetland Delineations and Consulting
1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | EDI@earthdimensions.com

EDI Job Code: 15E15b **Hole Number** B-3-23 **Surface Elevation:**
Project Name: 2495 Wehrle Drive **Northing:** **Easting:**
Project Location: Town of Amherst, Erie County, NY **Date Started:** 10/9/2023
Client: Glynn Group Engineering & Architecture, PLLC **Date Completed:** 10/9/2023

Depth (ft)	SN	Rec (in)	Blows on Sampler 0/6	6/12	12/18	18/24	N	LITH	Description and Classification	Water Table and Remarks
	1	24	2	2	4	12	6		Moist dark brown (SANDY-SILT) topsoil with some sand, trace to little organic matter, trace clay, very loose, granular soil structure, (ML). 1.0	Coarse silty topsoil with some sand, trace to little organic matter, trace clay to 1.0 feet over coarse silty glacial till with little to some sand, trace clay, gravel, and organic matter to auger refusal.
	2	4	50/5						Moist to dry light brown (SANDY-SILT) with 5 to 10% gravel, little to some sand, trace clay and organic matter, compact to very dense, massive soil structure, (ML). 2.5	No water at completion.
									Advanced augers to refusal at 2.5 feet.	Note: Advanced bore hole with 2 1/4" ID x 6" OD hollow stem auger casing with continuous split spoon sampling to auger refusal at 2.5 feet. Bore hole was backfilled with cuttings to ground surface upon completion.
5										
10										
15										
20										

N=NUMBER OF BLOWS TO DRIVE 2" SPOON 12" WITH 140lb. WEIGHT FALLING 30" PER BLOW

Logged By: Kyle Shearing

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

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1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | EDI@earthdimensions.com

EDI Job Code: 15E15b **Hole Number** B-4-23 **Surface Elevation:**
Project Name: 2495 Wehrle Drive **Northing:** **Easting:**
Project Location: Town of Amherst, Erie County, NY **Date Started:** 10/9/2023
Client: Glynn Group Engineering & Architecture, PLLC **Date Completed:** 10/9/2023

Depth (ft)	SN	Rec (in)	Blows on Sampler 0/6	6/12	12/18	18/24	N	LITH	Description and Classification	Water Table and Remarks
	1	12	12	22	18	10	40		Dry brown (SAND-SILT-CLAY) topsoil with little sand and clay, trace to little organic matter, very stiff, weakly granular soil structure, (ML-CL). 0.4	Silty topsoil with little sand and clay, trace to little organic matter to 0.4 feet over silty glacial till with some limestone and chert stone fragments, little to some sand, trace to little clay with an occasional cobble to auger refusal.
	2	8	22	50/3					Dry brown very gravelly (SAND-SILT-CLAY) with 40 to 60% mostly limestone and chert stone fragments, occasional cobble, little to some sand, trace to little clay, hard, massive soil structure, (GC). 3.0	No water at completion.
									Advanced augers to refusal at 3.0 feet.	Note: Advanced bore hole with 2 1/4" ID x 6"OD hollow stem auger casing with continuous split spoon sampling to auger refusal at 3.0 feet. Bore hole was backfilled with cuttings to ground surface upon completion.
5										
10										
15										
20										

N=NUMBER OF BLOWS TO DRIVE 2" SPOON 12" WITH 140lb. WEIGHT FALLING 30" PER BLOW

Logged By: Kyle Shearing

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

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Geotechnical and Environmental Drilling | Wetland Delineations and Consulting
1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | EDI@earthdimensions.com

EDI Job Code: 15E15b **Hole Number** B-5-23 **Surface Elevation:**
Project Name: 2495 Wehrle Drive **Northing:** **Easting:**
Project Location: Town of Amherst, Erie County, NY **Date Started:** 10/9/2023
Client: Glynn Group Engineering & Architecture, PLLC **Date Completed:** 10/9/2023

Depth (ft)	SN	Rec (in)	Blows on Sampler 0/6	6/12	12/18	18/24	N	LITH	Description and Classification	Water Table and Remarks
	1	24	2	6	8	10	14		Moist dark brown (SAND-SILT-CLAY) topsoil with little to some sand, trace to little clay and organic matter, very loose, granular soil structure, (ML-CL). 0.5	Silty topsoil with little to some sand, trace to little clay and organic matter to 0.5 feet over slity glacial till with little sand and gravel, trace to little clay to 2.5 feet over limestone stone fragments to auger refusal.
	2	8	12	50/2					Moist to dry light brown (SAND-SILT-CLAY) with 10 to 20% gravel, little sand, trace to little clay, very stiff, massive soil structure, (ML-CL). 2.5	No water at completion.
									Gray limstone stone fragments, moderately hard. 2.7	Note: Advanced bore hole with 2 1/4" ID x 6" OD hollow stem auger casing with continuous split spoon sampling to auger refusal at 2.7 feet. Bore hole was backfilled with cuttings to ground surface upon completion.
5									Advanced augers to refusal at 2.7 feet.	
10										
15										
20										

N=NUMBER OF BLOWS TO DRIVE 2" SPOON 12" WITH 140lb. WEIGHT FALLING 30" PER BLOW

Logged By: Kyle Shearing

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Appendix B

Project Location Plan

Climate Controlled Storage
2495 Wehrle Drive
Amherst, New York

Geotechnical Engineering Report

GGEA 23-1214

October 26, 2023

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

GLYNN GROUP
ENGINEERING & ARCHITECTURE, PLLC



Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

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ENGINEERING • DESIGN
GLYNN GEOTECHNICAL ENGINEERING
415 S. TRANSIT STREET
LOCKPORT, NEW YORK 14094
VOICE (716) 625 - 6933 / FAX (716) 625-6983
www.glynngroup.com

PROJECT: 2495 WEHRLE DRIVE			SHEET NO.: S1
SUBJECT: PROJECT LOCATION PLAN			
CLIENT: 416 HOMEZ, INC.			
PROJ. NO.: 23-1214	SCALE: 1" = 400'	DATE: 09.14.23	BY: GEL

Appendix C

Subsurface Exploration Plan

Climate Controlled Storage
2495 Wehrle Drive
Amherst, New York

Geotechnical Engineering Report

GGEA 23-1214

October 26, 2023

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

GLYNN GROUP
ENGINEERING & ARCHITECTURE, PLLC



Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

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LOCKPORT, NEW YORK 14094
VOICE (716) 625 - 6933 / FAX (716) 625-6983
www.glynngroup.com

PROJECT: 2495 WEHRLE DRIVE			SHEET NO.: S2
SUBJECT: BORING LOCATION PLAN			
CLIENT: 416 HOMEZ, INC.			
PROJ. NO.: 23-1214	SCALE: 1" = 100'	DATE: 09.14.23	BY: GEL

Appendix D

Seismic Site Class and Design Category

Climate Controlled Storage
2495 Wehrle Drive
Amherst, New York

Geotechnical Engineering Report

GGEA 23-1214

October 26, 2023

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Project : 2495 Wehrle Drive
Client: 416 Homez, Inc.
GGEA # : 23-1214
Date: 11.26.23

B-5

Depth (di)	N Value (Ni)
2.7	14
97.3	100

ASCE 7-16
Equation 20.4-2

$$N = \frac{100}{\sum \frac{di}{Ni}} = 85.8$$

ASCE 7-16
Table 20.3-1

$N > 50$ **SITE CLASS C**

2020 NYS Code Section 1613

F_a =	1.3	Site coefficient Table 1613.2.3(1)
F_v =	1.5	Site coefficient Table 1613.2.3(2)
S_s =	0.172	Mapped accelerations short periods Figure 1613.2.1(1)
S_1 =	0.045	Mapped accelerations 1 sec period Figure 1613.2.1(2)
S_{MS} =	0.224	Maximum spectral response short periods equation 16-36
S_{M1} =	0.068	Maximum spectral response 1 sec periods equation 16-37
S_{DS} =	0.149	Design spectral response short periods equation 16-38
S_{D1} =	0.045	Design spectral response 1 sec periods equation 16-39

Risk Category = II Table 1604.5

Seismic Design Category = **A** Table 1613.2.5(1)
Table 1613.2.5(2)

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Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Appendix E

Fill Specifications

Climate Controlled Storage
2495 Wehrle Drive
Amherst, New York

Geotechnical Engineering Report

GGEA 23-1214

October 26, 2023

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

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ENGINEERING & ARCHITECTURE, PLLC

Civil • Geotechnical
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Material Testing • Consulting

Common Fill

All soil and/or crushed rock material with the exception
of those with USCS classifications of
CH, MH, OH, and OL.

Place material in 12 inch lifts (loose) and compact to 90 % of modified proctor (ASTM D-1557) maximum dry density within 2 % of optimum moisture content.

The material should be compacted using a smooth drum vibratory roller (for large applications) or a reversible vibratory plate tamper (for smaller applications) such as a Bomag BPR 35/60 or similar (weight > 400 lbs).

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

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415 South Transit Street, Lockport, New York 14094
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Material Testing • Consulting

Structural Fill

All soil and/or crushed rock material with the exception
of those with USCS classifications of
CH, MH, OH, OL, ML and CL-ML.

Place material in 9 inch lifts (loose) and compact to 95 % of modified proctor (ASTM D-1557) maximum dry density within 2 % of optimum moisture content.

The material should be compacted using a smooth drum vibratory roller (for large applications) or a reversible vibratory plate tamper (for smaller applications) such as a Bomag BPR 35/60 or similar (weight > 400 lbs).

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

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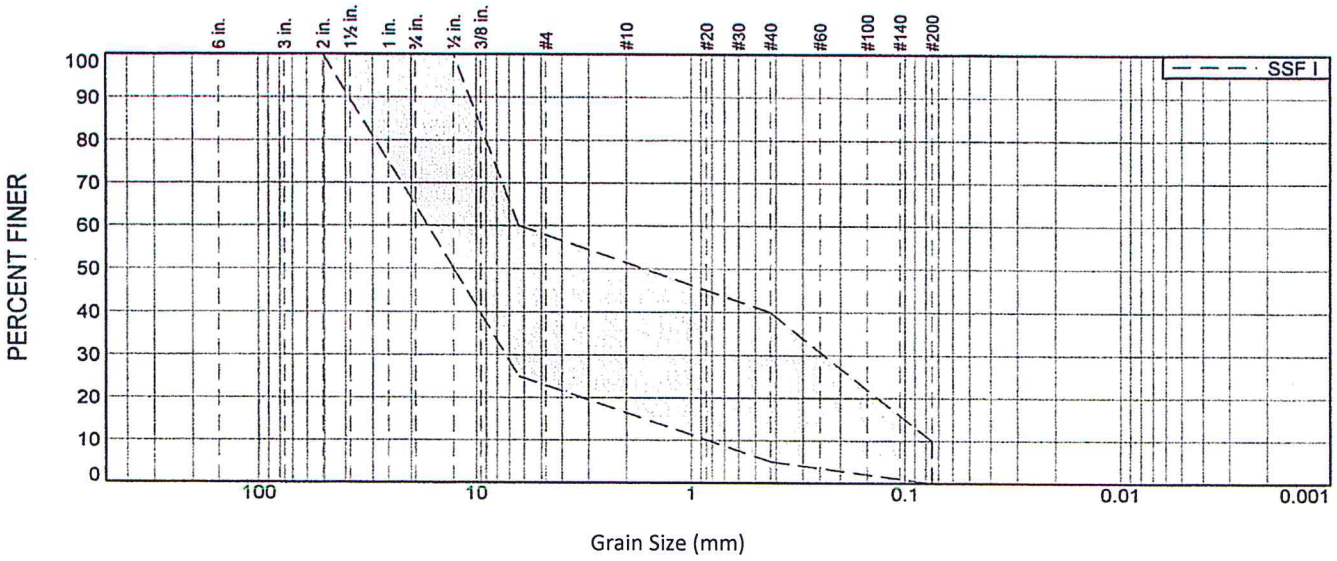
Select Structural Fill

NYSDOT Item No. 304.12 Subbase Course, Type 2

Sieve Size	Required % Passing
2 inch	100
1/4 inch	25 - 60
No. 40	5 - 40
No. 200	0 - 10



In addition to the above specification, material shall also meet the well graded qualifications of ASTM D-2487, such that USCS classification = GW, GW-GM, SW or SW-SM.

Place material in 9 inch lifts (loose) and compact to 95 % of modified proctor (ASTM D-1557) maximum dry density within 2 % of optimum moisture content.

The material should be compacted using a smooth drum vibratory roller (for large applications) or a reversible vibratory plate tamper (for smaller applications) such as a Bomag BPR 35/60 or similar (weight > 400 lbs).

Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

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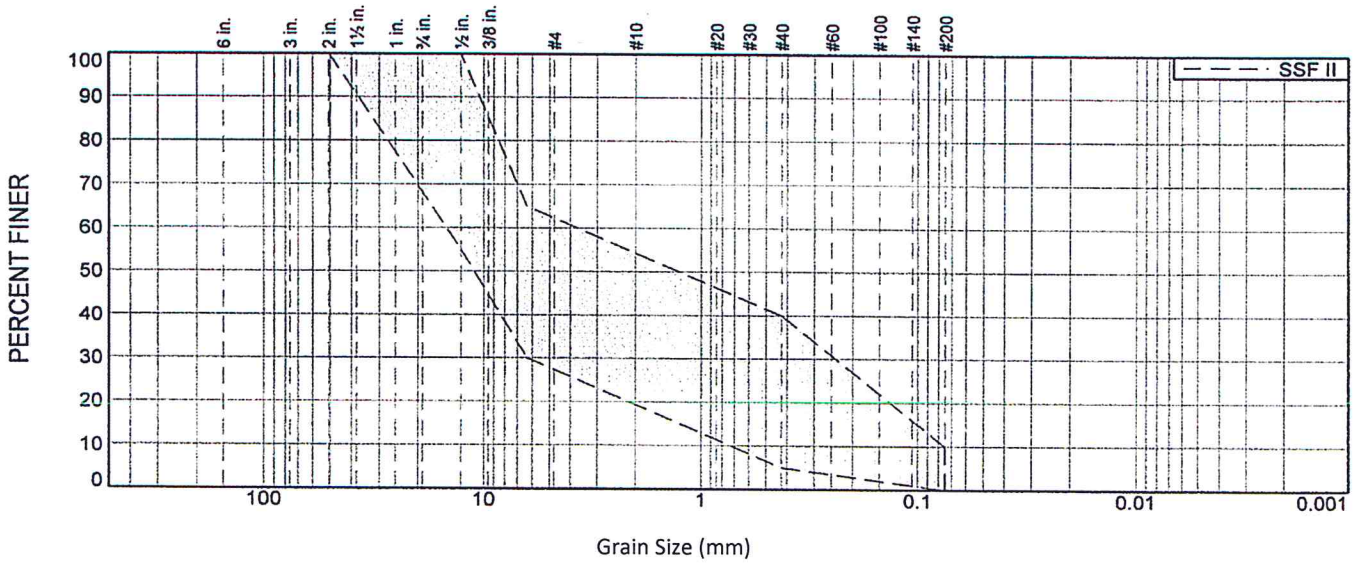
Select Structural Fill

NYSDOT Item No. 304.14 Subbase Course, Type 4

Sieve Size	Required % Passing
2 inch	100
1/4 inch	30 - 65
No. 40	5 - 40
No. 200	0 - 10



In addition to the above specification, material shall also meet the well graded qualifications of ASTM D-2487, such that USCS classification = GW, GW-GM, SW or SW-SM.

Place material in 9 inch lifts (loose) and compact to 95 % of modified proctor (ASTM D-1557) maximum dry density within 2 % of optimum moisture content.

The material should be compacted using a smooth drum vibratory roller (for large applications) or a reversible vibratory plate tamper (for smaller applications) such as a Bomag BPR 35/60 or similar (weight > 400 lbs).

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Attachment: SP-2023-12 application 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

WEHRLE DRIVE

Width Varies 60.0' Pavement

1156.08' To NE Corner of Lot 83
= Original Center Line of Transit Road

Center Line = North Line of Lot 83

213.53' Deed & Meas.

Acquired by County of Erie
Map No. SK 374-131 Parcel No. 134

69.00' 138.00'

90°47'33" Meas.

Set P.K Nail

7.03'+/-

89°12'27" Meas.

South Line Wehrle Drive as a 66' Wide Right of Way

Gas Marker

Drive On Line

Gas Valve
Water Valve
Sanitary Manhole

Sign

Stop Sign

Gas Valve

Found Iron 0.56'E. 0.49'No.

Found Iron 0.55'E. 0.58'No.

South Line of Wehrle Drive as Currently Laid Out

Utility Well

Solar Panel

No. 2495

Sign

Drive 1.40'E.

Parallel with East Line Lot 83

195.47'Meas.

235.50' Deed & Meas.

EXCEPTION SBL: 82.09-7-1

235.50'

EXCEPTION SBL: 82.09-7-2

235.50'

Catch Basin 4.78'E.

Drive 3.38'E.

Approximate Location of Tree Line

90°47'33" Meas.

Found Iron 0.85'So.

Found Tall I.P. 0.48'No. 0.71'E.

69.00' 138.00'

Found Tall I.P. 0.65'E. 1.03'No.

Found Iron 1.0'So. 0.30'W.

207.00' Deed & Meas.

Parallel with North Line of Lot 83

Approximate Location of Tree Line

Sanitary Manhole

Sign

Drive 4.49'E.

Drive 18.03'E.

D r i v e

Catch Basin 18.82'E.

Drive 4.99'E.

Catch Basin

8.31+/- Acres

(Includes Road Area)

East Line of Land Conveyed By L. 2411 Pg. 479
& Parallel with East Line Lot 83

735.46' Deed & Meas.

652.23'

B l a c k t o p

Drive 4.34'E.

983.10' Deed & Meas.

943.07'Meas.

Sanitary Manhole

5' Ditch

24" PVC

14" Metal Pipe

Mail Boxes

Water Valve

Fire Hydrant

28" Metal Pipe

24" PVC

3' Ditch

14" Metal Pipe

D r i v e

B l a c k t o p

Drive 1.39'E.
Drive 21.21'E.

Sign

S t o n e

Parallel with West Line Lot 83

Found I.P.

Pole 5.31'W.

78.0'

Garage 4.77'E.

FRAME GARAGE

Garage 5.33'E.

W o o d s B u s h & B r u s h

Found I.P. 0.65'W.

Approximate Location of Tree Line

78.0'

Catch Basin 25.34'E.

Catch Basin

Approximate Location of Tree Line

Pole 9.38'W.

Found I.P.

60.0'

Sign

Drive 46.16'So.

Drive 48.60'So.

96.0'

90°51'42"Meas.

Found I.P. 7.10'No. 0.25'E.

Fire Hydrant

Water Valve

Sanitary Manhole

Drive 28.0'E.

Water Valve

Sign

403.57' Deed 420.54' Meas.

Found Iron 0.50'No. 0.25'E.

Set I.P.

10" Metal Pipe

Approximate Location of Tree Line

Pole 10.16'W. 9.29'No.

Stop Sign

10" Metal Pipe

Light

10"PVC

15" Metal Pipe

Sign

Stop Sign

Sign

Sign

Light

B l a c k t o p P a r k i n g A r e a

EQUIVALENTS

0.01' = 1/8"
0.02' = 1/4"
0.03' = 3/8"
0.04' = 1/2"
0.05' = 5/8"
0.06' = 3/4"
0.07' = 13/16"
0.08' = 15/16"
0.09' = 1-1/16"
0.10' =1-3/16"
0.20' = 2-3/8"
0.30' = 3-5/8"
0.40' = 4-13/16"
0.50' = 6"
0.60' = 7-3/16"
0.70' = 8-3/8"
0.80' = 9-5/8"
0.90' = 10-3/16"
1.00' = 12"

0 60 120

Scale = 1" = 60'

LOCATION: Part of Lot 83, T-11, R-7, H.L.C.S, Town of Amherst, Erie Co. N.Y.

ROBERT M. SIEPEL

Professional Land Surveyor
610 Englewood Ave.
Buffalo, N.Y. 14223
Phone/Fax (716)838-3344
email: siepelsurveying@hotmail.com
Successor To: Richard W. Siepel

TYPE:	DATE:	REQUESTED BY:
Survey (Not Staked)	10-18-2022	Wesolowski Law Group

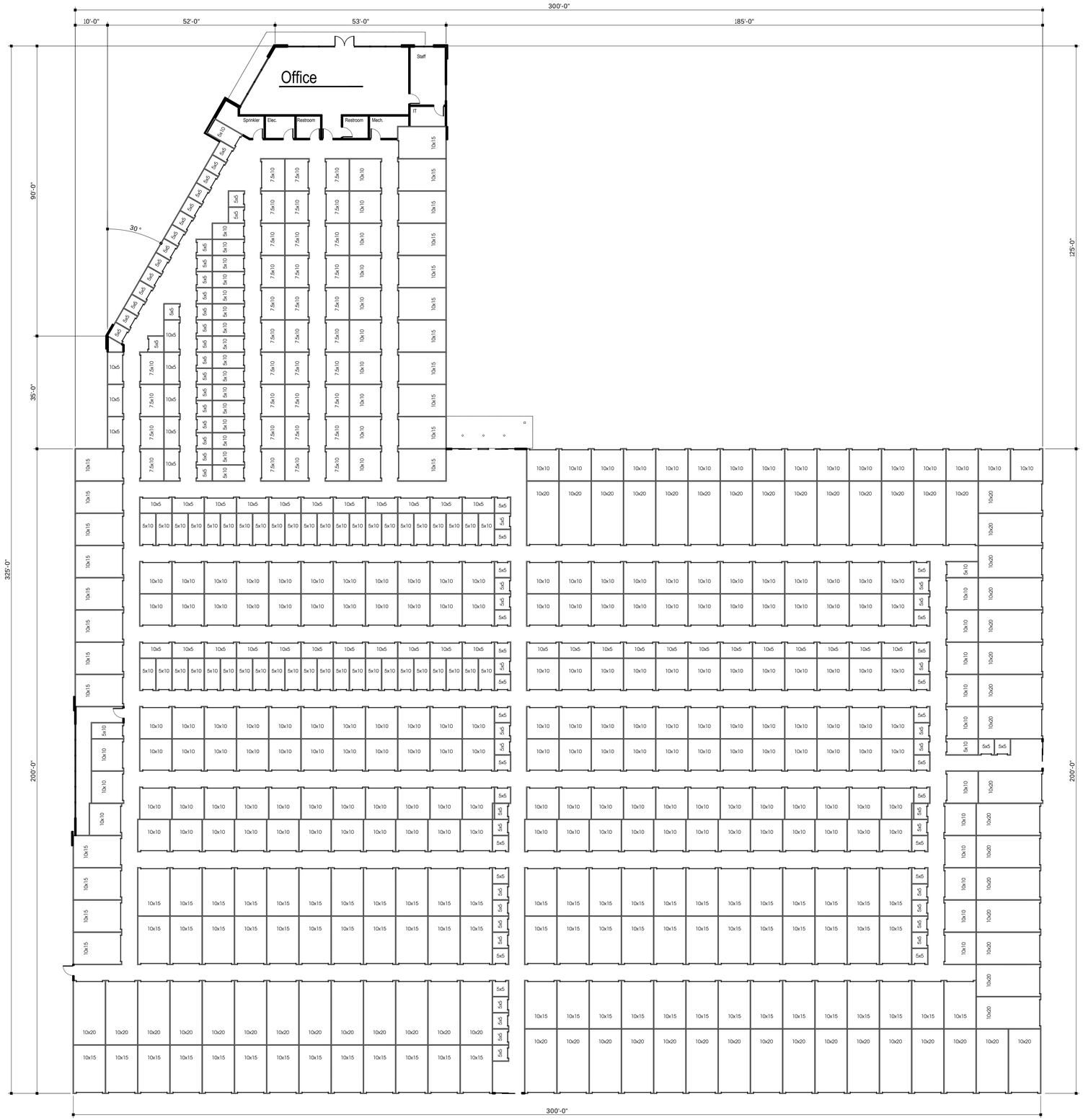
This Map Void Unless EMBOSSED or STAMPED with New York State Licensed Land Surveyor Seal No. 51020
Altering any item on this Map is in violation of the law, excepting as provided in Section 7209 of the NYS Education Law.

This Survey was Prepared without Benefit of Current Abstract of Title.

Job Number 22313

New York License Number 51020

Attachment: SP-2023-12 drawings 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)



1 FLOOR PLAN
1/16"=1'-0"

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ARCHITECTS
www.deanarchitects.com

PRELIMINARY
NOT FOR
CONSTRUCTION

3284 Walden Avenue
Depew, New York 14043
Phone: (716) 651-0381
Fax: (716) 651-0382

22-208

Climate Contolled Self Storage Facility

2495 Wehrle Drive
Amherst, NY

No.	Description	Date	By

DATE: 8-15-2023

DRAWN BY:

CHECKED BY: M. Dean

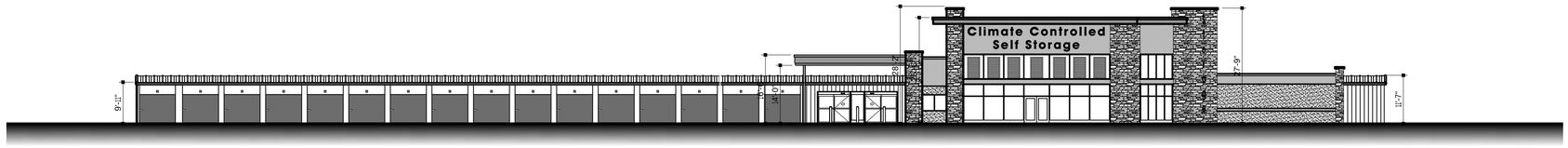
SCALE: Noted

Floor Plan

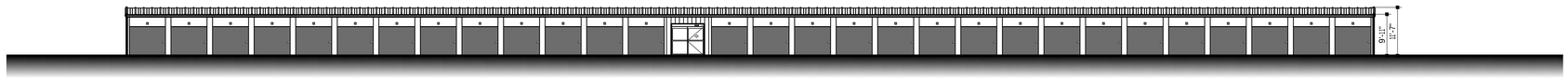
A1

Copyright Dean Architects

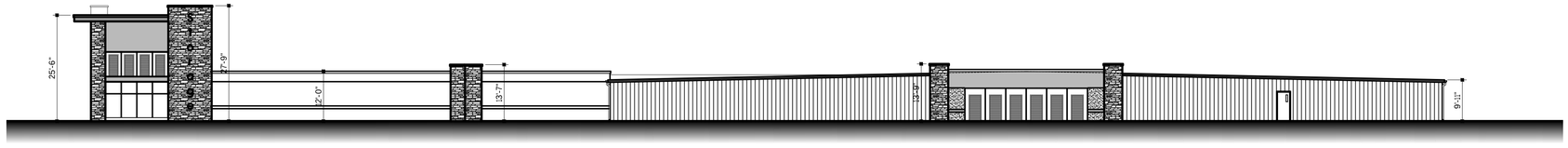
Attachment: SP-2023-12 drawings 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)



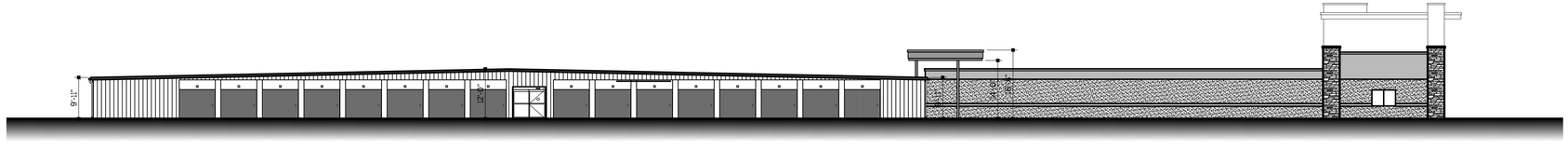
1 NORTH ELEVATION
1/16"=1'-0"



2 SOUTH ELEVATION
1/16"=1'-0"



3 WEST ELEVATION
1/16"=1'-0"



4 EAST ELEVATION
1/16"=1'-0"

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PRELIMINARY
NOT FOR
CONSTRUCTION

3284 Walden Avenue
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Phone: (716) 651-0381
Fax: (716) 651-0382

22-208

Climate Contolled Self Storage Facility

2495 Wehrle Drive
Amherst, NY

No.	Description	Date	By

DATE: 8-15-2023

DRAWN BY: | CHECKED BY: M. Dean

SCALE: Noted

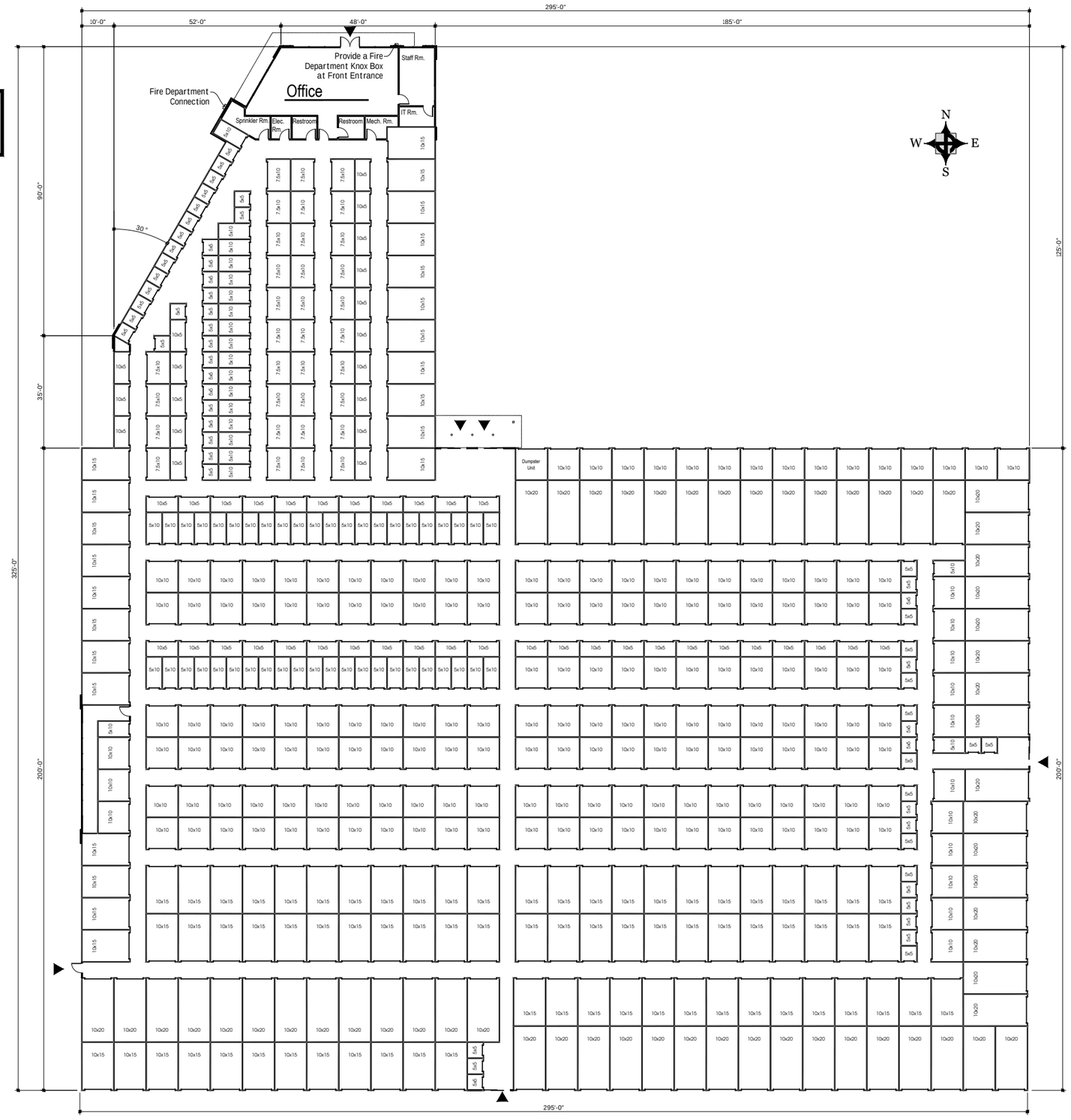
Elevations

A2

Copyright Dean Architects

Attachment: SP-2023-12 drawings 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Note that the building is fully sprinklered with ordinary hazard group 2 system meeting the requirements for NFPA13



1 FLOOR PLAN
1/16"=1'-0"

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Phone: (716) 651-0381
Fax: (716) 651-0382

22-208

Climate Contolled Self Storage Facility
2495 Wehrle Drive
Amherst, NY

No.	Description	Date	By
1	Per Planning Review Comments	12-21-23	MK

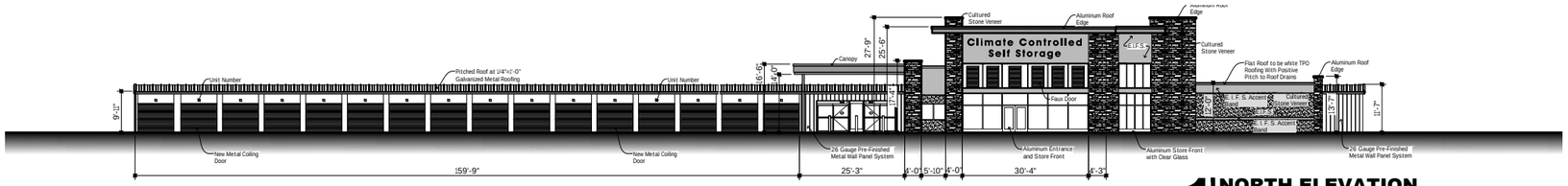
DATE: 8-29-2023
DRAWN BY:
CHECKED BY: M. Dean
SCALE: Noted

Floor Plan

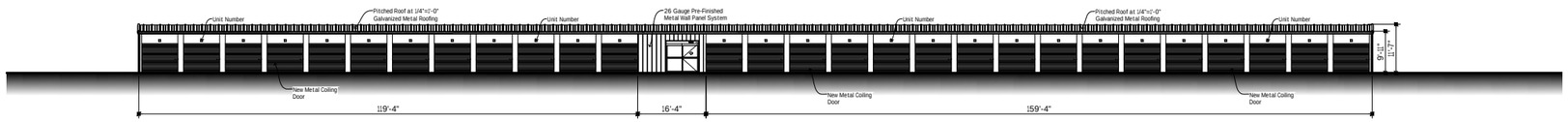
A1

Attachment: SP-2023-12 drawings 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

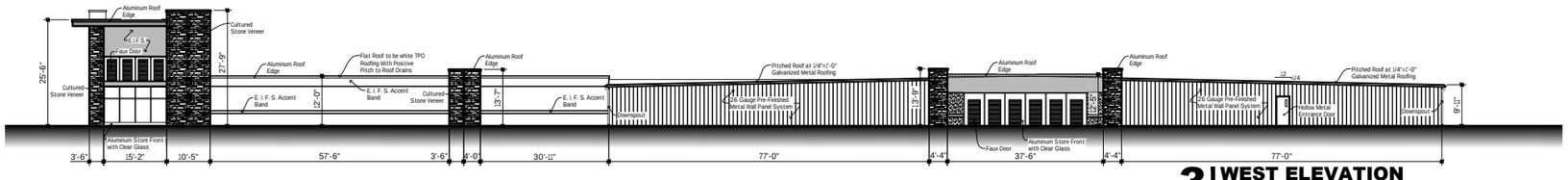
Copyright D



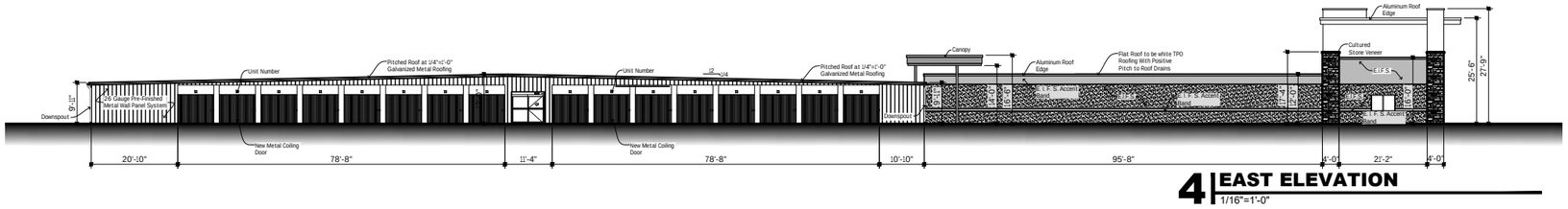
1 NORTH ELEVATION
1/16"=1'-0"



2 SOUTH ELEVATION
1/16"=1'-0"



3 WEST ELEVATION
1/16"=1'-0"



4 EAST ELEVATION
1/16"=1'-0"

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22-208

Climate Contolled Self Storage Facility
2495 Wehrle Drive
Amherst, NY

No.	Description	Date	By
1	Per Planning Review Comments	12-21-23	MK

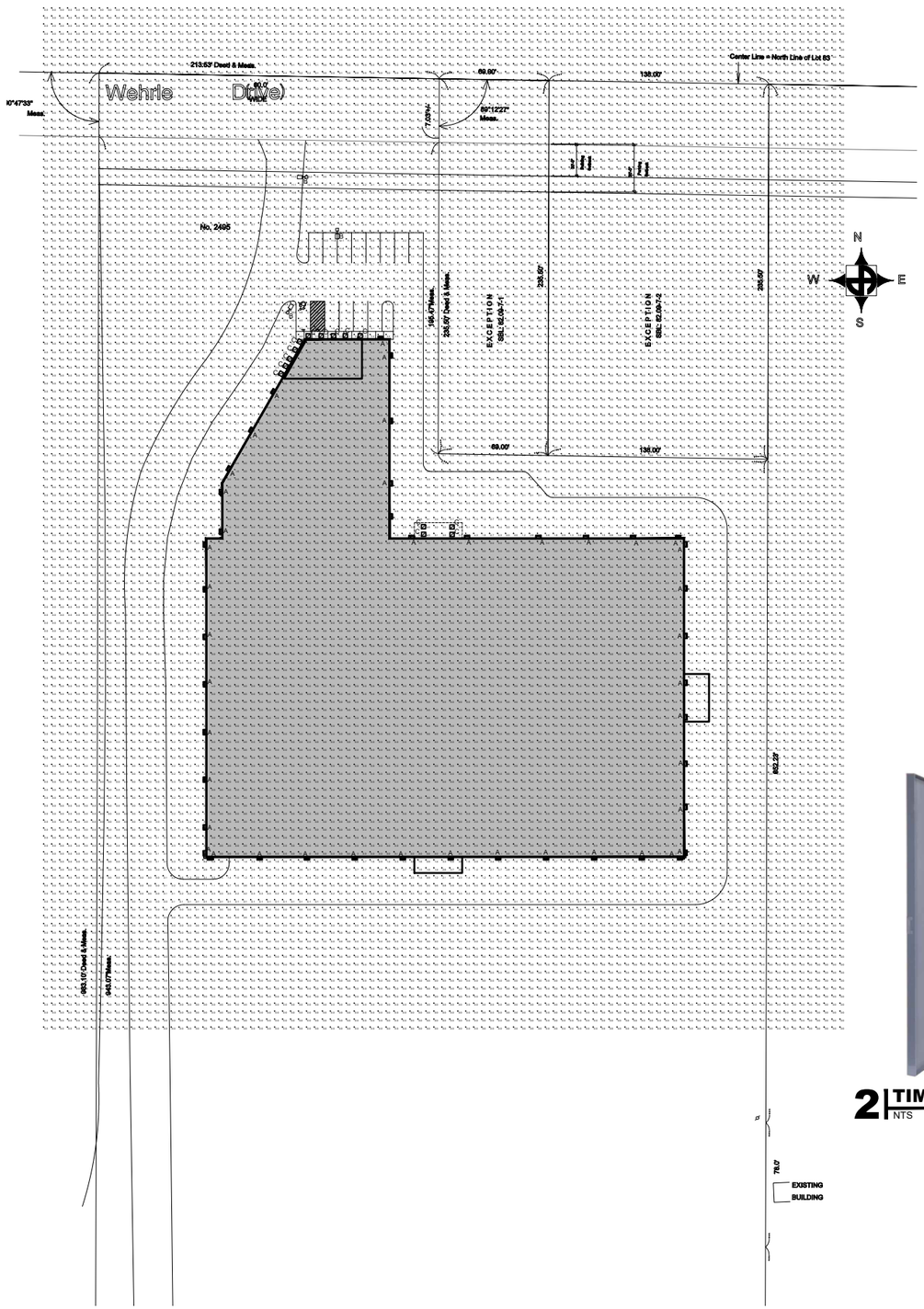
DATE: 8-29-2023
DRAWN BY: M. Dean
CHECKED BY:
SCALE: Noted

Elevations

A2

Copyright

Attachment: SP-2023-12 drawings 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

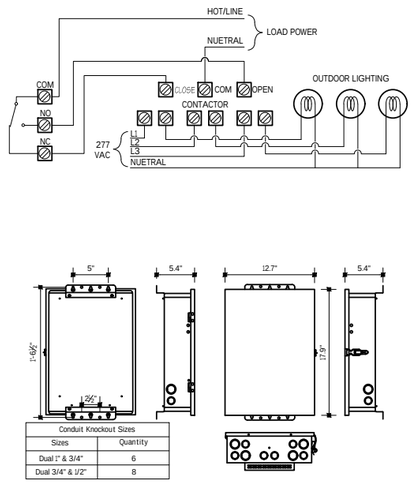


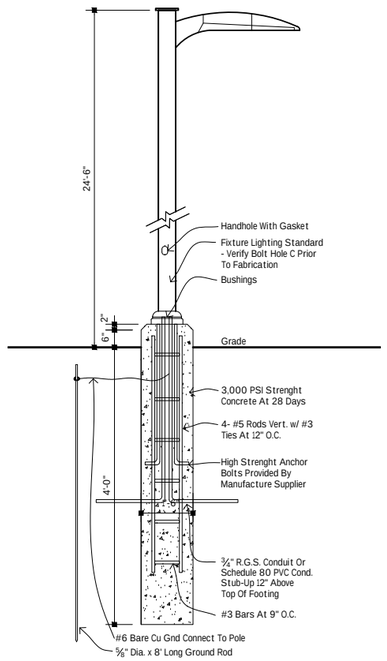
1 SITE LIGHTING PLAN
1"=40'

Lighting Fixture Schedule

Symbol	Label		QTY	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage	Height
	A		81	WDGE2 LED P1SW 35K 80CRI VW	WDGE LED WITH P1SW PERFORMANCE PACK, 3500K,80CRI, VISUAL COMFORT WIDE OPTIC	LED	1	ABSOLUTE	1	9.9	10'-0"
	B		3	DSX1 LED P8 40K T3M MVOLT HS	DSX1 LED P8 40K T3M MVOLT with houseside shield	LED	1	19090	1	201	25'-0"
	C		14	WF4 SQ B LED 30K MVOLT MB	4" LED ULTRA THIN WAFER SQUARE BAFFLE 3000K	LED	1	ABSOLUTE	1	10.4	12'-0"

2 TIME CLOCK
NTS





3 LIGHT POLE BASE
1/2"=1'-0"

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Depew, New York 14043
Phone: (716) 651-0381
Fax: (716) 651-0382

1.b

22-346

(28243 : SP-2023-12, 2495 Wehrle Dr.)

Attachment: SP-2023-12 drawings 011824 (2824

Project For:

Self Storage Facility
2495 Wehrle Dr
Buffalo, NY 14221

No.	Description	Date	By
1	Per Planning Review Comments	12-21-23	MK

DATE: 8-21-2023

DRAWN BY: | CHECKED BY: M. Dean

SCALE: 1"=40'

SITE PHOTOMETRICS

C1.0

Copyrigh

WEHRLE DRIVE

Width Varies 60.0' Pavement

1156.08' To NE Corner of Lot 83 = Original Center Line of Transit Road

Center Line = North Line of Lot 83

213.53' Deed & Meas.

Acquired by County of Erie
Map No. SK 374-131 Parcel No. 134
& Map No. SK 374-132 Parcel No. 135

69.00' 138.00'

7.03'+/-

89°12'27" Meas.

South Line Wehrle Drive as a 66' Wide Right of Way

Set P.K Nail

Gas Marker

Drive On Line

Water Valve

225

Gas Valve

Sanitary Manhole

Sign

Solar Panel

Utility Well

Stop Sign

Gas Valve

Found Iron 0.56'E. 0.49'No.

Found Iron 0.55'E. 0.58'No.

South Line of Wehrle Drive as Currently Laid Out

20' Water Line EASEMENT To Town of Amherst L. 8172 Pg. 325
20' Sanitary Sewer EASEMENT To Town of Amherst L. 9212 Pg. 80

15' Gas Line EASEMENT To National Fuel Gas Dist. Corp. L. 8218 Pg. 255

Sign

Drive 0.22'W.

195.47'Meas.

235.50' Deed & Meas.

EXCEPTION SBL: 82.09-7-1

235.50'

EXCEPTION SBL: 82.09-7-2

235.50'

Parallel with East Line Lot 83

Approximate Location of Tree Line

Catch Basin 1.78'E.

Drive On Line

No. 2495

90°47'33" Meas.

Found Iron 0.85'So.

Found Tall I.P. 0.48'No. 0.71'E.

69.00' 138.00'

Found Tall I.P. 0.65'E. 1.03'No.

Found Iron 1.0'So. 0.30'W.

207.00' Deed & Meas.

Approximate Location of Tree Line

Parallel with North Line of Lot 83

Sanitary Manhole

Sign

Drive 0.29'E.

Drive 13.38'E.

D r i v e

983.10' Deed & Meas.

943.10'Meas.

25' Ingress/ Egress EASEMENT To EMED Co. Inc.
Liber 9961 of Deeds Page 173
25' Wide Roadway EASEMENT

Catch Basin 12.67'E.

Drive 1.31'E.

B l a c k t o p

Catch Basin

8.13 +/- Acres

(Includes Road Area)

East Line of Land Conveyed To Jacob Werkley L. 2461 Pg. 479 & Parallel with East Line Lot 83

486.93'

735.46' Deed & Meas.

652.23'

40' Drainage EASEMENT Area

90°

Drive 3.46'E.

Mail Boxes

Sanitary Manhole

5' Ditch

378.00'

24" PVC

14" Metal Pipe

40.00'

Water Valve

28" Metal Pipe

24" PVC

3' Ditch

14" Metal Pipe

40.00'

378.00'

Fire Hydrant

10' Water Line EASEMENT

15' Easement To National Fuel Gas Distribution Corp.
Liber 10131 of Deeds Page 682

W o o d s B u s h & B r u s h

Drive 10.60'E.

Drive 9.29'E.

Sign

B l a c k t o p

Parallel with West Line Lot 83

S t o n e

10' Wide Permanent Sanitary Sewer EASEMENT

Found I.P.

Pole 5.31'W.

78.0'

Garage 4.77'E.

FRAME GARAGE

Garage 5.33'E.

Found I.P. 0.65'W.

78.0'

Approximate Location of Tree Line

Pole 9.38'W.

Found I.P.

60.0'

Catch Basin 12.0'E.

Catch Basin

Sign

Drive 46.0'So.

Drive 48.60'So.

96.0'

90°52'37"Meas.

Found I.P. 7.10'No. 0.25'E.

Fire Hydrant

Water Valve

Sign

Sanitary Manhole

Pole 10.16'W. 9.29'No.

Found Iron 0.50'No. 0.25'E.

Drive 10.0'E.

Water Valve

403.57' Deed & Meas.

Stop Sign

10" Metal Pipe

10" Metal Pipe

Approximate Location of Tree Line

NE Corner & North Line of EMed Co. Inc. L. 9961 Pg. 173

Sign

Stop Sign

Light

10"PVC

15" Metal Pipe

Sign

Sign

NW Corner of EMed Co. Inc. L. 9961 Pg. 173

Light

B l a c k t o p P a r k i n g A r e a

EASEMENTS

(Deed 1057, Apr. 8th 1903)
The Independent Union Telephone Company:
The Right to Construct, Maintain and Operate Poles and Fixtures Along Transit Road
(Does Not Affect Premises)

Liber 5542 of Deeds Page 540
Raymond A. Smith to Iroquois Gas Corporation
The Right to Construct, Maintain and Operate Gas Fixtures
(No Specific Bounds)

Liber 8172 of Deeds Page 324
Raymond A. Smith to Town of Amherst
The Right to Construct, Maintain and Operate a 12" Ductile Iron waterline over and across the Northerly 20.0' of the Property. (As a 66' Wide Right of Way)

Liber 8218 of Deeds Page 255
Raymond A. Smith To National Fuel Gas Distribution Corporation
The Right to Construct, Maintain and Operate a Gas Pipeline along the Southerly 15.0' of Wehrle Drive. (As a 66' Wide Right of Way).

Liber 9212 of Deeds Page 80
Mildred M. Smith To Town of Amherst
The Right To Construct Maintain and Operate a Sanitary Sewer Line over and across
The Northerly 20.0' of the Property. (As a 66' Wide Right of Way)

Liber 9288 of Deeds Page 357
Mildred M. Smith To Town of Amherst
The Right To Construct Maintain and Operate a Sanitary Sewer Line To Sanitary Sewer Connection to Cleanout (Termination Point). Additional 10' Beyond Cleanout Reserved for Work Purposes Only.

Liber 9961 of Deeds Page 173
Inducon Park Associates, Inc. To EMED CO Inc.
Ingress/ Egress Easement for Installation of Underground Utilities and Services including Gas, Water, Electric Etc. for a 25.0' Wide Roadway. Exhibit "A"

Liber 10131 of Deeds Page 682
Donato Curico To National Fuel Gas Distribution Corporation
The Right to Construct, Maintain and Operate a Gas Pipeline as a 15.0' Easement as shown on National Fuel Map F29364.

Book 184 Page 9277
Donato Curico To County of Erie (State of New York)
Appropriation by the County of Erie for Right of Way Widening
Map No. SK 374-131 Parcel No. 134 & Map No. SK 374-132 Parcel No. 135

EQUIVALENTS

0.01' = 1/8"
0.02' = 1/4"
0.03' = 3/8"
0.04' = 1/2"
0.05' = 5/8"
0.06' = 3/4"
0.07' = 13/16"
0.08' = 15/16"
0.09' = 1-1/16"
0.10' =1-3/16"
0.20' = 2-3/8"
0.30' = 3-5/8"
0.40' = 4-13/16"
0.50' = 6"
0.60' = 7-3/16"
0.70' = 8-3/8"
0.80' = 9-5/8"
0.90' = 10-3/16"
1.00' = 12"

0 60 120

Scale = 1" = 60'

LOCATION: Part of Lot 83, T-11, R-7, H.L.C.S, Town of Amherst, Erie Co. N.Y.

ROBERT M. SIEPEL
Professional Land Surveyor
610 Englewood Ave.
Buffalo, N.Y. 14223
Phone/Fax (716)838-3344
email: siepelsurveying@hotmail.com
Successor To: Richard W. Siepel

TYPE:	DATE:	REQUESTED BY:
Survey	10-18-2022	Wesolowski Law Group
Revised	12-1-2022	Wesolowski Law Group

This Map Void Unless EMBOSSED or STAMPED with New York State Licensed Land Surveyor Seal No. 51020
Altering any item on this Map is in violation of the law, excepting as provided in Section 7209 of the NYS Education Law.

This Survey was Prepared without Benefit of Current Abstract of Title.

Job Number 22313

New York License Number 51020

Attachment: SP-2023-12 drawings 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

WEHRLE DRIVE (VARYING WIDTHS)

(C.R. 290)

BENCHMARK: CHISELED SQUARE IN N.E. CORNER OF CONC. PAD FOR METER PIT, ELEV. 702.12

LEGEND

- OE — OVERHEAD ELECTRIC
- OT — OVERHEAD TELEPHONE
- OE&T — OVERHEAD ELECTRIC & TELEPHONE
- FM — FORCE MAIN
- SS — SANITARY SEWER
- ST — STORM SEWER
- W — WATER
- G — GAS
- X — FENCE
- P.P. — POWER POLE
- L.P. — LIGHT POLE
- M.B. — MAILBOX
- C.B. — CATCH BASIN
- ST. M.H. — STORM MANHOLE
- SAN. M.H. — SANITARY MANHOLE
- W.V. — WATER VALVE
- HYD. — HYDRANT
- SIGN
- G.V. — GAS VALVE
- C.O. — CLEAN OUT
- N.F.V. — NOT FIELD VERIFIED
- CURB WITH ELEVATIONS

REPUTED OWNER
FOUR LABS PROPERTIES LLC
L-11375, P-2106

REPUTED OWNER
DIANE B. TRANZ
L-8812, P-68

REPUTED OWNER
IGNAZIO NAPOLI
L-11206, P-9066

REPUTED OWNER
FIRST WEHRLE GROUP LLC
L-11153, P-9765

REPUTED OWNER
DONATO CURCIO
L-9961, P-176

REPUTED OWNER
JOANNE BOLOGNESE
L-10976, P-7464

REPUTED OWNER
MANDY DICKINSON
L-11154, P-4254

REPUTED OWNER
COREY J. HOGAN
L-10884, P-6186

REPUTED OWNER
JAMES A. & KATHLEEN A. SANTILLO
L-11093, P-4968

REPUTED OWNER
CHARLES J. SCHRUEFER
L-10708, P-200

REPUTED OWNER
EMED CO. INC.
L-11259, P-7742

OPERATING AUTHORITY FOR UTILITIES

1) TELEPHONE SERVICE------ VERIZON
65 FRANKLIN STREET
BUFFALO, NY 14202 (716) 398-5725

2) ELECTRIC SERVICE------- NATIONAL GRID
300 ERIE BOULEVARD
SYRACUSE, NY 13202 (315) 428-6319

3) GAS SERVICE---------- NATIONAL FUEL GAS CORPORATION
6363 MAIN STREET
AMHERST, NY 14221 (716) 857-7431

4) SANITARY SEWER SERVICE -TOWN OF AMHERST ENGINEERING DEPARTMENT
1100 NORTH FOREST ROAD
WILLIAMSVILLE, NY 14221 (716) 631-7154

5) WATER SERVICE -------- ERIE COUNTY WATER AUTHORITY
3030 UNION ROAD
CHEEKTOWAGA, NY 14225 (716) 684-1510

6) STORM SEWER SERVICE--- TOWN OF AMHERST ENGINEERING DEPARTMENT
1100 NORTH FOREST ROAD
WILLIAMSVILLE, NY 14221 (716) 631-7154

7) COMMUNICATIONS ------- SPECTRUM (USIC)
1767 VETERANS MEMORIAL HIGHWAY, SUITE 7
ISLANDIA, NY 11749 (800) 262-8600

GENERAL NOTES

BENCHMARK: TOP OF SHUT-OFF ON HYDRANT, ELEV. 703.42

1) BENCHMARK: TOP OF SHUT-OFF ON HYDRANT LOCATED AT THE SOUTHWEST CORNER OF THE PROJECT SITE ELEVATION 703.42 (NAVD 88)

   BENCHMARK: CHISELED SQUARE IN N.E. CORNER OF CONC. PAD FOR METER PIT, ELEV. 702.12

2) UNDERGROUND UTILITY INFORMATION SHOWN WAS DERIVED FROM RECORD PLANS SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES. PRIOR TO ANY CONSTRUCTION OR EXCAVATION AT SITE, THE PROPER UTILITY AUTHORITY SHOULD BE NOTIFIED. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

3) FOR REFERENCE SEE TOWN OF AMHERST TAX MAP 81.02-3-20.1

4) FOR REFERENCE SEE MAP PREPARED BY PRATT & HUTH ASSOCIATES, P.C. DATED JANUARY 16, 1988, LAST REVISED APRIL 20, 1995 AND IDENTIFIED AS JOB NO. 88006.

5) PROPERTY LINES & RIGHT OF WAY SHOWN ARE APPROXIMATE IN LOCATION.

6) THIS SURVEY WAS PERFORMED UNDER WINTER CONDITIONS AND IS SUBJECT TO SUCH VARIATIONS AS MAY BE REVEALED AT A LATER DATE. APPROXIMATE GENERAL SNOW DEPTH WAS 6"-8" ON SURVEYED PREMISES.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

McINTOSH & McINTOSH, P.C.
CONSULTING ENGINEERS, LAND SURVEYORS, PLANNERS
429 PINE STREET, LOCKPORT, NEW YORK 14094
PHONE 433-2535 PHONE 625-8360

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REVISION	REVISION

NOTE: UNAUTHORIZED ALTERATION OR ADDITION TO THIS MAP IS A VIOLATION OF SECTION 7209, PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

TOPOGRAPHICAL MAP OF PART OF LOT-83, TWP.-11, R.-7, HOLLAND PURCHASE

LOCATION TOWN OF AMHERST, ERIE COUNTY, NEW YORK

JOB No. 10138 | SCALE: 1"= 30' | DATE: DECEMBER 20, 2022

DRAWN JEM, III
COMP. JEM, III
DESC.
CADFILE 10138.DWG

Attachment: SP-2023-12 drawings 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)

WEHRLE DRIVE (VARYING WIDTHS) (C.R. 290)

LEGEND

OE	OVERHEAD ELECTRIC
OT	OVERHEAD TELEPHONE
OE&T	OVERHEAD ELECTRIC & TELEPHONE
FM	FORCE MAIN
SS	SANITARY SEWER
ST	STORM SEWER
W	WATER
G	GAS
X	FENCE
P.P.	POWER POLE
L.P.	LIGHT POLE
M.B.	MAILBOX
C.B.	CATCH BASIN
ST. M.H.	STORM MANHOLE
SAN. M.H.	SANITARY MANHOLE
W.V.	WATER VALVE
HYD.	HYDRANT
	SIGN
G.V.	GAS VALVE
C.O.	CLEAN OUT
N.F.V.	NOT FIELD VERIFIED

REPUTED OWNER
FIRST WEHRLE GROUP LLC
L–11153, P–9765

REPUTED OWNER
FOUR LABS PROPERTIES LLC
L–11375, P–2106

REPUTED OWNER
DIANE B. TRANZ
L–8812, P–68

REPUTED OWNER
IGNAZIO NAPOLI
L–11206, P–9066

REPUTED OWNER
416HOMEZ INC.
L–11420, P–5387

REPUTED OWNER
EMED CO. INC.
L–11259, P–7742

REPUTED OWNER
JOANNE BOLOGNESE
L–10976, P–7464

REPUTED OWNER
MANDY DICKINSON
L–11154, P–4254

REPUTED OWNER
COREY J. HOGAN
L–10884, P–6186

REPUTED OWNER
BRIAN & MAREN MRUGALSKI
L–11417, P–4762

REPUTED OWNER
CHARLES J. SCHRUEFER
L–10708, P–200

GENERAL NOTES

1) UNDERGROUND UTILITY INFORMATION SHOWN WAS DERIVED FROM RECORD PLANS SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES. PRIOR TO ANY CONSTRUCTION OR EXCAVATION AT SITE, THE PROPER UTILITY AUTHORITY SHOULD BE NOTIFIED. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
2) FOR REFERENCE SEE TOWN OF AMHERST TAX MAP 81.02–3–20.1
3) FOR REFERENCE SEE MAP PREPARED BY PRATT & HUTH ASSOCIATES, P.C. DATED JANUARY 16, 1988, LAST REVISED APRIL 20, 1995 AND IDENTIFIED AS JOB NO. 88006.
4) FOR REFERENCE SEE SURVEY PREPARED BY ROBERT M. SIEPEL, DATED OCTOBER 18, 2022 AND IDENTIFIED AS JOB NO. 22313.
5) FOR REFERENCE SEE TOPOGRAPHIC MAP PREPARED BY McINTOSH & McINTOSH, P.C. DATED DECEMBER 20, 2022 AND IDENTIFIED AS JOB NO. 10138.
6) PROPERTY LINES & RIGHT OF WAY SHOWN ARE APPROXIMATE IN LOCATION.
7) TREE LOCATIONS WERE ONLY REQUIRED IN THE NORTHERLY PORTION OF THE PROJECT AREA.

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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REVISION	REVISION

NOTE: UNAUTHORIZED ALTERATION OR ADDITION TO THIS MAP IS A VIOLATION OF SECTION 7209, PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

McINTOSH & McINTOSH, P.C.
CONSULTING ENGINEERS, LAND SURVEYORS, PLANNERS
429 PINE STREET, LOCKPORT, NEW YORK 14094
PHONE 433–2535 PHONE 625–8360

TREE SURVEY OF PART OF LOT–83, TWP.–11, R.–7, HOLLAND PURCHASE
LOCATION **TOWN OF AMHERST, ERIE COUNTY, NEW YORK**

JOB No. 10138–TR	SCALE: 1"= 30'	DATE: SEPTEMBER 15, 2023	DRAWN JEM III
			COMP. JEM III
			DESC.
			CADFILE 10138–TR.DWG

Attachment: SP-2023-12 drawings 011824 (28243 : SP-2023-12, 2495 Wehrle Dr.)


Climate Controlled
Self Storage
Storage
D·E·A·N
ARCHITECTS



D·E·A·N
ARCHITECTS


Climate Controlled
Self Storage
Storage
D·E·A·N
ARCHITECTS

Amherst
Town of Amherst Planning Department
Erie County, New York

Brian J. Kulp
Supervisor

Daniel C. Howard,
Planning Direc

Daniel J. Ulatowski,
Assistant Planning D

MAY 23 2024 AM9

SEQR
Negative Declaration

NOTICE OF DETERMINATION OF NON-SIGNIFICANCE

Lead Agency:	Town of Amherst Planning Board	**Project:**	SP-2023-12
Address:	5583 Main Street Williamsville, NY 14221 (716) 631-7051	**Date:**	May 16, 2024

This notice is issued pursuant to Part 617 and Local Law #3-82, as amended, of the implementing regulations pertaining to Article 8 (State Environmental Quality Review) of the Environmental Conservation Law.

The Lead Agency has determined that the proposed action described below will not have a significant adverse effect on the environment.

Title of Action: Site Plan Review

SEQR Status: Unlisted Action

Description of Action: Proposed single story, 70,500 +/- sf. climate controlled self-storage facility with vehicular access to the site from Wehrle Drive via an existing shared driveway and parking for 15 vehicles along with piping a portion of Town Ditch 18A. Work will include the site improvements not specifically stated above, including, stormwater, utilities, grading, lighting, paving, and landscaping.

Location: 2495 Wehrle Drive, Amherst, Erie County

Petitioner: 416 Homez Inc.

Attachment: SP-2023-12 signed neg dec 051624 (28243 : SP-2023-12, 2495 Wehrle Dr.)

REASONS SUPPORTING THIS DETERMINATION

MAY 23 2024 AM9

Based on information submitted by the applicant including a Full Environmental Assessment Form (EAF) - Part I, (as amended) and a complete site plan application, a preliminary staff analysis was undertaken. Compared to the criteria listed in Section 617.7, all indications are that this action will not have a significant impact on the environment, as follows:

1. The project is not expected to cause a substantial adverse change in existing air quality, ground or surface water quality or quantity, or noise levels; a substantial increase in solid waste production; or a substantial increase in the potential for erosion, flooding, leaching or drainage problems. The area to be developed on the project site is located outside the field-mapped wetlands as documented in a letter provided in a letter by Earth Dimensions, Inc. dated June 2, 2015. The Engineering Department on May 16, 2024 and the Engineering Services Division on February 12, 2024 reviewed the Grading, Drainage and Utility Plans submitted on October 4, 2023, December 22, 2023, and May 1, 2024; Engineer's Report submitted on October 4, 2023 and May 1, 2024; Erosion Control Plan submitted on October 4, 2023, December 22, 2023, and May 1, 2024 and Geotechnical Report prepared by Glynn Group Engineering & Architecture, PLLC. The Stormwater Pollution Prevention Plan (SWPPP) submitted on October 4, 2023 was also reviewed. Based on its review of these documents, the Department has determined that the project has or will have met all applicable requirements and has no objection to its approval.

2. The project will not result in the removal or destruction of large quantities of vegetation or fauna; or in significant adverse impacts to fish or wildlife species, habitats or other natural resources. The Planning Department reviewed a Landscape Plan submitted on May 1, 2024 and determined that it meets or exceeds Zoning Ordinance requirements for greenspace. The Landscape Plan has or will have met all Zoning Ordinance and Town requirements for landscaping.

3. The project is not expected to create any substantive conflict with the Town Comprehensive Plan. The Planning Department and Zoning Enforcement Officer in their reviews May 1, 2024, and Building Department in its review of May 6, 2024 of the application documents along with the Geotechnical Report submitted on December 22, 2023 have determined that the subject project has or will have met all International Building Code – 2018 and Zoning Ordinance regulations.

4. The project is within an area identified by the State as having potential archaeological or historical significance. The NYS Office of Parks, Recreation and Historic Preservation has reviewed the project and, as stated in their letter of April 4, 2024, that It is the opinion of the OPRHP that no properties, including archeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project.

Attachment: SP-2023-12 signed neg dec 051624 (28243 : SP-2023-12, 2495 Wehrle Dr.)

MAY 23 2024 AM9:5

5. The project will not impair the character or quality of important aesthetic resources or of existing community or neighborhood character. The project is located in the Research Development (RD) zoning district; neighboring uses are manufacturing, distribution and residential and zoned RD and Residential District Three (R3); therefore, the project is consistent with surrounding land use.

6. The proposed subject development includes a single story, 70,500+/- sf. climate controlled self-storage facility which will not cause a major change in the use of either the quantity or type of energy.

7. The project will not create any hazard to human health. The Fire Chief's Association on January 19, 2024 has reviewed the project and have no objection to the approval of the site plan, as all requirements of these agencies has or will have been met.

8. The project will not cause a substantial change in the use, or intensity of use, of land including agricultural, open space or recreational resources, or in its capacity to support existing uses. The proposed single story, 70,500+/- sf. climate controlled self-storage facility will be consistent with the scale of surrounding land uses.

9. The function of the proposed 70,500+/- sf. climate controlled self-storage facility will not significantly increase the number of people using the site over its previous level of use.

10. Review by the Town Traffic/Safety Board dated November 2, 2023 indicate that significant negative traffic impacts are not expected to result from the proposed project.

11. A coordinated review of the project has been undertaken by Town Departments, in addition to those mentioned above, Highway on December 1, 2023, Assessor on October 6, 2023, Plumbing Division on October 10, 2023 and Right-of-Way Agent on January 16, 2024 along with outside agencies including the Erie County Department of Environment and Planning on February 7, 2024, and the New York State Office of Parks, Recreation and Historic Preservation on April 4, 2024.

12. Issues not specifically mentioned above and/or those not specifically reviewed were not raised by Town departments, outside agencies or the public and are not determined to cause significant negative environmental impacts.

Planning Board Approval
Moved by: Penberthy; Seconded by: Kahn; Ayes 5; Noes 0; Absent 2 (Davis, Giuliani)

Attachment: SP-2023-12 signed neg dec 051624 (28243 : SP-2023-12, 2495 Wehrle Dr.)

MAY 23 2024 AM9:3

Scott Marshall, Principal Planner — Date: 5/20/2024

Michael J. Chmiel, Planning Board Chair — Date: 5/23/24

SM/ac
X:\Current_Planning\Files\Site Plans\2023\SP-2023-12_(2495_Wehrle_Dr)_2023\SP-2023-12_neg dec_051624.doc.docx

cc: Commissioner of Building
Town Engineer
Fire Chiefs'
Highway
Traffic/Safety
ECDEP
Vicky Ghotra, 416homez Inc., 4493 South Buffalo Street (H3), Orchard Park, NY 14127
Mark Dean, Dean Architects PLLC, 3284 Walden Avenue, Depew, NY 14043
Mike Metzger, Metzger Civil Engineering, 8245 Sheridan Drive, Buffalo, NY 14221

Attachment: SP-2023-12 signed neg dec 051624 (28243 : SP-2023-12, 2495 Wehrle Dr.)

TOWN OF AMHERST
PLANNING BOARD
SITE PLAN RESOLUTION
SP-2023-12

PETITIONER

416 Homez Inc.
4493 South Buffalo Street (H3)
Orchard Park, NY 14127

PROPERTY LOCATION

2495 Wehrle Drive

MAY 23 2024 AM9:

WHEREAS, the Town of Amherst Planning Board on Thursday, February 15 and May 16, 2024 held a public hearings on a Site Plan for a single story, 70,500+/- sf. climate controlled self-storage facility , and

WHEREAS, the Planning Board reviewed the plans and specifications for the proposed project, and

WHEREAS, the Site Plan was referred to the Town's various review agencies, and

WHEREAS, the site and building plans were reviewed by the Town's Design Advisory Board and their recommendations were provided, and

WHEREAS, in accordance with Section 8-7-9 of the Zoning Ordinance, the Planning Board finds that:

A. The proposed site plan is consistent with the development plan if one is required.

B. The proposed site plan is consistent with the purpose and specific requirements of the Zoning Ordinance and generally consistent with the policies of the Comprehensive Plan.

C. Adequate services and utilities will be available prior to occupancy.

D. The site plan is consistent with all other applicable laws.

E. Pursuant to Local Law #3-82, as amended, the Planning Board has determined that the requirements of SEQR are complete and that the subject proposal is not expected to have a significant adverse effect on the environment.

F. Review by the US Army Corps of Engineers under Section 404 of the Clean Water Act is not required as the potentially federally jurisdictional wetland areas on the site are located outside (south) of the project area.

NOW THEREFORE BE IT RESOLVED that in accordance with 6 NYCRR, Part 617 and Local Law #3-82, as amended, the Planning Board has issued a Negative Declaration attached hereto, and

BE IT FURTHER RESOLVED that the Planning Board, in accordance with Section 8-7 of the Zoning Ordinance approves said Site Plan subject to the following conditions:

1. That the consideration of signs is specifically excluded from this approval as they require a separate review and approval by the Town.

Attachment: SP-2023-12 signed resolution 051624 (28243 : SP-2023-12, 2495 Wehrle Dr.)

TOWN OF AMHERST
PLANNING BOARD
SITE PLAN RESOLUTION
SP-2023-12

PETITIONER

416 Homez Inc.

PROPERTY LOCATION

2495 Wehrle Drive

MAY 23 2024 AM9

2. That all dumpsters/trash containers and all mechanical equipment, utility structures, multiple meter boards, generators, and similar appurtenances, including those which are mounted on any part of a primary structure shall be appropriately screened with a fence, wall, and/or landscaping. Provide gate on the dumpster enclosure that shall be closed whenever the dumpster is not being serviced, enclosure shall be high enough to screen the dumpster(s) within.

3. That as-built record drawings, including location of utilities, be provided to the Engineering Department prior to issuance of a Certificate of Occupancy by the Building Department.

4. That the conditions of the Engineering Department, Engineering Services Division letter dated February 12, 2024 are addressed to the satisfaction of that division.

5. That the requirements of The Zoning Enforcement Officer, Planning Department and Town's Landscape Architect as stipulated in the Planning Department Letter dated May 3, 2024 are addressed to the satisfaction of the Officer, Department and Landscape Architect.

6. That the concerns raised in the Storm Water Management Officer letter dated January 18, 2024 are addressed to the satisfaction of that officer.

7. That the concerns raised in the Amherst Fire Chiefs' Association letter dated May 16, 2024 are addressed to the satisfaction of the association.

The foregoing resolution was adopted by the Town of Amherst Planning Board, May 16, 2024; moved by Penberthy; seconded by Raffaele; ayes 5; noes 0; absent 2 (Davis, Giuliani).

Michael J. Chmiel, Planning Board Chair

5/23/24
Date

SM/ac
X:\Current_Planning\Files\Site Plans\2023\SP-2023-12_(2495_Wehrle_Dr)_2023\SP-2023-12_resolution_051624.doc

cc: Commissioner of Building
Town Engineer
Fire Chiefs
Traffic/Safety
Highway Superintendent
ECDEP
Vicky Ghotra, 416homez Inc., 4493 South Buffalo Street (H3), Orchard Park, NY 14127
Mark Dean, Dean Architects PLLC, 3284 Walden Avenue, Depew, NY 14043
Mike Metzger, Metzger Civil Engineering, 8245 Sheridan Drive, Buffalo, NY 14221

Approved Plan: Metzger Civil Engineering
Received: May 1, 2024

Attachment: SP-2023-12 signed resolution 051624 (28243 : SP-2023-12, 2495 Wehrle Dr.)

Amherst Planning Board
5583 Main Street
Williamsville, NY 14221

Meeting: 05/16/24 06:30 PM
Department: Planning
Category: Site Plan and Relief from Conditions of Site Plan
Prepared By: Amy Carrato
Initiator: Dan Howard
Sponsors:
DOC ID: 28829

TABLED

PLANNING BOARD ITEM (ID # 28829)

Proposed Traditional Neighborhood Development and 2 Mixed-Use Buildings, SP-2022-03A

Property located at 4300 Millersport Highway
Cimato & Sons, Petitioner

May 16, 2024

Proposed development consisting of 38 patio homes, 40 townhomes (Phase 1), and water, sewer, stormwater and road improvements. The previously proposed Agricultural Park at the north end of the site has been eliminated in order to shift the housing out of the regulated wetlands identified in an updated delineation.

Sean Hopkins, Esq., Hopkins Sorgi & McCarthy, represented the petitioner, explained the proposal and was available to answer questions from the Board. Pat Bittar, Wm Schutt & Associates, was also present.

In response to the Board's questions, Mr. Hopkins stated there will be internal sidewalks, a sidewalk waiver is requested for Smith Road, Millersport Highway and New Road, development on a public road will generate tax revenue for the Town, the Town Board has to approve a public road, and many public roads in Amherst are only used by those who reside there.

Jonathan and Ashley Rich, 210 Smith Road, spoke in opposition of the proposal.

No further comments were heard on this proposal. The hearing was closed.

Ms. Penberthy moved to reopen the public hearing. The motion was seconded by Ms. Kahn and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

Following discussion, Ms. Penberthy moved to adjourn the request. The motion was seconded by Ms. Kahn and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

ATTACHMENTS:

- SP-2022-03_A_application_051624 (PDF)
- SP-2022-03_A_drawings_051624 (PDF)

RESULT:	**ADJOURNED [UNANIMOUS]**	**Next: 6/25/2024 6:30 PM**
MOVER:	Brittany Lee Penberthy, Board Member	
SECONDER:	Carrie H. Kahn, Board Member	
AYES:	Chmiel, Gill, Kahn, Penberthy, Raffaele Jr.	
ABSENT:	John B. Davis, Dal Giuliani	

TOWN OF AMHERST

APPLICATION & REVIEW PROCEDURE

MAJOR SITE PLAN

MATERIALS MUST BE PROVIDED IN AN ELECTRONIC FORMAT THAT CONTAINS PDF FILES OF THE APPLICATION, EAF, SITE PLAN DRAWING SET, SURVEY, LANDSCAPE PLAN, PRELIMINARY BUILDING FLOOR PLANS / ELEVATIONS & ANY OTHER SUPPORTING INFORMATION. THIS MUST BE SUBMITTED WITH YOUR APPLICATION. APPLICATIONS WILL NOT BE TRANSMITTED WITHOUT THIS ELECTRONIC INFORMATION.

THIS ALSO APPLIES TO REVISED MATERIALS THAT ARE SUBMITTED.

This application package includes the following:

- Application Procedures
- Application Form & Checklist
- Stormwater Pollution Prevention Plan Checklist
- Appendix A Town of Amherst EAF Addendum
- Appendix B Criteria for Required 8½" x 11" Sketches
- Appendix C Erie Sewer District No. 5 – Commercial / Industrial New & Existing Buildings Requirements

- IMPORTANT-

1. A pre-submittal consultation with Planning Department staff is *strongly recommended* prior to submitting an application. The pre-submittal meeting gives the applicant an opportunity to discuss with staff such items as:
   - classifying the action as a major site plan, minor site plan, or minor site plan adjustment;
   - determining what specific information will be required to be submitted with the application;
   - identifying and discussing issues that must be addressed as part of the SEQR review;
   - identifying any potential variances required to implement the project as proposed.

   An appointment is required for all meetings with Planning Department staff.

2. This site plan petition is subject to the requirements of 6 NYCRR Part 617, State Environmental Quality Review Act (SEQR), and Chapter 104 of the Town of Amherst Code, as amended. The Planning Board cannot make a SEQR determination unless a complete Environmental Assessment Form (EAF), including Town of Amherst EAF Addendum, and any required supplementary information such as traffic impact studies, archaeological reports, wetland delineations or geotechnical reports, are submitted. SEQR issues may be discussed with Planning Department staff at a recommended pre-submittal meeting. Unlisted Actions require a Short EAF; Type I Actions require a Full EAF. The following is a link to the NYSDEC website and fillable forms with instructions: https://gisservices.dec.ny.gov/eafmapper/.

3. **Review by the Town Design Advisory Board (DAB) is required for Major Site Plans located in the following Mixed-Use zoning districts:**

   Traditional Infill 2.5 (TI-2.5)
   Traditional Infill 4 (TI-4)
   Shallow Corridor 3 (SC-3)
   Deep Corridor 3 (DC-3)
   Deep Corridor 5 (DC-5)
   Center 2.5 (CTR-2.5)
   Center 5 (CTR-5)
   Center 8 (CTR-8)

   The application for DAB review is required to be filed in conjunction with the major site plan application.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4. The application shall be executed or consented to in writing by the owner of the property.

5. **Any variances from the Zoning Board of Appeals, or any decision from the Town Board (e.g. removal of deed restrictions) must be obtained prior to action by the Planning Board on a Site Plan application.**

6. Submittal of an application grants permission to Town staff and Planning Board members to access the parcel(s) under consideration.

7. All site plan drawings must be prepared by a Registered Architect, Professional Engineer, Landscape Architect, or Land Surveyor (as applicable) licensed to practice in New York State.

8. If you wish to include a Coordinated Sign Plan application with the site plan petition, a separate application must be completed. Contact the Planning Department for a copy of a Coordinated Sign Plan application package.

9. All drawings should be no larger than 24 in. x 36 in. If site characteristics warrant larger plan sheets, they may be accepted subject to Planning Department concurrence. All drawings must also reserve a 4 in. x 6 in. area in the lower right hand corner for official Town use.

APPLICATION PROCEDURES

1. Applicant secures application package from the Planning Department, 5583 Main Street, Williamsville, NY 14221. (716) 631-7051. Forms are also available online at: www.amherst.ny.us, (keyword: Planning).

2. Applicant prepares information as required on the Site Plan Submittal Checklist, attached. NOTE: Some proposals may not require all items on the checklist; please verify with the Planning Department.

3. Applicant schedules an appointment with the Planning Department to review the following:
   - a complete set of site plan drawings, preliminary building elevations and floor plans (no larger than 24" x 36" in size)
   - Environmental Assessment Form (EAF) & Town EAF Addendum
   - any supporting reports and materials
   - verification from the Town Assessor that the address in the application is correct

4. Applicant schedules an application submittal appointment with the Planning Department. NO SITE PLAN WILL BE ACCEPTED FOR REVIEW WITHOUT A PRE-SET SUBMITTAL APPOINTMENT.

5. At the submittal appointment, applicant provides fourteen (14) complete and collated sets of drawings and application information to the Planning Department **(materials will not be accepted unless folded into 9" x 12" in size),** including:
   - application form
   - Environmental Assessment Form (EAF)
   - supporting reports / materials
   - complete set of site plan drawings, preliminary building elevations and floor plans (**at least one (1) set of drawings must bear a raised or wet seal and signature of the design professional** who prepared the plans; the remaining copies may be submitted with a facsimile of the seal and signature)
   - digital files of all materials in pdf format
   - an 8½" x 11" reduction of the sketch plan or plat drawing (see Appendix B)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

6. After approval for filing by the Planning Department, applicant submits all necessary fees to the Town Clerk. **(See Schedule of Fees on first page of application and make checks payable to: Town of Amherst.)**

7. The applicant returns a copy of the filing receipt to the Planning Department.

8. The Planning Department transmits remaining thirteen (13) copies of the application and supporting materials to:
   - Assessor
   - Commissioner of Building
   - Town Engineer
   - Superintendent of Highways
   - Traffic/Safety Board
   - Fire Chiefs' Association
   - Plumbing Division
   - Right-of-Way Agent
   - Police Department (if applicable)
   - Zoning Enforcement Officer
   - Other Town and outside agencies, as applicable

9. Within 30 days of its receipt of the complete application for Site Plan approval, each agency completes its review and notifies the Planning Department in writing of its comments or recommendations as required by Ordinance.

10. The applicant may be required to submit revised plans, reports, or materials to address review agency comments. The procedures for submittal of revised plans are as follows:

    - A cover letter addressing all comments received to date is required.
    - "Highlight" the area of change on the drawings and provide a notation describing the change.
    - Revised plans/materials are required. Planning staff should be contacted to determine the number of sets needed.
    - All revised plans and materials must also be provided in an electronic format that contains pdf files of the revised information.

11. The Planning Board reviews the EAF to determine whether a Draft Environmental Impact Statement (DEIS) is required. The petitioner will be advised in the event that a DEIS is required and afforded the opportunity to prepare it. If the petitioner declines, the Planning Board will prepare the DEIS at the petitioner's expense. The public hearing will be held on the DEIS concurrently with the Planning Board hearing on the application.

12. Planning Board Meeting Procedures:

    The applicant or representative presents the project at the public hearing before the Planning Board and is available to answer any questions. The Planning Board may take any of the following actions:

    - Adjourn the hearing to a future Planning Board meeting (hearing remains open).
    - Close the hearing and adjourn action on the site plan to a future Planning Board meeting. (The Planning Board may remove the item from the agenda until such time as all required information is provided.)
    - Close the hearing and make a decision on the site plan.

    All determinations on matters before the Planning Board are made after all public hearings on that meeting's agenda are completed.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

13. A copy of the Planning Board's determination will be provided to the applicant, his / her representative, the Building Commissioner and the Town Clerk approximately 1 week following the Planning Board meeting at which it was heard.

14. If the Planning Board approves a Site Plan with conditions, the Planning Department will work with the applicant to ensure that all conditions of the approval are satisfactorily addressed. When all conditions are satisfied, the applicant submits **seven (7) final copies** of the complete set of all site plan drawings, folded into 9" x 12". For site plans in the Mixed-Use zoning districts, building elevations will also be required.

    All 7 sets must have original wet seals and include the required 4 in. x 6 in area in the lower right hand corner for official Town use. These drawings will be stamped and signed "Approved" by the Planning Director and transmitted to Town Departments for their files and use.

15. A building permit will not be issued by the Building Department until the stamped and signed Site Plan is issued by the Planning Director.

NOTE: Please check with the Planning Department to determine the deadline date for filing applications. Due to the public hearing notice requirements and department reviews, no site plan application will be placed on the Planning Board agenda after the deadline for filing has closed. Scheduling may be delayed if an application is incomplete.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Town of Amherst Planning Department, 5583 Main Street Williamsville New York 14221
Phone (716) 631-7051; Fax (716) 631-7153; Web: www.amherst.ny.us

RECEIVED
MAR 21 2024
TOWN OF AMHERST
PLANNING DEPT.

TOWN OF AMHERST PLANNING DEPARTMENT

Application for Major Site Plan Review

For Official Use

File #: SP-2022-03 A Acreage 66.8± Fee $ 2215.00

Address Verified by Assessor's Office _____ VERIFIED BY DATE

Materials Received by Planning Department [signature] 3/21/2024 RECEIVED BY DATE

Fee Paid to Town Clerk _____ RECEIVED BY DATE

Site Plan Review		Fill In Applicable Fees
1 acre or less	$1,250.00	
Each additional acre or fraction thereof	$ 650.00/acre	
Amendments to Site Plans	$1,200.00	$1,200.00
Request for Relief of / Change to Conditions of Site Plan Approval	$1,200.00	
Request for Extension of Site Plan Approval	$ 450.00	
Stormwater Pollution Prevention Plan		
1 - 4.99 Acres	$ 500.00	
5 - 10 Acres	$ 750.00	
>10 Acres	$1,000.00	$1,000.00
Affidavit Fee for Public Hearing	$ 15.00	$15.00
	TOTAL FEE:	$ 2,215.00

To Be Completed By Applicant

Petitioner: Name: Cimato & Sons

Address: 9220 Transit Rd

East Amherst (city) NY (state) 14051 (zip code)

Phone: 716-688-3536 Fax: _____

E Mail: cimatoenterprises5647@gmail.com

Francine J Spotts

MAR 21 2024
RENEWED

Town of Amherst Planning Department 5583 Main Street Williamsville-NY-14221
(716) 631-7051 - Fax: (716) 631-7153

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

MAJOR SITE PLAN APPLICATION (con't) ***Page 2***

Representative (Architect, Engineer, Landscape Architect, Surveyor, or Attorney):

Name: Wm. Schutt & Associates, P.C.

Address: 37 Central Avenue

Lancaster (city) NY (state) 14086 (zip code)

Phone: 716-683-5961 Fax: 716-683-0169

E Mail: pbittar@wmschutt.com

Project Location (must be verified by Town Assessor's Office):

Address: 4300 Millersport Hwy

Amherst, NY

SBL No(s): 16.00-2-20

Project Name: 4300 Millersport Hwy - Proposed mixed Use Development

Project Description: The project site is a 66.8+/- acre parcel and includes 34.85+/- acres of federally regulated wetland. The site is zoned THD, Traditional Neighborhood Development. The development includes proposed public roads with access points off of Millersport Hwy, Smith Road and New Road. Development includes 38 patio homes, 7-four unit townhomes, 6-two unit townhomes, two 11,000 sf three-story structures with combination commercial and residential use; extension of water, sanitary and storm utility lines and stormwater management ponds. The proposed storm and sanitary sewer systems will be privately owned and maintained thru a homeowners association. The site falls outside the Town Consolidated Sewer Districtbut will connect to the existign downstream public collection/ treatment systemthru an Out-of-District agreement. The water supply system will be a public system. Development includes disturbance of 0.39+/- acres of federally regulated wetland.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

If this petition is an amendment to a previously approved site plan, please describe the proposed changes (include type and size of existing structures and number of existing parking spaces):

Since receipt of Site Plan approval from the Town on February 16, 2023, the US ACOE updated the wetland limits within the project site. The wetland area was previousily 33.05 acres in size and has increased to 34.85 acres in size. In order to minimze wetland disturbance with the increased acreage, the layout of the proposed development had to be modified. Modifications include extending a public road from Smith to New Road, while maintaining the proposed road out to Millersport Hwy. The proposed residential units and commerical/residentail structures remains consistent with the previous proposal which includes 38 patio homes, 7-four unit townhomes, 6-two unit townhomes and two-11,000 sf-three story structures with combination commercial/residential use.

	existing	proposed	total
Gross Floor Area (non-residential):	0 sf	22,000 sf	22,000 sf
Gross Floor Area Residential:	0 sf	142,900 sf	142,900 sf
Number of Residential Units:	0	122	122
Number of Parking Spaces:	0	110	110

Acreage of Parcel: 66.8 acres

(list each parcel separately)

Frontage on Public Roads: Millersport Hwy 732.9 ft, Smith Road 743.5 ft, New Road 235.8 ft

(list each road separately)

Existing Zoning District(s) TND - Traditional Neighborhood Development

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Site Plan Submittal Requirements and Checklist

The following checklist outlines the information required by the Planning Department to accept a Site Plan application for review. ***It is strongly recommended that you make an appointment with Planning Staff to determine which items apply to your application***.

Item No.	Item	Submitted	Official use
I Basic Drawing Information			
1.0	**Drawing size not to exceed 24" x 36"**	X	
2.0	**Title of Drawing**	X	
3.0	**Name and address of Applicant**	X	
4.0	**Name of person preparing drawing**	X	
5.0	**Wet seal/raised seal and signature of NYS licensed architect, engineer, landscape architect, or surveyor (as applicable)**	X	
6.0	**Project address**	X	
7.0	**Zoning of subject property and adjacent parcels**	X	
8.0	**North point, scale, date, and revision date(s)**		
9.0	**4" x 6" reserved area in lower right hand corner for official Town use**	X	
II Structures, Paved Areas, & Open Space			
1.0	**Existing and Proposed Streets**	X	
1.1	Names of all existing and proposed streets	X	
1.2	Width and radii of proposed curb-cuts	X	
1.3	Existing curb-cuts on adjacent and opposite properties	X	
1.4	Show ROW width, pavement dimensions, lane widths, pavement markings, and proposed signage on proposed streets	X	
1.5	Show proposed ROW consistent with planned NYSDOT, Erie County, or Town road projects (if applicable)	N/A	
1.6	Show location of proposed cross access to adjacent parcels along with a draft easement	N/A	
1.7	Designation of Fire Lanes (if applicable)	N/A	
1.8	Fire apparatus access roads	N/A	
1.9	Label any proposed roads as public or private	X	
1.10	Location and dimensions of sidewalks	X	
1.11	Typical cross sections and profiles of proposed streets, pedestrian walkways, and bikeways	X	
2.0	**Proposed Structures**		
2.1	Location and complete dimensions of proposed structures	X	
2.2	Setback dimensions of structure(s) to all property lines	X	
2.3	Proposed use of structures	X	
2.4	Gross square feet area of each structure	X	
2.5	Location of all building entrances	X	
2.6	Indicate type of roof construction/materials		
2.7	Location, height, and design detail of existing and proposed fences and walls	N/A	
2.8	Location of light standards and building mounted lights	X	
2.9	Location of dumpster and detail of dumpster enclosure with gate		
2.10	Layout and dimensions of the lot(s) proposed for development	X	

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Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Item No.	Item	Submitted	Official use
II Structures, Paved Areas, & Open Space (cont'd)			
3.0	**Floor Plans with individual rooms and spaces labeled** (fully dimensioned)	future submittal	
4.0	**Building elevations with height dimensions from finished grade to the highest point of the roof and to midpoint of gable or hip of a pitched roof.** (fully dimensioned)	future submittal	
4.1	Show screening of mechanical equipment	X	
5.0	**Parking/Loading/Stacking Areas**		
5.1	Location and complete dimensions of all paved areas	X	
5.2	Setback dimensions of all paved areas to property lines	X	
5.3	Dimension of typical parking space and drive aisles	X	
5.4	Location and layout of handicapped parking spaces & access aisles	X	
5.5	Detail of vertical signage for handicapped parking and access aisles	X	
5.6	Indicate minimum parking requirement & number of spaces provided	X	
5.7	Proposed signage for directing and guiding traffic		
5.8	Curb cut permits from NYS, Erie County, or Town (if applicable)	Under review	
5.9	Pedestrian connections (from proposed structures to public sidewalk network)	X	
6.0	**Location and proposed development of all open spaces, including parks, playgrounds, and open reservations**	X	
III Utilities and Drainage			
1.0	**Engineers Report** (bound separately from the Stormwater Pollution Prevention Plan [SWPPP])	X	
1.1	Stamped/sealed and signed by NYS licensed architect or professional engineer	X	
1.2	Proposed water service sizing, RPZ pressure and fire safety flow and pressure calculations	X	
1.3	Proposed sanitary sewer facility load calculations (avg. & peak flows) including calculation of the peaking factor	X	
1.4	Proposed storm drainage facility calculations (see information included with this application)	X	
2.0	**Grading Plan**		
2.1	Existing and proposed grades indicated (proposed grades may not exceed 1 on 3)	X	
3.0	**Water Service**		
3.1	Location, size and material of existing and proposed facilities	X	
3.2	Location of existing and proposed fire hydrant location(s)	X	
3.3	Indicate use of sprinklers, location of Fire Department connection, and proposed fire protection systems		
3.4	Existing and proposed meter/RPZ size and location		
3.5	Applicable construction details	X	
4.0	**Sanitary Sewers**		
4.1	Locations, sizes, slopes, inverts, and materials of all existing and proposed facilities	X	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Town of Amherst Planning Department 5583 Main Street Williamsville-NY-14221
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Item No.		Submitted	Official use
III Utilities and Drainage (cont'd)			
4.2	Applicable construction details	X	
4.3	Proposed water/oil/grease interceptor sizing calculations by a professional engineer (if applicable)		
5.0	**Storm Drainage**		
5.1	Locations, sizes, slopes, inverts, and materials of existing and proposed storm drainage facilities	X	
5.2	Connection of roof drains to proposed drainage system	X	
5.3	Applicable Town Standard construction details	X	
5.4	Existing and proposed swales and ditches	X	
5.5	Detention area cross-section and high-level elevations	X	
5.6	County and State approval for tie-in to existing sewers	Under review	
6.0	**Stormwater Pollution Prevention Plan (SWPPP) as applicable** (bound separately from the Engineer's Report) **See attached checklist.**	X	
7.0	**Natural Gas Service**		
8.0	**Location of transformers, generators and other mechanical equipment; include detail drawings (if applicable)**	X	
9.0	**Downstream Sanitary Capacity Analysis (DSCA) Report** (must be submitted if proposed average flows are greater than 2,500 gallons per day)	X	
9.1	The DSCA Report must include a detailed downstream sewer capacity analysis and the calculations of and commitment to (via Developer commitment letter) the required financial contribution to the Town's I/I mitigation fund based on peak flow conditions. The contribution must be based on $250 per gallon per minute of mitigated flow	X	
IV Lighting Plan			
1.0	**Photometric plan showing light spread in foot candles at property lines**	X	
1.1	Detail of all light standards, including dimension of height from finished grade	X	
1.2	Detail of all exterior lighting fixtures	X	
V Landscape Plan			
1.0	**Wet/raised seal and signature of a licensed Landscape Architect**	X	
2.0	**Provide a calculation of the total Parking area and a calculation of interior parking area in square feet and as a percentage**	X	
3.0	**Indicate location, size, number and type of proposed landscape materials**	X	
4.0	**Indicate location, type and size of <u>all</u> existing trees 4" caliper or larger and indicate which will be removed or retained**	X	
VI Other Required Information/General Requirements			
1.0	**Complete boundary survey that includes all existing structures, acreage, legal description with reference to a property line, street, or other known feature, and easements plotted to scale by a NYS licensed land surveyor**	X	

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Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Item No.		Submitted	Official Use
VI Other Required Information/General Requirements (cont'd)			
1.1	Copies of all easements, reciprocal access agreement or similar leag documents		
2.0	**Topographic Survey with a 30 ft. buffer outside all property lines by a NYS licensed land surveyor**	X	
3.0	**Draft of any deed restrictions, covenants, provisions for home associations and common ownership, and reciprocal easement agreements (as applicable).**	Future submittal	
4.0	**For assessment purposes, state intent to apply for condominium status (if applicable).**		
5.0	**Completed and signed Environmental Assessment Form**	X	
5.1	Soil boring report and geotechnical report prepared by a qualified Professional Engineer (if applicable)	X	
5.2	Traffic Impact Study (if applicable)	X	
5.3	Archaeological survey (if applicable	X	
5.4	Wetland Delineation report (if applicable)	X	
6.0	**Show existing zoning(s) of both the subject property and adjacent parcels on the Site Plan and the Landscape Plan**	X	
7.0	**Location of NYSDEC wetlands (including buffer area) and/or federal wetlands; indicate jurisdictional status**	X	
8.0	**Location of Floodway and floodplain** (if applicable)	X	
9.0	**Documentation pertaining to any conditions of zonings, including copies of required deed restrictions; indicate date of rezoning and the parcel address under which it was rezoned (if applicable)**		
10.0	**Documentation related to any required variances granted by the ZBA**	X	
11.0	**For residential site plans, provide a statement from the appropriate school district that adequate school sites and facilities are available.**	Proposed development for empty nesters	
12.0	**8 1/2" X 11" reduction of primary site plan drawing (see appendix "B" of application package for specifications)**	X	
13.0	**A CD containing a PDF of all site plan drawings (Must also be provided with revised drawings)**	X	
VII Additional Required Information for Projects in the Mixed Use Districts			
1.0	**Design Advisory Board Application**		
1.1	Required for Major Site Plan		
1.2	Required at the Planning Directors Discretion for Minor Site Plans		
2.0	**Block & Street Network Plan**		
2.1	Designation of Core, Local & Alley streets		
2.2	Dimensions of Blocks		
3.0	**Block Usage Plan (as applicable)**		
3.1	Designation of site usage for each block including open space areas		
4.0	**Phasing Plan**		

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

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For official use only:

_____
Approved/Date

X:\Current_Planning\Application Forms 2013 Working Doc\Major Site Plan\Site Plan Submittal Requirements and Checklist (3).doc

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

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TOWN OF AMHERST
State Environmental Quality Review
ENVIRONMENTAL ASSESSMENT FORM
-- ADDENDUM --

1. For each applicable category of proposed new structures, including additions to existing structures, provide the following information for all soil types on the project site (*according to Soil Survey of Erie County, NY; Table 11, Building Site Development, pp 294-305):*

Soil Name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Odessa Silt Loam	very limited	very limited	very limited	very limited	very limited
Cosad Loamy Fine sand	very limited	very limited	very limited	very limited	somewhat limited

2. If the Soil survey indicates either "severe" or "moderate" suitability for the proposed types of construction, a geotechnical and hydrological analysis based on one test per 3.5 acres of project area must be provided (per Town Board resolution, 3/17/03, amended 6/16/03). **Geotechnical Report will be submitted at a future date

_____ Geotechnical report attached _____ Not applicable

3. Is your property located: On Youngs Road between Dodge and Klein Roads? □ Yes ☒ No
On Wehrle Dr. between Spindrift Dr. and Oakwood Rd? □ Yes ☒ No

If so, the property may be within an area of the Town that is affected by a moratorium on connections to the sanitary sewer system.

4. Are there alternative locations on the site for this project? □ Yes ☒ No

5. Location and size of real property owned by petitioner within one (1) mile of subject proposal:
4300 Millersport Hwy - 66.8 acres

6. Are you aware of current or future plans or intentions by others in the Town of Amherst to develop property within 1000± ft. of the present project request: □ Yes ☒ No

Describe_____

(Potential environmental impacts from adjacent or nearby projects undergoing the approval process will receive a coordinated environmental review to determine cumulative effects on common receivers (e.g. traffic and drainage corridors) and other relevant environmental concerns.)

7. Maximum number of vehicular trips to be generated per peak hour upon completion of project_____
Source: am peak - 44 entering/56 exiting; pm peak - 96 entering / 82 exiting

8. Will blasting occur during construction? □ Yes ☒ No

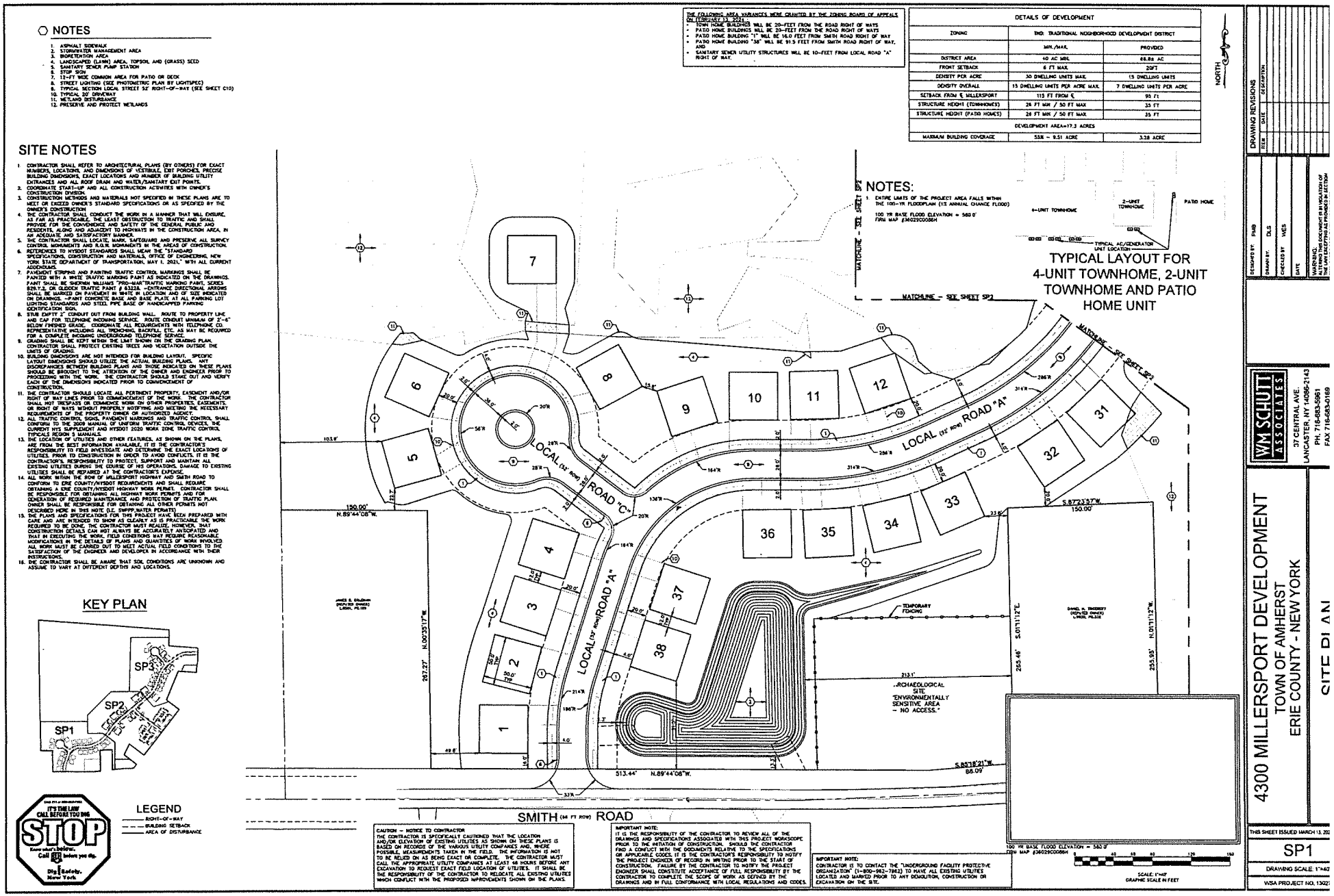
9. Does the project propose to connect and be tributary to the public sanitary sewer system? ☒ Yes □ No

10. Proposed net additional gallons per day (gpd) of sanitary sewer discharge upon completion of project:
33,600 gpd average flow 136,416 gpd peak flow.

(Average flows of 2,500 gpd or greater will require an Engineer's Report that includes a detailed downstream sewer capacity analysis and the identification of and commitment to required I/I offset work during peak wastewater flow conditions.)

11. Based on the Town's *2011 Reconnaissance Level Survey of Historic Resources,* is your property 'blue-rated' for historic significance? □ Yes ☒ No

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



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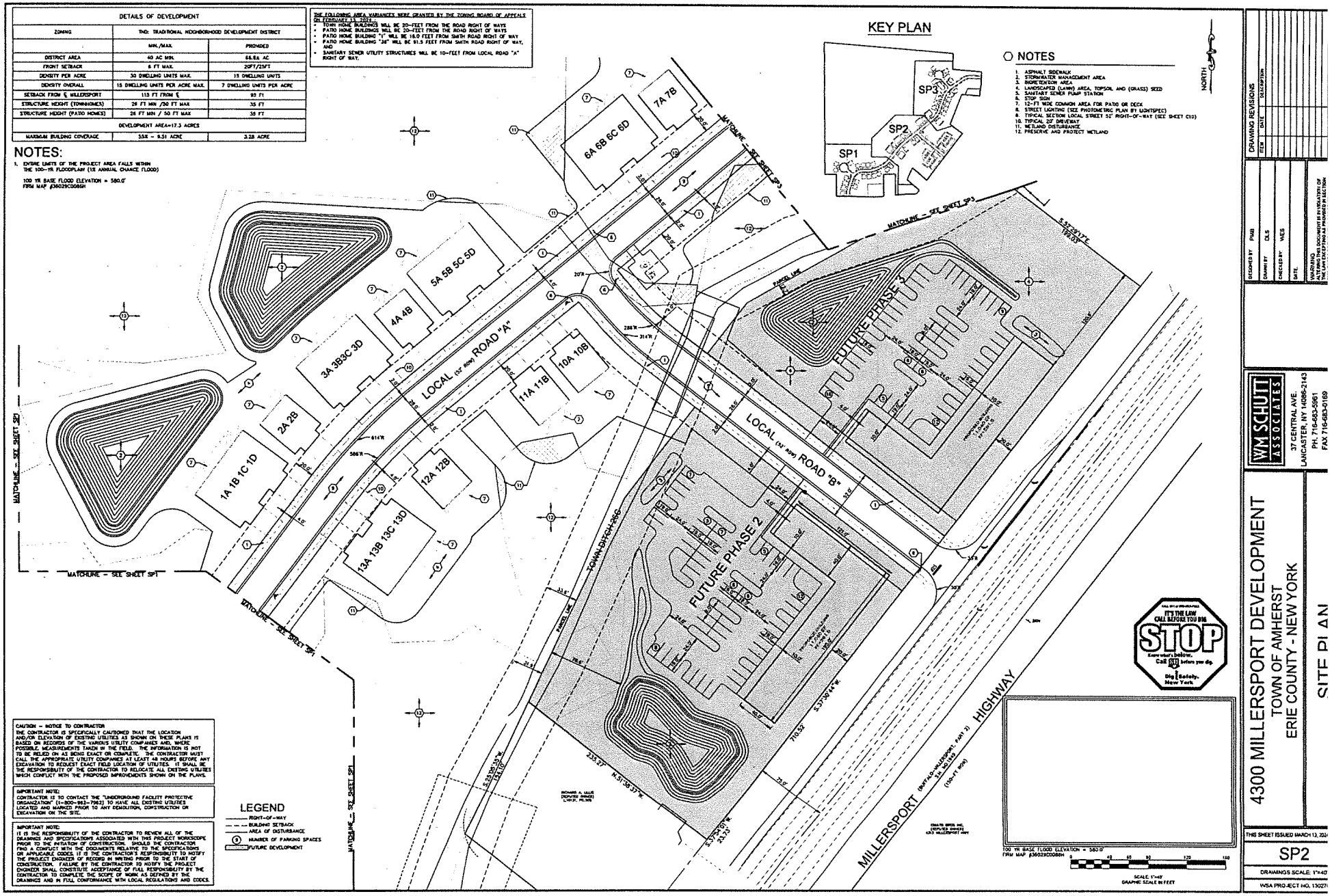

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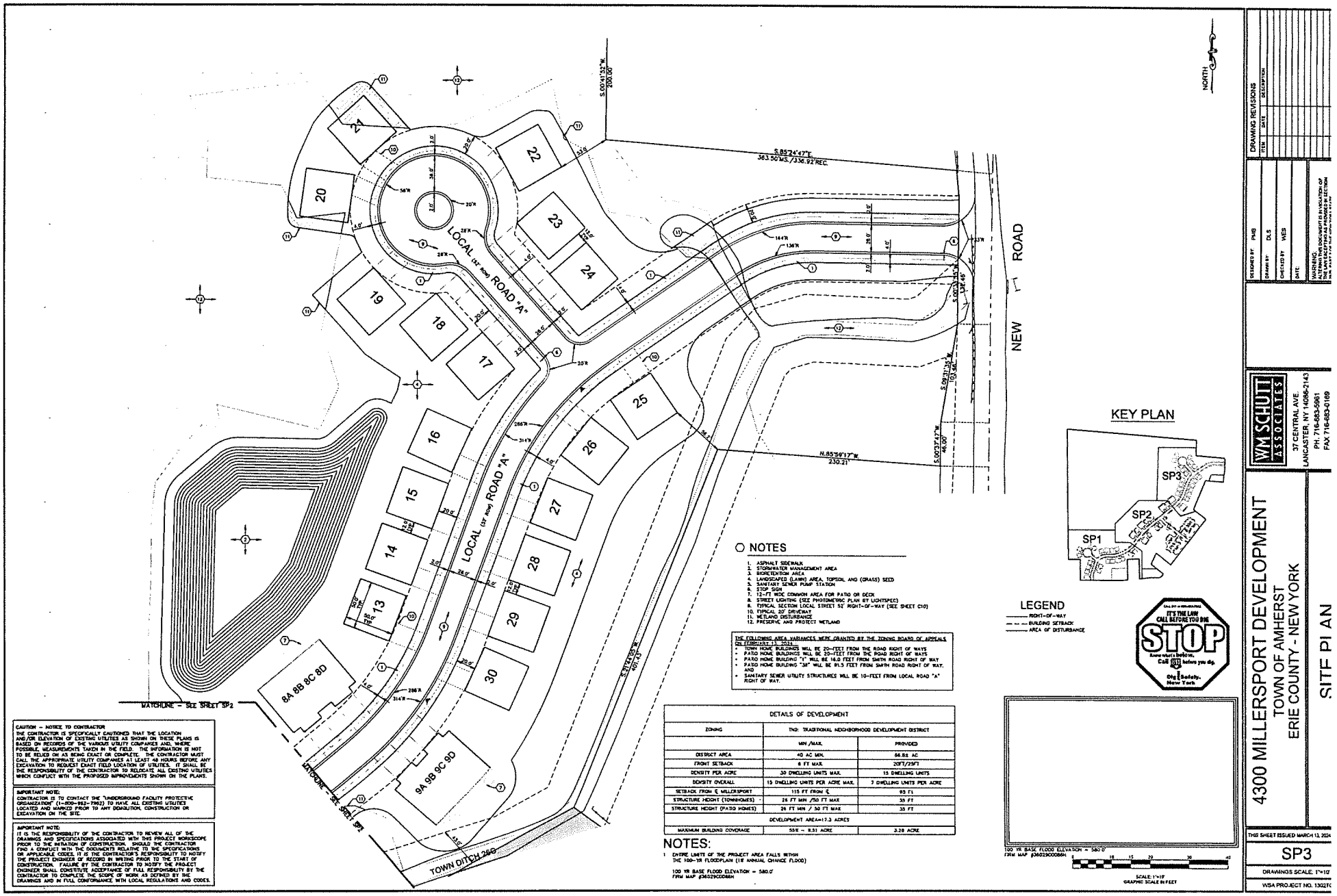


Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Full Environmental Assessment Form
Part 1 - Project and Setting

Amended Part 1 of Full Environmental Assessment Form 4300 Millersport Highway - Town of Amherst
Date: April 24, 2024

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Proposed Mixed Use Development		
Project Location (describe, and attach a general location map): 4300 Millersport Hwy (66.8+/- acres) (See Attachment 1 - Location Map)		
Brief Description of Proposed Action (include purpose or need): The proposed mixed-use project includes proposed public roads; 38 Patio Homes, 4-unit and 2-unit Town homes and two combination commercial /residential structures. The site is zoned Traditional Neighborhood Development and is located on the north side of Millersport Hwy., within the Town of Amherst. The site is currently vacant with a mixture of brush and trees. The site has 34.84+/- acres of federally regulated wetlands, with a proposed disturbance area of 0.39+/- acres. The project includes proposed access points off of Millersport Highway, New Road and Smith Road. All proposed sanitary and storm water improvements (including on-site retention ponds) will be privately owned and operated via an HOA. All proposed waterline improvements will be public improvements. For wastewater collection, it is proposed to extend private sanitary sewer lines and construct a pump station with a forcemain connection to the public collection system along Millersport Hwy. A flow monitoring study was completed and approved by the Town of Amherst, resulting in the Town allowing sanitary service to the site, via an Out-of -District agreement. It is important to mention that the Planning Board previously issued a negative declaration for the project on February 16, 2023 [including the 2 mixed-use three-floor buildings along Millersport Highway consisting that will be Phase 2 & 3]. Phase 4 of the project has been eliminated and is included as part of the Phase 1 project described above].		
Name of Applicant/Sponsor: Cimato and Sons	Telephone: 716-688-3536 E-Mail: cimatoenterprises5647@gmail.com	
Address: 9220 Transit Road		
City/PO: East Amherst	State: NY	Zip Code: 14051
Project Contact (if not same as sponsor; give name and title/role): Sean Hopkins	Telephone: 716.510-4338 E-Mail: shopkins@hsmlegal.com	
Address: 5500 Main Street, Suite 343		
City/PO: Williamsville	State: NY	Zip Code: 14221
Property Owner (if not same as sponsor): Same as Applicant	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees ☑Yes ☐No	Out-of District Sewer Connection Agreement	Approved
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	Planning Board - Site Plan Approval	March 22, 2024
c. City, Town or Village Zoning Board of Appeals ☑Yes ☐No	Zoning Board of Appeals - setback variances	Area Variances granted on 2/13/2024
d. Other local agencies ☐Yes ☑No		
e. County agencies ☑Yes ☐No	ECDPW - Highway Permit, ECHD - Sanitary Sewer/Water, ECWA - Water	TBD
f. Regional agencies ☐Yes ☑No		
g. State agencies ☑Yes ☐No	NYSDEC - Sanitary Sewer, SPDES, Water Quality NYSDOT - stm discharge, curb cut/utility permits	NYS OPRHP - acceptance of short and long term avoidance /protection plan
h. Federal agencies ☑Yes ☐No	USACOE - Wetland Permit	February 2, 2024

i. Coastal Resources.
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☑Yes ☐No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

NYS Heritage Areas: West Erie Canal Corridor

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes ☑No

If Yes, identify the plan(s):

Per NYS EAF Mapper

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
The Project Site is properly zoned Traditional Neighborhood District ("TND")

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site?

C.4. Existing community services.

a. In what school district is the project site located? Williamsville Central School District

b. What police or other public protection forces serve the project site?
Town of Amherst Police Department

c. Which fire protection and emergency medical services serve the project site?
North Amherst Fire Co.

d. What parks serve the project site?
Amherst Veterans Canal Park, Nature View Park

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Mixed Use - Patio Homes, Town homes, two Multi-story structures for combined commercial/residential use

b. a. Total acreage of the site of the proposed action? 66.8 acres
b. Total acreage to be physically disturbed? 21.8+/- acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 66.8 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)

ii. Is a cluster/conservation layout proposed? ☐ Yes ☑ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☑ Yes ☐ No
i. If No, anticipated period of construction: _____ months
ii. If Yes: Timing for infrastructure only
- Total number of phases anticipated 2+
- Anticipated commencement date of phase 1 (including demolition) Sept month 2024 year
- Anticipated completion date of final phase Sept month 2025 year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

f. Does the project include new residential uses? ☑Yes ☐No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase	38	6 (townhome)		7 (townhome)
At completion of all phases	38	6 (townhome)		7(townhome) & 44 apartments

g. Does the proposed action include new non-residential construction (including expansions)? ☑Yes ☐No

If Yes,

i. Total number of structures 2

ii. Dimensions (in feet) of largest proposed structure: 3 story height; 40 ' width; and 80'/ 195' length

iii. Approximate extent of building space to be heated or cooled: 66,000 +/- square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☑Yes ☐No

If Yes,

i. Purpose of the impoundment: Stormwater management ponds

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☑Other specify: stormwater runoff

iii. If other than water, identify the type of impounded/contained liquids and their source.

iv. Approximate size of the proposed impoundment. Volume: 2.4+/- million gallons; surface area: 2.3+/- acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):
Construction of ponds will include relocation of excavated earth material to other proposed fill locations on site

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☑Yes ☐No

If Yes:

i. What is the purpose of the excavation or dredging? creation of stormwater ponds, roads, installation of water/storm/sanitary sewer lines

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.
Excavated material to be re-used on site in areas where fill is needed for construction of proposed roads and structures

iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☐No
If yes, describe. _____

v. What is the total area to be dredged or excavated? _____ acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐Yes ☐No

ix. Summarize site reclamation goals and plan: _____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☑Yes ☐No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): Proposed development will disturb approximately 0.39+/- acres of federally regulated wetlands. A respective Joint Application for Permit has been submitted

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:
The proposed disturbance to US ACOE wetlands will be a result of placing fill within designated disturbance areas for construction of site infrastructure. Total proposed wetland disturbance area is 0.39+/- acres.

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐Yes ☑No
If Yes, describe:

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes ☑No
If Yes:

- acres of aquatic vegetation proposed to be removed:
- expected acreage of aquatic vegetation remaining after project completion:
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access):
- proposed method of plant removal:
- if chemical/herbicide treatment will be used, specify product(s):

v. Describe any proposed reclamation/mitigation following disturbance:
Proposed disturbance expected to be authorized thru issuance of a Joint Application for Permit, with mitigation expected.

c. Will the proposed action use, or create a new demand for water? ☑Yes ☐No
If Yes:

i. Total anticipated water usage/demand per day: Avg Daily demand 33,600 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑Yes ☐No
If Yes:

- Name of district or service area: ECWA
- Does the existing public water supply have capacity to serve the proposal? ☑Yes ☐No
- Is the project site in the existing district? ☑Yes ☐No
- Is expansion of the district needed? ☐Yes ☑No
- Do existing lines serve the project site? ☑Yes ☐No

iii. Will line extension within an existing district be necessary to supply the project? ☑Yes ☐No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project:
  Extension of public 8-inch PVC watermain thru the site with proposed connections to public water supply along Millersport Hwy & Smith Road
- Source(s) of supply for the district: Existing 8-inch waterlines along Millersport Hwy and Smith Road

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐Yes ☑No
If, Yes:

- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑Yes ☐No
If Yes:

i. Total anticipated liquid waste generation per day: Avg Daily 33, 600 gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):
domestic wastewater

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑Yes ☐No
If Yes:

- Name of wastewater treatment plant to be used: Amherst WWTP
- Name of district: Amherst Consolidated Sewer District - Out-of-District Agreement
- Does the existing wastewater treatment plant have capacity to serve the project? ☑Yes ☐No
- Is the project site in the existing district? ☐Yes ☑No
- Is expansion of the district needed? ☐Yes ☑No

Site is beyond limits of the Consolidated Sewer District and will be provided downstream wastewater collection/ treatment via an Out-of-District Agreement. A downstream capacity analysis was previously completed and accepted by the Town.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

- Do existing sewer lines serve the project site? ☐Yes ☑No
- Will a line extension within an existing district be necessary to serve the project? ☐Yes ☑No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☑No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

The project will include 8-inch gravity sewers and a duplex wastewater pump station. Wastewater will be pumped into an existing 10-inch forcemain on the south side of Millersport Hwy.

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑Yes ☐No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 10+/- acres (impervious surface)

_____ Square feet or 66.8 acres (parcel size)

ii. Describe types of new point sources. Project includes public roads with gutter curbs and sidewalks, patio homes and townhomes with driveways, multi-story commercial/residential structures with associated parking.

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

Stormwater runoff will be collected in catch basins and conveyed thru storm sewer to the on-site stormwater management ponds. Ponds will be equipped with forebays to address water quality control. Water quantity control will be addressed by controlled discharge rates from the ponds

- If to surface waters, identify receiving water bodies or wetlands: Town Ditch 26B
- Will stormwater runoff flow to adjacent properties? ☐Yes ☑No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☑Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☑Yes ☐No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

Temporarily during construction with heavy equipment and delivery vehicles

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

Temporarily during construction with using on-site generators

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

Per TIS by SRF, Peak am rate is 44 entering/56 exiting, Peak pm rate 96 entering/82 exiting

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐Morning ☐Evening ☐Weekend ☐Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☑No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

Project includes public roads with connection points to Millersport Hwy., Smith Road and New Road

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☑No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☑No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☑No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

Estimated electrical demand for all future residential units is 81,000 kilowatt hours annually

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

Local utility company

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☑No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7 am - 5 pm
- Saturday: _____
- Sunday: _____
- Holidays: _____

ii. During Operations:

- Monday - Friday: _____
- Saturday: _____
- Sunday: _____
- Holidays: _____

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Monday thru Friday from 7 am to 5 pm, project site will generate noise levels above ambient due to operation of heavy equipment during construction. This is an unavoidable adverse impact limited to construction activities in furtherance of the project.

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☑ Yes ☐ No

Describe: Construction will involve removal of existing vegetation within a portion of the project site for construction of streets and homes/townhomes

n. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Street lighting, 15-ft height and 150-ft spacing, in addition to outdoor lighting on individual residential units within the development

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☑ Yes ☐ No

Describe: Construction will involve the removal of existing vegetation within a portion of the project site for construction of streets, support infrastructure and residential units

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☑ Yes ☐ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

During construction, operation of heavy equipment and delivery trucks will generate exhaust during daily operation hours.

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : 3+/- tons per week (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____
- Operation: _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: _____
- Operation: HOA to contract with private waste disposal company

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☑ Commercial ☐ Residential (suburban) ☑ Rural (non-farm)
☐ Forest ☑ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0	10.2	10.2
• Forested	17+/-	9.0+/-	8.0+/-
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	14.96+/-	1.6+/-	13.36+/-
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	2.3	2.3
• Wetlands (freshwater or tidal)	34.84	34.45	0.39
• Non-vegetated (bare rock, earth or fill)	0		
• Other Describe: green space	0	9.25	9.25

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

c. Is the project site presently used by members of the community for public recreation? ☐Yes ☑No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☑Yes ☐No
If Yes,
i. Identify Facilities:
Amherst Baby and Childcare Center

e. Does the project site contain an existing dam? ☐Yes ☑No
If Yes:
i. Dimensions of the dam and impoundment:
- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection:

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes ☑No
If Yes:
i. Has the facility been formally closed? ☐Yes ☐No
- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐Yes ☑No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐Yes ☑No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐Yes ☐No
☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____
☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____
☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐Yes ☐No
If yes, provide DEC ID number(s): _____

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

v. Is the project site subject to an institutional control limiting property uses? ☐Yes ☑No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐Yes ☐No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 5.2'-13.2' per geotech feet

b. Are there bedrock outcroppings on the project site? ☐Yes ☑No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____%

c. Predominant soil type(s) present on project site:

Darien Silt Loam	37 %
Orpark silt loam	36 %
Hornell silt loam	21 %

d. What is the average depth to the water table on the project site? Average: 0.5-1.0 ft feet

e. Drainage status of project site soils:
☐ Well Drained: ____% of site
☐ Moderately Well Drained: ____% of site
☑ Poorly Drained 100 % of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 100 % of site
☐ 10-15%: ____% of site
☐ 15% or greater: ____% of site

g. Are there any unique geologic features on the project site? ☐Yes ☑No
If Yes, describe: _____

h. Surface water features.
i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑Yes ☐No
ii. Do any wetlands or other waterbodies adjoin the project site? ☑Yes ☐No
If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.
iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑Yes ☐No
iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name 837-47 Classification C
- Lakes or Ponds: Name _____ Classification 34.84+/-
- Wetlands: Name Federal Wetland Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☑Yes ☐No
If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐Yes ☑No

j. Is the project site in the 100-year Floodplain? ☑Yes ☐No

k. Is the project site in the 500-year Floodplain? ☑Yes ☐No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐Yes ☑No
If Yes:
i. Name of aquifer: _____

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

m. Identify the predominant wildlife species that occupy or use the project site:
deer, coyote, fox, rabbit, squirrels

n. Does the project site contain a designated significant natural community? ☐Yes ☑No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation):
ii. Source(s) of description or evaluation:
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐Yes ☑No
If Yes:
i. Species and listing (endangered or threatened):

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No
If Yes:
i. Species and listing:

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No
If yes, give a brief description of how the proposed action may affect that use:

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☑Yes ☐No
If Yes, provide county plus district name/number: Erie 017

b. Are agricultural lands consisting of highly productive soils present? ☐Yes ☑No
i. If Yes: acreage(s) on project site?
ii. Source(s) of soil rating(s):

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent:

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No
If Yes:
i. CEA name:
ii. Basis for designation:
iii. Designating agency and date:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

During Phase 1 study a possible historic site was identified. The area will be avoided per short and long term plan

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☑ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

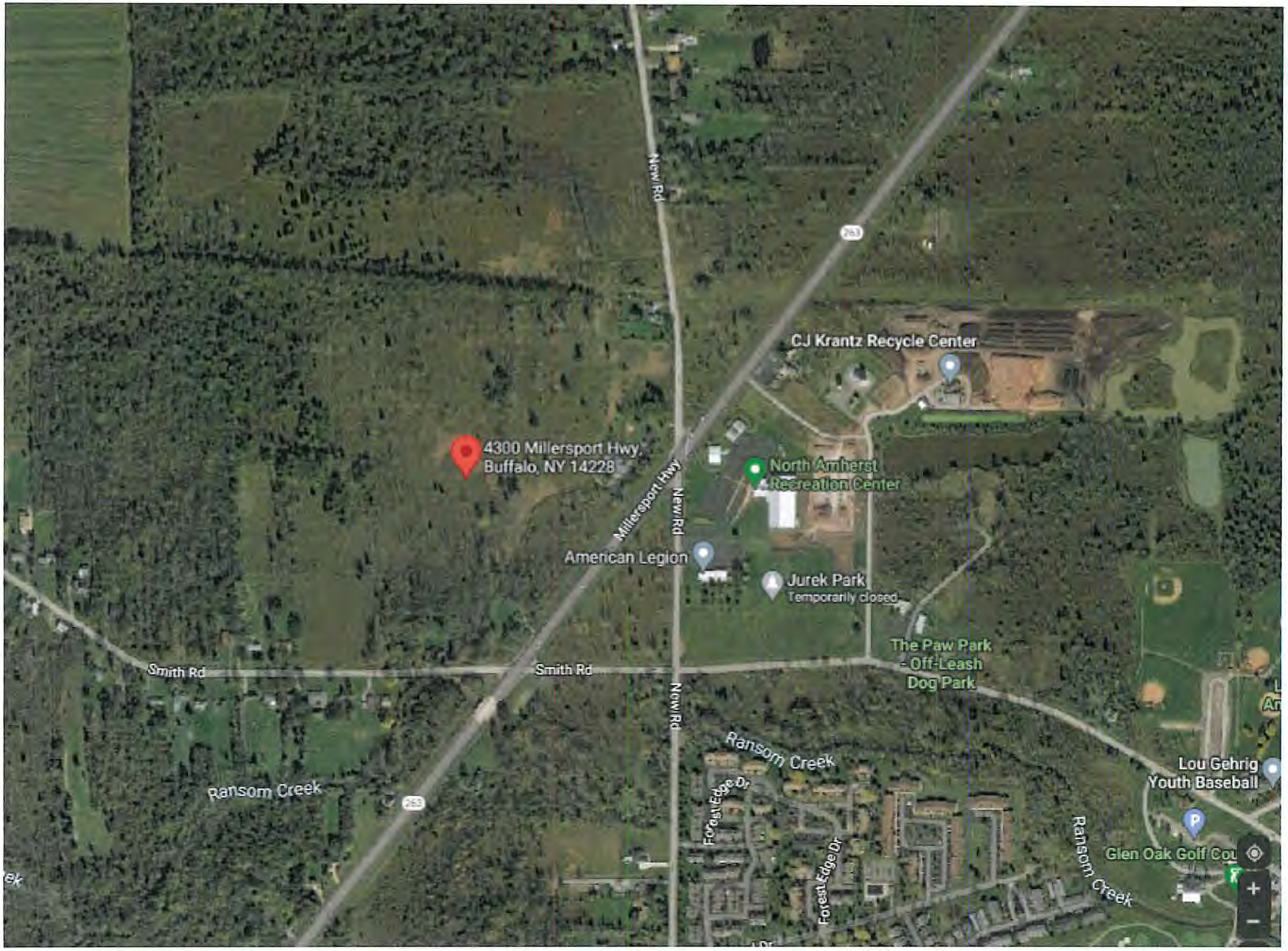
I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Cimato and Sons Date April 24, 2024

Signature Sean Hopkins Title Counsel for Project Sponsor

PRINT FORM

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

LEGEND

PATIO HOME
10 FOOT PATIO

2 – UNIT TOWN HOME
12 FOOT PATIO

4 – UNIT TOWN HOME
12 FOOT PATIO.

ZONING - SA

WETLAND DISTURBANCE

16,904 SF 0.39 ACRES OF DISTURBANCE

TND ZONING	
PHASE 1	
PATIO HOME UNITS (50'X50')	38 UNITS
4–UNIT TOWNHOMES	7 STRUCTURES (28 UNITS)
2–UNIT TOWNHOMES	6 STRUCTURES (12 UNITS)
TOTAL PROPOSED RESIDENTIAL UNITS IN PHASE 1 = 78 UNITS	

OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION (OPRHP)/NEW YORK STATE HISTORIC PRESERVATION OFFICE (SHPO) AVOIDANCE PLAN FOR THE PROTECTION OF ARCHEOLOGICAL SITES

SHORT TERM SITE AVOIDANCE/PROTECTION

- THE SITE(S) BOUNDARY (INCLUDING BUFFER) WILL BE CLEARLY DELINEATED ON THE FINAL CONSTRUCTION PLANS AND IDENTIFIED AS "ENVIRONMENTALLY SENSITIVE AREA – NO ACCESS."
- TEMPORARY FENCING SHALL BE INSTALLED AROUND THE BOUNDARIES OF THE AVOIDANCE AREA PRIOR TO AND CLEARING OR CONSTRUCTION ACTIVITIES WITHIN THE APE AND SHALL BE MAINTAINED UNTIL ALL CONSTRUCTION HAS CEASED.
- A PRECONSTRUCTION MEETING WITH THE CONSTRUCTION CONTRACTOR(S) IS TO BE REQUIRED TO NOTIFY THOSE IN CHARGE OF THE REQUIREMENTS TO PROTECT AND AVOID THE ARCHAEOLOGICAL SITE(S).
- INADVERTENT CONSTRUCTION IMPACTS ARE TO BE REPORTED TO THE SHPO IMMEDIATELY. ACTIVITY SHALL CEASE IN THE VICINITY OF THE SITE, SO THE DAMAGE CAN BE ASSESSED, AND A RECOMMENDATION PROVIDED TO REMEDIATE THE SITUATION.
- EXISTING LANDSCAPE AT THE SITE(S) WILL BE MAINTAINED. ANY PROPOSED MODIFICATIONS WILL REQUIRE CONSULTATION WITH THE SHPO.
- IN THE EVENT THAT HUMAN REMAINS ARE ENCOUNTERED DURING CONSTRUCTION, ALL WORK MUST STOP IN THE VICINITY OF THE FIND AND BE REPORTED TO THE SHPO.
- AFTER CONSTRUCTION IF FULLY COMPLETED, PROTECTIVE FENCES MAY BE REMOVED.

LONG TERM SITE AVOIDANCE/PROTECTION

- STATE AND FEDERAL REGULATIONS THAT INCLUDE RESTRICTIONS ASSOCIATED WITH THIS PROJECT WILL INCLUDE PROVISIONS FOR SITE(S) AVOIDANCE/PROTECTION.
- UNAUTHORIZED ACTIVITIES WITHIN THE SITE BOUNDARIES WILL REQUIRE NOTIFICATION TO THE SHPO AT (518)237-8643.
- SHOULD IMPACTS TO THE SITE BE PROPOSED IN THE FUTURE, SHPO MUST BE CONSULTED PRIOR TO CONSTRUCTION AND THE PROJECT SUBMITTED TO OUR OFFICE FOR REVIEW AND COMMENT.

CALL 811 or 800-962-7962
IT'S THE LAW
CALL BEFORE YOU DIG
STOP
Know what's below.
Call 811 before you dig.
Dig Safely.
New York

ZONING -TND

LIMIT OF DISTURBANCE
17.75 Ac

2,218 SF
12 SF
1,918 SF
896 SF
275 SF
LOCAL or "the ROAD "D"
LOCAL or "the ROAD "A"
1,660 SF
130 SF
3,518 SF
1,464 SF
70' WIDE PUBLIC DRAINAGE EASEMENT
NON-JURISDICTIONAL WETLANDS
1,353 SF
263 SF
243 SF
442 SF
80 SF
25 SF
744 SF
76 SF
429 SF
1,160 SF
70' WIDE PUBLIC DRAINAGE EASEMENT
LOCAL or "the ROAD "C"
TEMPORARY FENCING
ARCHAEOLOGICAL SITE "ENVIRONMENTALLY SENSITIVE AREA – NO ACCESS."

ZONING - RC

ZONING - MS

ZONING - GB

ZONING - SA

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 100 150 200 300 400
SCALE: 1"=100'
GRAPHIC SCALE IN FEET

NORTH

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

WARNING:
ALTERING THIS DOCUMENT IS IN VIOLATION OF THE NEW YORK STATE EDUCATION LAW SECTION 7209, PART 2 OF THE NEW YORK STATE EDUCATION LAW.
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WM. SCHUTT & ASSOCIATES P.C.

WM SCHUTT ASSOCIATES
37 CENTRAL AVE.
LANCASTER, NY 14086-2143
PH. 716-683-5961
FAX 716-683-0169
WWW.WMSCHUTT.COM

4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

OVERALL SITE PLAN

THIS SHEET ISSUED MARCH 13, 2024

OP

DRAWING SCALE: 1"=100'

WSA PROJECT NO. 130230

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SOIL SURVEY

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Web Soil Survey - Home | Web Soil Survey

websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

Area of Interest (AOI) | Soil Map | Soil Data Explorer | Download Soils Data | Shopping Cart (Free)

Printable Version | Add to Shopping Cart

Search

Clear | Search

Basic Search

Enter keywords

Advanced Search

Clear | Search

Map Unit Legend

Erie County, New York (NY029)

Erie County, New York (NY029)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ch	Cheektowaga fine sandy loam	0.0	0.0%
Cv	Cosad loamy fine sand	13.7	20.2%
La	Lakemont silt loam, 0 to 3 percent slopes	6.8	10.0%
NfA	Niagara silt loam, 0 to 3 percent slopes	6.0	8.9%
Od	Odessa silt loam, 0 to 3 percent slopes	41.3	60.9%
Totals for Area of Interest		**67.8**	**100.0%**

Legend

Soil Map

Scale (not to scale)



Warning: Soil Map may not be valid at this scale.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Erie County, New York

Od—Odessa silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2wrd8
Elevation: 260 to 1,540 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Odessa and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Odessa

Setting

Landform: Lake terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Red clayey glaciolacustrine deposits derived from calcareous shale

Typical profile

Ap - 0 to 8 inches: silt loam
Bt/E - 8 to 10 inches: silty clay loam
Bt1 - 10 to 15 inches: silty clay
Bt2 - 15 to 25 inches: silty clay
C - 25 to 79 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Hydrologic Soil Group: D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Lakemont
Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Schoharie
Percent of map unit: 5 percent
Landform: Lake terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Churchville
Percent of map unit: 3 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Rhinebeck
Percent of map unit: 2 percent
Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Erie County, New York
Survey Area Data: Version 21, Aug 29, 2021

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Erie County, New York

Cv—Cosad loamy fine sand

Map Unit Setting

National map unit symbol: 9rl8
Elevation: 200 to 800 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Cosad and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cosad

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Sandy glaciofluvial or deltaic deposits over clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: loamy fine sand
H2 - 9 to 21 inches: loamy fine sand
H3 - 21 to 24 inches: fine sandy loam
H4 - 24 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Ecological site: F101XY006NY - Moist Outwash
Hydric soil rating: No

Minor Components

Cheektowaga
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Claverack
Percent of map unit: 5 percent
Hydric soil rating: No

Odessa
Percent of map unit: 5 percent
Hydric soil rating: No

Minoa
Percent of map unit: 5 percent
Hydric soil rating: No

Lamson
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Erie County, New York
Survey Area Data: Version 21, Aug 29, 2021

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

FEMA FIRMETTE

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. **The community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 18. **The horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the **same vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

Base map information shown on this FIRM was derived from multiple sources, including the New York State Office of Cyber Security & Critical Infrastructure Coordination, and the USDA's Farm Service Agency, Aerial Photography Field Office, dated 2015.

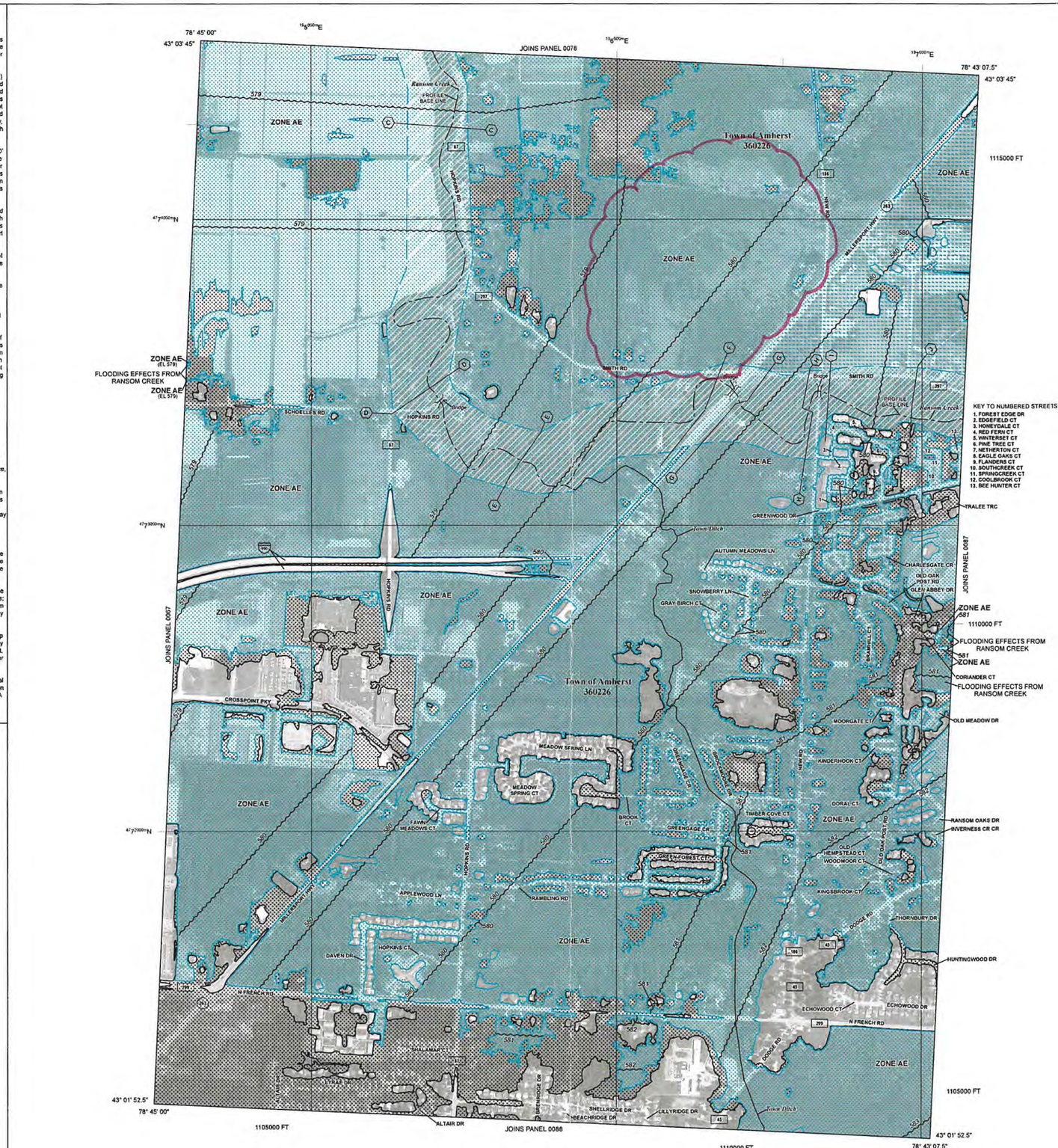
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to confirm to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map,** how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% Annual Chance Floodplain Boundary
- 0.2% Annual Chance Floodplain Boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- Culvert
- Bridge
- 45° 02' 08", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 3100000 FT — 5000-foot ticks: New York State Plane West Zone (FIPS Zone 3103), Transverse Mercator projection
- 4489000 N — 1000-meter Universal Transverse Mercator grid values, zone 18
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
June 7, 2019

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0086H

FIRM

FLOOD INSURANCE RATE MAP

ERIE COUNTY, NEW YORK (ALL JURISDICTIONS)

PANEL 86 OF 807
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

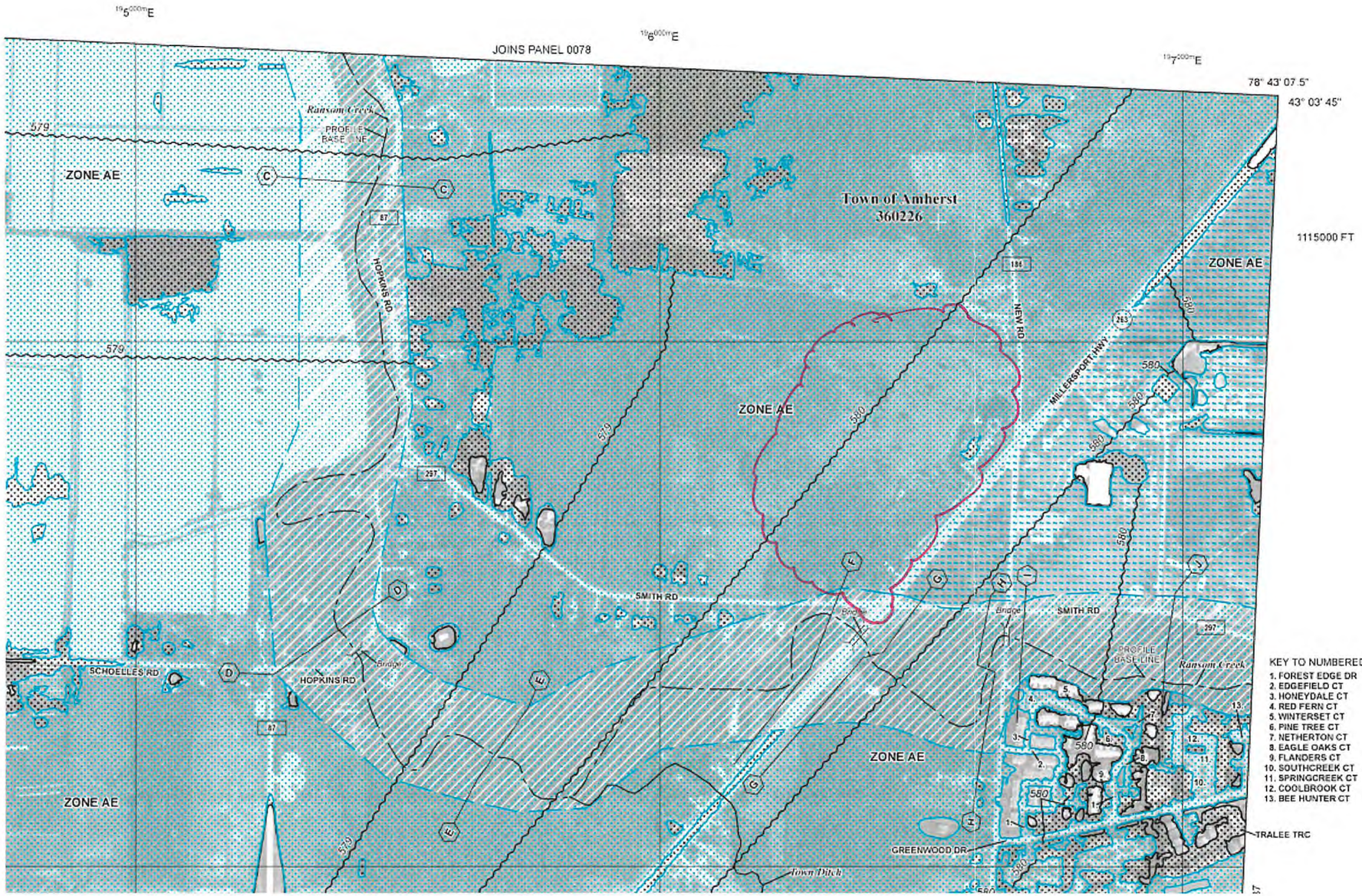
COMMUNITY	NUMBER	PANEL	SUFFIX
AMHERST, TOWN OF	360226	0086	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
36029C0086H
EFFECTIVE DATE
JUNE 7, 2019

Federal Emergency Management Agency

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



LEGEND

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OTHER AREAS

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ZONE D	Areas in which flood hazards are undetermined, but possible.

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- 23 — 23 — Transect line
- Culvert
- Bridge

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

LETTER FROM NYS OFFICE OF PARKS AND RECREATION

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ERIK KULLESEID
Commissioner

July 1, 2019

Ms. Lesta Ammons
USACE
1776 Niagara Street
Buffalo, NY 14207

Re: USACE
4300 Millerspoort Highway 67-Lot Residential Subdivision Construction Project
4300 Millerspoort Highway, Amherst, Erie County, NY
19PR01607
2006-00698

Dear Ms. Ammons:

The New York State Historic Preservation Office (SHPO) is in the process of reviewing the above noted project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

Based upon discussions with Dr. Doug Perrelli of the University at Buffalo's Archaeological Survey, it is the SHPO's understanding that the project sponsor intends to avoid impacts to the previously identified PCI/Smith Road-1 Historic Site (USN 02902.000856) located within/adjacent to the proposed project's Area of Potential Effects (APE). The SHPO thus recommends that the attached Short- and Long-term Avoidance/Protection Plan measures be implemented to ensure the protection and preservation of the archaeological site.

Please submit 1) site construction plans with the intended site avoidance language and boundaries clearly mapped; 2) site avoidance boundary area mapped on a modified aerial photo; and 3) a written commitment from the sponsor to follow the attached OPRHP/SHPO Site Avoidance Plan for the Protection of Archaeological Sites. Once the SHPO has received these documents we will rescind our recommendation for further archaeological investigations and render our effect finding.

If you have any questions, I can be reached at 518-268-2218 or via e-mail at Josalyn.Ferguson@parks.ny.gov. Please refer to the project number (PR) noted above if further correspondence regarding this project is required.

Sincerely,

Josalyn Ferguson, Ph.D.
Scientist Archaeology

via e-mail only

Encl.
c.c. Doug Perrelli, Archaeological Survey
c.c. Scott Livingstone, Earth Dimensions

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Office of Parks, Recreation and Historic Preservation (OPRHP)/New York State Historic Preservation Office (SHPO)
Avoidance Plan for the Protection of Archeological Sites

Short Term Site Avoidance/Protection

- The site(s) boundary (including buffer) will be clearly delineated on the final construction plans and identified as "Environmentally Sensitive Area—No Access."
- Temporary fencing shall be installed around the boundaries of the avoidance area prior to any clearing or construction activities within the APE and shall be maintained until all construction has ceased.
- A preconstruction meeting with the construction contractor(s) is to be required to notify those in charge of the requirements to protect and avoid the archaeological site(s).
- Inadvertent construction impacts are to be reported to the SHPO immediately. Activity shall cease in the vicinity of the site, so the damage can be assessed, and a recommendation provided to remediate the situation.
- Existing landscape at the site(s) will be maintained. Any proposed modifications will require consultation with the SHPO.
- In the event that human remains are encountered during construction, all work must stop in the vicinity of the find and be reported to the SHPO.
- After construction is fully completed, protective fences may be removed.

Long Term Site Avoidance/Protection

- State and federal regulations that include restrictions associated with this project will include provisions for site(s) avoidance/protection.
- Unauthorized activities within the site boundaries will require notification to the SHPO at (518) 237-8643.
- Should impacts to the site be proposed in the future, SHPO must be consulted prior to construction and the project submitted to our office for review and comment.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

LETTER FROM NYSDEC – FRESHWATER WETLAND DETERMINATION

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, Region 9
270 Michigan Avenue, Buffalo, NY 14203-2915
P: (716) 851-7010 I F: (716) 851-7005
www.dec.ny.gov

July 9, 2018

Cimato Enterprises
9220 Transit Road
Amherst, NY 14032

To Whom It May Concern:

Freshwater Wetland Determination
4300 Millersport Highway
Town of Amherst, Erie County

This letter serves as notification that Senior Ecologist Charles Rosenburg completed a field inspection on September 6, 2017 of the wetland boundary delineation completed by Earth Dimensions, Inc., within your property, parcel #16.00-2-20. The objective of this inspection was to determine whether wetlands present within and adjacent to the parcel meet New York State Department of Environmental Conservation (DEC) criteria for state wetlands jurisdiction.

Based on this inspection, Mr. Rosenburg determined that there is currently no state-regulated freshwater wetlands jurisdiction (i.e., freshwater wetland or regulated 100-foot adjacent area) within the 4300 Millersport Highway parcel. The closest state-regulated wetland is mapped approximately 150 feet southeast of the parcel and has no evident extension within 100 feet of the parcel.

Please be aware that any future wetland map revisions by the DEC may add new state-regulated wetlands or expand existing wetlands in this general area. While there are no immediate plans to revise the DEC wetland maps in this area, the field inspection indicated that there is a fair potential that wetlands meeting DEC criteria occur on or adjacent to the parcel. If that were to happen, this parcel would then be subject to DEC wetlands jurisdiction (i.e., wetland and/or regulated 100-foot adjacent area) – see the attached wetlands brochure for more details. The DEC would notify all landowners affected by such map revision via certified mail.

Please be advised that the U.S. Army Corps of Engineers may have wetland jurisdiction irrespective of the Department of Environmental Conservation. For more information, you may contact the Corps at:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

United States Army Corps of Engineers Regulatory Branch
1776 Niagara Street
Buffalo, New York 14207
Telephone: (716) 879-4330

If you have any questions about this wetland determination, please feel free to call me in the Buffalo office at (716) 851-7050.

Sincerely,

Angela G. Driscoll
Fish & Wildlife Technician I
Region 9 - Buffalo

AGD:

Attach: Wetland Information Handout

cc: Mr. Scott Livingstone, Earth Dimensions, Inc.
No Mapped Wetland File

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

A Brief Description of THE FRESHWATER WETLANDS ACT and What It Means for Wetlands Landowners

What Are Freshwater Wetlands?

Wetlands are transition areas between uplands and aquatic habitats. They are known by many names, such as marshes, swamps, bogs, and wet meadows. Standing water is only one clue that a wetland may be present. The Freshwater Wetlands Act identifies wetlands on the basis of vegetation because certain types of plants outcompete others when they are in wet soils, and so are good indicators of wet conditions over time. These characteristic plants include wetland trees and shrubs, such as willows and alders; emergent plants such as cattails and sedges; aquatic plants, such as water-lily, and bog mat vegetation, such as sphagnum moss.

To be protected under the Freshwater Wetlands Act, a wetland must be 12.4 acres (5 hectares) or larger. Wetlands smaller than this may be protected if they are considered of unusual local importance. Around every wetland is an adjacent area of 100 feet that is also protected to provide a buffer for the wetland.

The U.S. Army Corps of Engineers also protects wetlands under Section 404 of the Clean Water Act, irrespective of size. Although the definition is slightly different than the state definition, the Clean Water Act protects basically the same thing -- areas of water or wet soils that support typical wetland plants.

Why Are They Valuable?

For many years, people did not recognize the value of wetlands. Consequently, New York has lost almost half of its wetlands to such activities as filling and draining. However, wetlands are valuable to the people and environment of New York State. These are some of the functions and benefits that wetlands perform:

Flood and Storm Water Control: Wetlands are important in how water moves in a watershed. They absorb, store, and slow down the movement of rain and melt water, minimizing flooding and stabilizing water flow.

Surface and Groundwater Protection: Wetlands often serve as groundwater discharge sites, maintaining base flow in streams and rivers and supporting ponds and lakes. In some places, wetlands are very important in recharging groundwater supplies.

Erosion Control: Wetlands slow water velocity and filter sediments, protecting reservoirs and navigational channels. They also buffer shorelines and agricultural soils from water erosion.

Pollution Treatment and Nutrient Cycling: Wetlands cleanse water by filtering out natural and many man-made pollutants, which are then broken down or immobilized. In wetlands, organic materials are also broken down and recycled back into the environment, where they support the food chain.

Fish and Wildlife Habitat: Wetlands are one of the most productive habitats for feeding, nesting, spawning, resting and cover for fish and wildlife, including many rare and endangered species.

Public Enjoyment: Wetlands provide areas for recreation, education and research. They also provide valuable open space, especially in developing areas where they may be the only green space remaining.

Freshwater Wetlands Act

The State Legislature passed the Freshwater Wetlands Act (Act) in 1975 with the intent to preserve, protect and conserve freshwater wetlands and their benefits, consistent with the general welfare and beneficial economic, social and agricultural development of the state. Certain activities are exempt from regulation; other activities that could have negative impact on wetlands are regulated. To conduct any regulated activity in a protected wetland or its adjacent area, a permit is required. The permit standards in the regulations require that impacts to wetlands be avoided and minimized. If the proposed activity will not seriously affect the wetland, a permit with various conditions is usually issued. If the proposed activity will affect the wetland, the benefits gained by allowing the action to occur must outweigh the wetland benefits lost, in order for a permit to be issued. Compensatory mitigation often is required for significant impacts to wetlands. This may include creating or restoring wetlands to replace the benefits lost by the proposed project.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Wetlands Are Mapped

The Act requires DEC to map all those wetlands protected by the Act so that affected landowners can be notified and as a means for other interested parties to know where jurisdictional wetlands exist. DEC prepares draft maps, notifies landowners whose property may contain protected wetlands, and provides an opportunity for a public hearing on the accuracy of the maps. DEC then reviews the comments received from the hearing, adjusts the maps if necessary, and then officially files the final maps with the clerks of all local governments. Wetlands are a changing resource, and the law makes provisions for amending the maps. However, any changes to the maps are subject to the same notice and review procedures used to prepare the initial maps.

There are no regulatory maps identifying wetlands protected by the U.S. Army Corps of Engineers under the Clean Water Act. Wetlands shown on the DEC maps usually are also protected by the Corps, but there are additional wetlands not shown on the DEC maps that are protected by the Corps but not DEC because they are smaller than 12.4 acres in size. The National Wetlands Inventory, prepared by the U.S. Fish and Wildlife Service, is a good source of information about where these smaller wetland occur, but they are not regulatory maps and landowners should not rely on them exclusively.

Not All Wetlands Are Equal

Different wetlands provide different functions and benefits in varying degrees. The Act requires DEC to rank wetlands in one of four classes ranging from Class 1, which represents the greatest benefits and is the most restrictive, to Class IV. The permit requirements are more stringent for a Class I wetland than for a Class IV wetland. Because of this, wetland classifications are important and are subject to public comment during the map hearing process.

Regulation of Wetlands

According to the Freshwater Wetlands Act, certain activities are specifically exempt from regulation and do not require a permit, whereas other activities specifically require a permit. The following lists describe the regulatory status of some common activities:

Exempt Activities- These activities do not require a wetlands permit, and include, among others:

- normal agricultural practices (except filling and clear cutting)
- recreational activities such as fishing, hunting, hiking, swimming, camping or picnicking
- ordinary, routine maintenance of existing structures, existing lawns, and similar facilities
- selectively cutting trees and harvesting fuel wood, but not clear cutting trees or wetland vegetation

Regulated Activities with minor impacts

- installing utilities to a residence (exempt in an adjacent area)
- drilling an individual water well in an adjacent area
- replacing existing, functional bulkheads
- installing docks, piers, or wharfs

Regulated Activities with major impacts

- filling (including filling for agricultural purposes) and grading
- erecting buildings, including houses, barns, garages, commercial and industrial facilities
- restoring, modifying, or expanding existing structures
- draining, (except for agriculture), dredging, or otherwise changing water levels in wetlands, including breaching of beaver dams, constructing or removing bulkheads, dikes, or dams
- constructing roads
- applying pesticides in wetlands
- clear cutting trees or other vegetation
- mining

The Clean Water Act regulates activities in a similar manner, but has slightly different requirements. Landowners are encouraged to contact the U.S. Army Corps of Engineers if they anticipate undertaking activities in or near wet areas.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

ACOE JURISDICTION DETERMINATION

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS BUFFALO DISTRICT
478 MAIN STREET
BUFFALO, NY 14202-3278

January 18, 2024

Regulatory Branch

SUBJECT: Approved Jurisdictional Determination and Delineation Verification for Department of the Army Processing No. LRB-LRB-2006-00698

Cimato Enterprises, Inc
Fred Cimato
9220 Transit Road
East Amherst, New York 14051

Dear Mr. Cimato:

I have reviewed your request for an approved jurisdictional determination (JD) for the 66.9-acre review area located at 4300 Millersport Highway, in the Town of Amherst, Erie County, NY.

I have determined that the location and extent of all aquatic resources shown on the attached map(s) accurately represent the review area conditions.

Enclosed is an approved JD which verifies the limits of waters of the U.S. within the review area as depicted on Sheet(s) 1 - 6. This approved JD will remain valid for a period of five (5) years from the date of this correspondence unless new information warrants revision of the approved JD before the expiration date. At the end of this period, a new aquatic resource delineation will be required to support any request for a new JD.

I have determined that the following aquatic resource, Stream 1 and Wetland W1, are waters of the U.S. regulated under Section 404 of the Clean Water Act as noted on the attached Approved Jurisdictional Determination Form: Memorandum for Record. Department of the Army authorization is required if you propose a discharge of dredged or fill material in these water of the U.S.

I have determined that the following aquatic resources, Wetland W2, is not waters of the U.S. as noted on the attached Approved Jurisdictional Determination Form: Memorandum for Record. Therefore, this aquatic resource is not regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Department of the Army authorization is not required if you propose work, installation of structures, or a discharge of dredged or fill material in this aquatic resources.

Further, the delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the review area identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Regulatory Branch

SUBJECT: Approved Jurisdictional Determination and Delineation Verification for Department of the Army Processing No. LRB-LRB-2006-00698

the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Request for Appeal (RFA) form. If you request to appeal the above JD, you must submit a completed RFA form within 60 days of the date on this letter to the Great Lakes/Ohio River Division Office at the following address:

Katherine McCafferty
Regulatory Appeals Officer
US Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10780
Cincinnati, Ohio 45202-3222
Phone: 513-684-2699 Fax: 513-684-2460
e-mail: katherine.a.mccafferty@usace.army.mil

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete; that it meets the criteria for appeal under 33 C.F.R. part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by March 18, 2024.

It is not necessary to submit an RFA to the Division office if you do not object to the determination in this letter.

Questions pertaining to this matter should be directed to me at (716) 879-4279 by writing to the following address: U.S. Army Corps of Engineers Regulatory Branch 478 Main Street, Buffalo, New York 14202 or by e-mail at: Joseph.M.Rowley@usace.army.mil

Sincerely,

Joseph Rowley

Joseph Rowley
Physical Scientist

Enclosures

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Cimato Enterprises, Inc	File Number: LRB-2006-00698	Date: January 18, 2024

Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL WITHOUT PREJUDICE	C
	PERMIT DENIAL WITH PREJUDICE	D
X	APPROVED JURISDICTIONAL DETERMINATION	E
	PRELIMINARY JURISDICTIONAL DETERMINATION	F

SECTION I

The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/appeals/ or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

C. PERMIT DENIAL WITHOUT PREJUDICE: Not appealable

You received a permit denial without prejudice because a required Federal, state, and/or local authorization and/or certification has been denied for activities which also require a Department of the Army permit before final action has been taken on the Army permit application. The permit denial without prejudice is not appealable. There is no prejudice to the right of the applicant to reinstate processing of the Army permit application if subsequent approval is received from the appropriate Federal, state, and/or local agency on a previously denied authorization and/or certification.

D: PERMIT DENIAL WITH PREJUDICE: You may appeal the permit denial

You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information for reconsideration

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.

- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

- RECONSIDERATION: You may request that the district engineer reconsider the approved JD by submitting new information or data to the district engineer within 60 days of the date of this notice. The district will determine whether the information submitted qualifies as new information or data that justifies reconsideration of the approved JD. A reconsideration request does not initiate the appeal process. You may submit a request for appeal to the division engineer to preserve your appeal rights while the district is determining whether the submitted information qualifies for a reconsideration.

F: PRELIMINARY JURISDICTIONAL DETERMINATION: Not appealable

You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision you may contact:	If you have questions regarding the appeal process, or to submit your request for appeal, you may contact:
Joseph Rowley U.S. Army Corps of Engineers 478 Main St Buffalo, NY 14202 Joseph.M.Rowley@usace.army.mil 716-879-4279	Katherine McCafferty Regulatory Appeals Officer US Army Corps of Engineers Great Lakes and Ohio River Division 550 Main Street, Room 10780 Cincinnati, Ohio 45202-3222 Phone: 513-684-2699 Fax: 513-684-2460 e-mail: katherine.a.mccafferty@usace.army.mil

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SECTION II – REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT	
REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. Use additional pages as necessary. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)	
ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.	
RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation and will have the opportunity to participate in all site investigations.	
_____ Signature of appellant or agent.	Date:
Email address of appellant and/or agent:	Telephone number:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

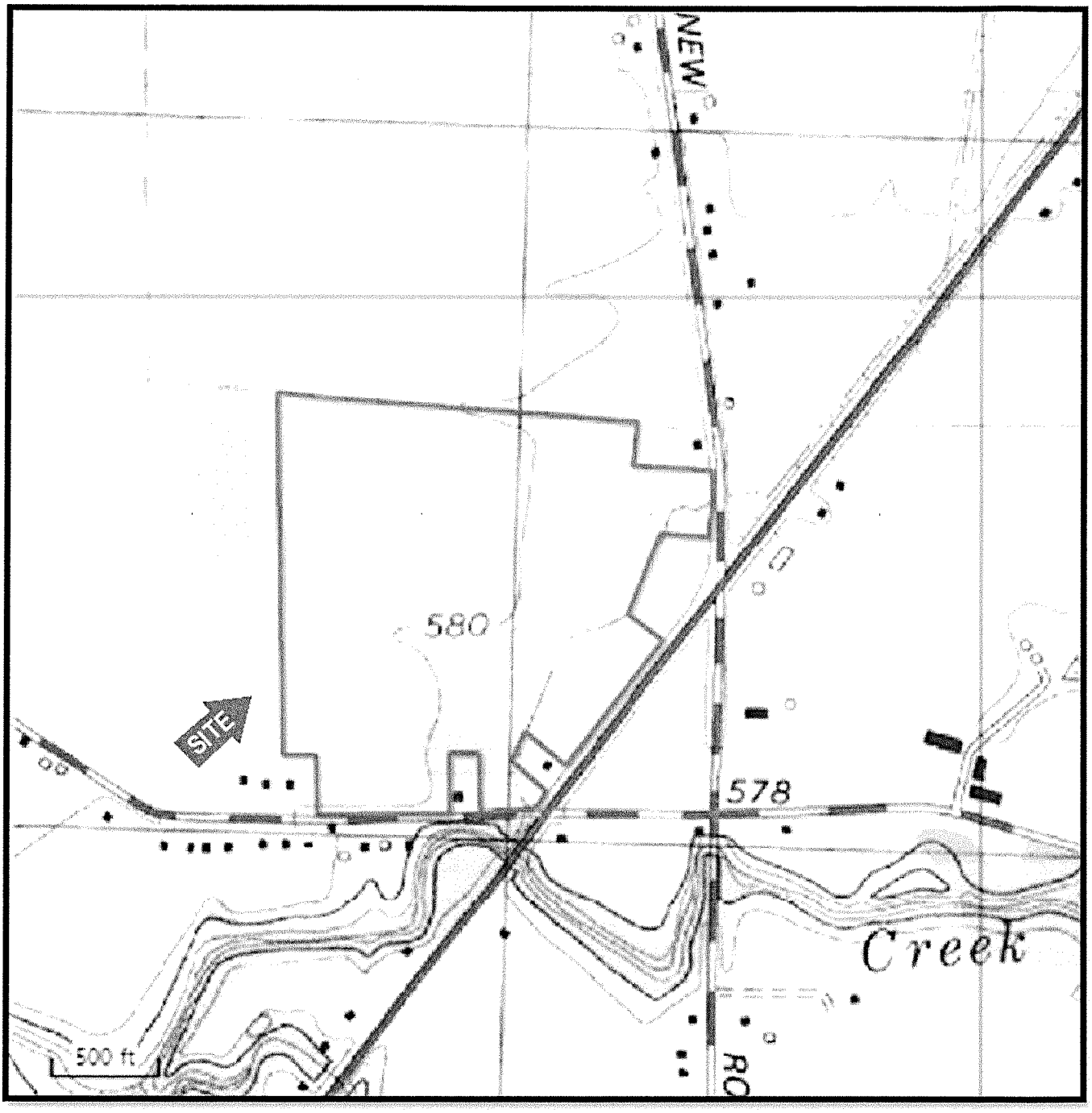


FIGURE 1: USGS 7.5 MINUTE TOPOGRAPHICAL MAP

Clarence Center Quadrangle / U.S. Geological Survey

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 2: NATIONAL WETLANDS INVENTORY MAP

http://www.fws.gov/wetlands/data/mapper.HTML (Visited 6/21/23)

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 3: NRCS SOIL SURVEY MAP

http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (Visited 6/21/23)

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 4: NYSDEC ENVIRONMENTAL RESOURCE MAPPER

https://gisservices.dec.ny.gov/gis/erm/ (Visited 6/21/23)

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 7: DRAINAGE MAP

https://streamstats.usgs.gov/ss/ (Visited 6/21/23)

4300 Millersport Highway

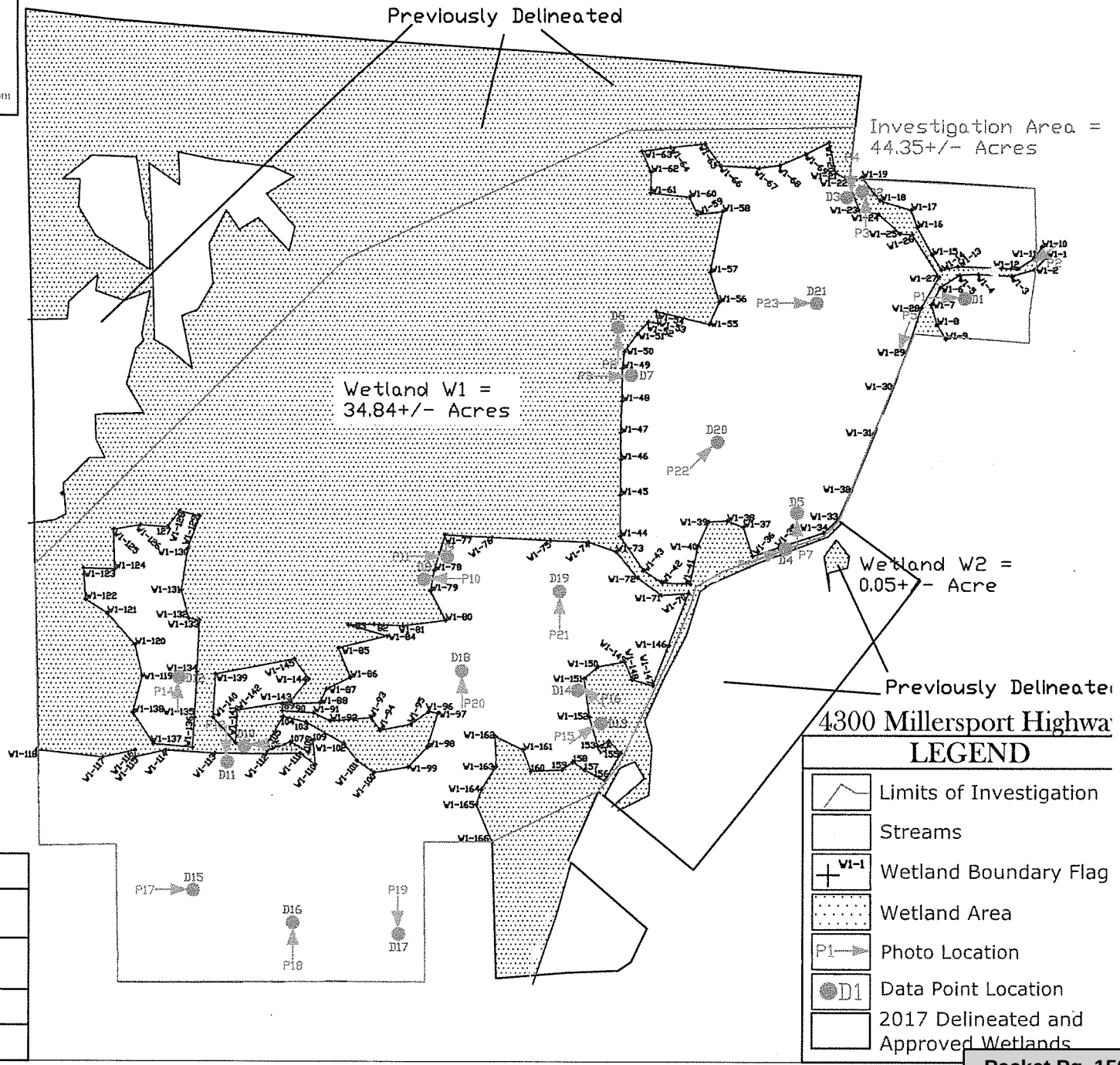
Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 6 - Wetland Delineation Map

Town of Amherst Erie County, New York

EARTH DIMENSIONS, INC.
1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | www.earthdimensions.com



4300 Millersport Highway-Cimato Enterprises
LRB 2006-00698
Erie County
Sheet 6 of 6

Scale: 0 200' 400'

Map Date: June 29, 2023/ TJS for EDI
Revised: September 22, 2023

Base Map Provided By: Trimble Geo 7X

File Name: Delineation Map.dwg

EDI Project Code: W1F06g

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, BUFFALO DISTRICT
478 MAIN STREET
BUFFALO, NEW YORK 14202

CELRB-TD-R

January 18, 2024

MEMORANDUM FOR RECORD

SUBJECT: US Army Corps of Engineers (Corps) Approved Jurisdictional Determination in accordance with the "Revised Definition of 'Waters of the United States'"; (88 FR 3004 (January 18, 2023) as amended by the "Revised Definition of 'Waters of the United States'; Conforming" (8 September 2023) ,[1]LRB-2006-00698(4300 Millersport Highway)

BACKGROUND. An Approved Jurisdictional Determination (AJD) is a Corps document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. AJDs are clearly designated appealable actions and will include a basis of JD with the document.[2] AJDs are case-specific and are typically made in response to a request. AJDs are valid for a period of five years unless new information warrants revision of the determination before the expiration date or a District Engineer has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.[3]

On January 18, 2023, the Environmental Protection Agency (EPA) and the Department of the Army ("the agencies") published the "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule"). On September 8, 2023, the agencies published the "Revised Definition of 'Waters of the United States'; Conforming", which amended the 2023 Rule to conform to the 2023 Supreme Court decision in *Sackett v. EPA*, 598 U.S., 143 S. Ct. 1322 (2023) ("*Sackett*").

This Memorandum for Record (MFR) constitutes the basis of jurisdiction for a Corps AJD as defined in 33 CFR §331.2. For the purposes of this AJD, we have relied on Section 10 of the Rivers and Harbors Act of 1899 (RHA),[4] the 2023 Rule as amended, as well as other applicable guidance, relevant case law, and longstanding practice in evaluating jurisdiction.

---

[1] While the Revised Definition of "Waters of the United States"; Conforming had no effect on some categories of waters covered under the CWA, and no effect on any waters covered under RHA, all categories are included in this Memorandum for Record for efficiency.
[2] 33 CFR 331.2.
[3] Regulatory Guidance Letter 05-02.
[4] USACE has authority under both Section 9 and Section 10 of the Rivers and Harbors Act of 1899 but for convenience, in this MFR, jurisdiction under RHA will be referred to as Section 10.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

CELRB TD-R
SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), LRB-2006-00698(4300 Millersport Highway)

1. SUMMARY OF CONCLUSIONS.

   a. Provide a list of each individual feature within the review area and the jurisdictional status of each one (i.e., identify whether each feature is/is not a water of the United States and/or a navigable water of the United States).

      JURISDICTIONAL

      i. LRB 2008-00698 Wetland W1, PFO/PSS 34.84 acres, Section 404
      ii. LRB 2008-00698 Stream 1, Perennial, 1,893 linear feet, Section 404

      NON-JURISDICTIONAL

      iii. LRB 2008-00698 Wetland W2, PEM, 0.05 acres, non-jurisdictional

2. REFERENCES.

   a. "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule")

   b. "Revised Definition of 'Waters of the United States'; Conforming" 88 FR 61964 (September 8, 2023))

   c. *Sackett v. EPA*, 598 U.S. _, 143 S. Ct. 1322 (2023)

3. REVIEW AREA. *The review area consists of approximately 70 acre area located at 4300 Millersport Highway, Town of Amherst, Erie County, New York (43.0561, -78.7284). Figures 1 – 6.*

4. NEAREST TRADITIONAL NAVIGABLE WATER (TNW), THE TERRITORIAL SEAS, OR INTERSTATE WATER TO WHICH THE AQUATIC RESOURCE IS CONNECTED. *The nearest TNW is Tonawanda Creek (Erie Canal) 1.7 miles to the northeast (straight) of the review area.*

5. FLOWPATH FROM THE SUBJECT AQUATIC RESOURCES TO A TNW, THE TERRITORIAL SEAS, OR INTERSTATE WATER. *The jurisdictional aquatic resources below have a continuous surface water connection to an unnamed tributary to Ransom Creek which flows to the South to Ransom Creek then northeast 1.7 miles before entering Tonawanda Creek (Erie Canal), a TNW.*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

6. SECTION 10 JURISDICTIONAL WATERS[5]: Describe aquatic resources or other features within the review area determined to be jurisdictional in accordance with Section 10 of the Rivers and Harbors Act of 1899. Include the size of each aquatic resource or other feature within the review area and how it was determined to be jurisdictional in accordance with Section 10.[6] *N/A*

7. SECTION 404 JURISDICTIONAL WATERS: Describe the aquatic resources within the review area that were found to meet the definition of waters of the United States in accordance with the 2023 Rule as amended, consistent with the Supreme Court's decision in *Sackett*. List each aquatic resource separately, by name, consistent with the naming convention used in section 1, above. Include a rationale for each aquatic resource, supporting that the aquatic resource meets the relevant category of "waters of the United States" in the 2023 Rule as amended. The rationale should also include a written description of, or reference to a map in the administrative record that shows, the lateral limits of jurisdiction for each aquatic resource, including how that limit was determined, and incorporate relevant references used. Include the size of each aquatic resource in acres or linear feet and attach and reference related figures as needed.

   a. Traditional Navigable Waters (TNWs) (a)(1)(i): *N/A*

   b. The Territorial Seas (a)(1)(ii): *N/A*

   c. Interstate Waters (a)(1)(iii): *N/A*

   d. Impoundments (a)(2): *N/A*

   e. Tributaries (a)(3): **LRB 2006-00698 Stream 1** – is a 3-5 foot wide tributary to Ransom Creek with an established bed and banks, ordinary high water mark and is located within hydric soils. According to the delineation report and observations in the field, it was determined Stream 1 has intermittent flow. According to the NYSDEC Environmental Resource mapper, Stream 1 is classified as a Class C Stream to Ransom Creek. The Stream is also shown as an intermittent tributary

[5] 33 CFR 329.9(a) A waterbody which was navigable in its natural or improved state, or which was susceptible of reasonable improvement (as discussed in § 329.8(b) of this part) retains its character as "navigable in law" even though it is not presently used for commerce, or is presently incapable of such use because of changed conditions or the presence of obstructions.
[6] This MFR is not to be used to make a report of findings to support a determination that the water is a navigable water of the United States. The district must follow the procedures outlined in 33 CFR part 329.14 to make a determination that water is a navigable water of the United States subject to Section 10 of the RHA.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

to Ransom Creek on the USGS Topo Map. In addition, this observation in the field is consistent with what was reviewed and confirmed after an in-house review of the USFWS NWI map, the USGS Topo (Clarence Center Quad), aerial imagery and USDA/NRCS Soils Survey. Therefore, Stream 1 is an A(3) water as it is a permanent flowing water that is a tributary to an A(1) water, Tonawanda Creek/Erie Canal.

f. Adjacent Wetlands (a)(4): LRB 2006-00698 Wetland 1 is a delineated 34.84 acre (on-site) wetland consisting of Palustrine forested, scrub-shrub and emergent types that extends off-site to the north, west and south. Shown in the delineation report and observations in the field, it was confirmed Wetland 1 directly abuts Stream 1, an unnamed tributary to Ransom Creek which eventually makes it way to Tonawanda Creek (Erie Canal). A review the USDA/NRCS Web Soil Survey indicates mapped hydric soils underlay both the delineated wetland and abutting tributary. Based on a review of the submitted delineation report, an in-office resource review, and the site visit, it has been determined that LRB-2006-00698 Wetland 1 has a continuous surface connection to another water of the United States, and ultimately contributing flow to Erie Canal, a Section 10 Navigable Waterway and a Traditional Navigable Waterway.

g. Additional Waters (a)(5): *N/A*

8. NON-JURISDICTIONAL AQUATIC RESOURCES AND FEATURES

a. Describe aquatic resources and other features within the review area identified in the 2023 Rule as amended as not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5). Include the type of excluded aquatic resource or feature, the size of the aquatic resource or feature within the review area and describe how it was determined to meet one of the exclusions listed in 33 CFR 328.3(b).[7] *N/A*

b. Describe aquatic resources and features within the review area that were determined to be non-jurisdictional because they do not meet one or more categories of waters of the United States under the 2023 Rule as amended (e.g., tributaries that are non-relatively permanent waters; non-tidal wetlands that do not have a continuous surface connection to a jurisdictional water).

LRB 2006-00698 Wetland 2 – is a 0.05 acre PEM wetland, functioning as a depressional feature located within the review area. Wetland 2 has a closed

[7] 88 FR 3004 (January 18, 2023)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

boundary and no connectivity to a relatively permanent water. Wetland 2 was determined to be a depressional, low spot in the landscape. During the site visit, the entire boundary of Wetland 2 was walked and no evidence of a surface connection could be found to Stream 1, which is located 150 feet to the west. There was no evidence of a berm or similar natural or manmade feature separating Wetland 2 from Stream 1. The USFWS NWI map and the NYSDEC Environmental Resource Mapper do not indicate any wetlands or watercourse at the location of Wetland 2. In addition, the USGS topographic map (Clarence Center) does not show any waters at the location of Wetland 2. Based on the above information, it has been determined that Wetland 2 lacks a continuous surface connection to any other water of the United States or relative permanent water, does not abut another water of the U.S.; is not connected to another water of the U.S. by a discrete feature like a non-jurisdictional ditch, swale, pipe, or culvert; and is not separated from another water of the U.S. by a berm or barrier) and has been determined not to be waters of the United States.

9. DATA SOURCES. List sources of data/information used in making determination. Include titles and dates of sources used and ensure that information referenced is available in the administrative record.

   a. *Corps of Engineers site visit conducted September 20, 2023; In-house review completed November 28, 2023*

   b. *Delineation report titled 4300 Millersport Highway prepared for Cimato Enterprises, Inc. by Earth Dimensions, Inc dated July 5, 2023*

   c. *Aerial Imagery evaluated: Connect Explorer - https://explorer.eagleview.com/; oblique images dated 15 April 2013, 24 April 2016, 25 April 2020. Google Earth October 2020, May 2022, May 2023*

   d. *National wetlands inventory map(s): https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper and included in the delineation report; assessed November 28, 2023.*

   e. *U.S. Geological Survey map(s). Cite scale & quad name: https://ngmdb.usgs.gov/topoview/viewer/ - USGS Quad: f=Fairport-NY, dated 2023, scale 1:24000; accessed November 28, 2023*

   f. *NRCS/USDA soil survey: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx - accessed November 28, 2023.*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

CELRB TD-R
SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), LRB-2006-00698(4300 Millersport Highway)

10. OTHER SUPPORTING INFORMATION: A Preliminary Jurisdictional determination was issued for the site on January 17, 2019.

11. NOTE: The structure and format of this MFR were developed in coordination with the EPA and Department of the Army. The MFR's structure and format may be subject to future modification or may be rescinded as needed to implement additional guidance from the agencies; however, the approved jurisdictional determination described herein is a final agency action.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NEW YORK STATE | Department of Environmental Conservation | Office of General Services | Department of State | US Army Corps of Engineers

JOINT APPLICATION FORM

For Permits for activities activities affecting streams, waterways, waterbodies, wetlands, coastal areas, sources of water, and endangered and threatened species.

You must separately apply for and obtain Permits from each involved agency before starting work. Please read all instructions.

1. Applications To:

>NYS Department of Environmental Conservation ☑ Check here to confirm you sent this form to NYSDEC.

Check all permits that apply:
- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☑ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Coastal Erosion Management
- ☐ Water Withdrawal
- ☐ Long Island Well
- ☐ Incidental Take of Endangered / Threatened Species

>US Army Corps of Engineers ☑ Check here to confirm you sent this form to USACE.

Check all permits that apply: ☑ Section 404 Clean Water Act ☐ Section 10 Rivers and Harbors Act

Is the project Federally funded? Yes ✓ No

If yes, name of Federal Agency:

General Permit Type(s), if known: NWP29

Preconstruction Notification: ✓ Yes No

>NYS Office of General Services ☐ Check here to confirm you sent this form to NYSOGS.

Check all permits that apply:
- ☐ State Owned Lands Under Water
- ☐ Utility Easement (pipelines, conduits, cables, etc.)
- ☐ Docks, Moorings or Platforms

>NYS Department of State ☐ Check here to confirm you sent this form to NYSDOS.

Check if this applies: ☐ Coastal Consistency Concurrence

2. Name of Applicant

Cimato & Sons

Taxpayer ID (if applicant is NOT an individual)

Mailing Address	Post Office / City	State	Zip
9220 Transit Road	East Amherst	NY	14051

Telephone 716-688-3536 Email Cimatoenterprises5647@gmail.com

Applicant Must be (check all that apply): ☑ Owner ☑ Operator ☐ Lessee

3. Name of Property Owner (if different than Applicant)

Mailing Address	Post Office / City	State	Zip

Telephone Email

For Agency Use Only | Agency Application Number:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

JOINT APPLICATION FORM – Continued. Submit this completed page as part of your Application.

4. **Name of Contact / Agent**

Tom Somerville (Earth Dimensions, Inc.)

Mailing Address	Post Office / City	State	Zip
1091 Jamison Road	Elma	NY	14059

Telephone 716-655-1717 Email tsomerville@earthdimensions.com

5. **Project / Facility Name**

4300 Transit Road subdivision & Townhomes

Property Tax Map Section / Block / Lot Number: 16.00-2-20

Project Street Address, if applicable	Post Office / City	State	Zip
4300 Millersport Highway	Amherst	NY	14228

Provide directions and distances to roads, intersections, bridges and bodies of water

The site is located on the northwest side of Millersport Highway on the west side of New Road and north side of Smith Road.

✓ Town	Village	City	County	Stream/Waterbody Name
Amherst			Erie	Tributary to Ransom Creek

Project Location Coordinates: Enter Latitude and Longitude in degrees, minutes, seconds:

Latitude: 43 ° 03 ' 20.56N " Longitude: 78 ° 43 ' 41.91W "

6. **Project Description**: Provide the following information about your project. Continue each response and provide any additional information on other pages. **Attach plans on separate pages.**

a. Purpose of the proposed project:

The project purpose is the construction of a 38 patio homes and 13 townhouses on a 66.89-acre parcel.

b. Description of current site conditions:

The site is currently vacant and is dominated by a mown field with trees.

c. Proposed site changes:

Proposed site changes include the development of a 38 patio homes and 13 townhouses. The project will impact 0.39 acre of federally jurisdictional wetland. A 0.59 acre wetland creation area will be created on-site.

d. Type of structures and fill materials to be installed, and quantity of materials to be used (e.g., square feet of coverage, cubic yards of fill material, structures below ordinary/mean high water, etc.):

The proposed project encompasses an 23 acre development area on a 66.89 acre site.

e. Area of excavation or dredging, volume of material to be removed, location of dredged material placement:

The project does not involve dredging of material.

f. Is tree cutting or clearing proposed? ✓ Yes If Yes, explain below. No

Timing of the proposed cutting or clearing (month/year): unknown

Number of trees to be cut: Acreage of trees to be cleared: 0.5 acre

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

JOINT APPLICATION FORM – Continued. Submit this completed page as part of your Application.

g. Work methods and type of equipment to be used:

Typical work methods will be used to complete the construction of the project. Equipment will include the use of excavators and dozers.

h. Describe the planned sequence of activities:

Following installation of erosion control devices, topsoil will be stripped within the work area and stockpiled. Earthwork and rough grading will occur followed by utility installation, building and parking lot construction and final grading/stabilization.

i. Pollution control methods and other actions proposed to mitigate environmental impacts:

Silt fencing and/or silt sock will be used to control sedimentation into the regulated wetland/waterway.

j. Erosion and silt control methods that will be used to prevent water quality impacts:

Installation of stabilized construction entrances where accessing the site from public roads. Installation of perimeter silt sock/fence, installation of the proposed detention basins to act as a sediment traps, installation of temporary inlet protection at all existing and new inlets within the work area. Disturbed areas will be topsoiled and seeded in a timely manner. An E&SC plan will be prepared in accordance with NYDEC requirements.

k. Alternatives considered to avoid regulated areas. If no feasible alternatives exist, explain how the project will minimize impacts:

The project site contains approximately 34.84 acres of federally jurisdictional wetland. The project has been designed to avoid all but 0.39 acre of wetland. Several alternatives have been explored; the least impacting to wetlands is provided as the current plan.

l. Proposed use: ☑ Private ☐ Public ☐ Commercial

m. Proposed Start Date: Spring 2024 Estimated Completion Date: Fall 2024

n. Has work begun on project? Yes If Yes, explain below. ☑ No

o. Will project occupy Federal, State, or Municipal Land? Yes If Yes, explain below. ☑ No

p. List any previous DEC, USACE, OGS or DOS Permit / Application numbers for activities at this location:

LRB 2006-00698
DEC 9-1422-00452

q. Will this project require additional Federal, State, or Local authorizations, including zoning changes?

☑ Yes If Yes, list below. No

Town of Amherst Site Plan Approval
Erie County Health Department Approval

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

JOINT APPLICATION FORM – Continued. Submit this completed page as part of your Application.

7. **Signatures.**
Applicant and Owner (If different) must sign the application.
Append additional pages of this Signature section if there are multiple Applicants, Owners or Contact/Agents.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief.

Permission to Inspect - I hereby consent to Agency inspection of the project site and adjacent property areas. Agency staff may enter the property without notice between 7:00 am and 7:00 pm, Monday - Friday. Inspection may occur without the owner, applicant or agent present. If the property is posted with "keep out" signs or fenced with an unlocked gate, Agency staff may still enter the property. Agency staff may take measurements, analyze site physical characteristics, take soil and vegetation samples, sketch and photograph the site. I understand that failure to give this consent may result in denial of the permit(s) sought by this application.

False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the NYS Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant | Date: Feb 2, 2024

Applicant Must be (check all that apply): ☑ Owner ☑ Operator ☐ Lessee

Printed Name: Fred Cimato | Title: Owner

Signature of Owner (if different than Applicant) | Date:

Printed Name: | Title:

Signature of Contact / Agent | Date: 2/2/24

Printed Name: Thomas Somerville | Title: Ecologist

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

Agency Application Number:

_____ (Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative:

Printed Name: | Title:

Signature: | Date:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Civil Engineering
Municipal Engineering
Land Surveying

WM SCHUTT ASSOCIATES

Project Management
Construction Support Services
SWPPP Services

SWPPP and ENGINEERING REPORT

for

PROPOSED TRADITIONAL NEIGHBORHOOD DEVELOPMENT

4300 MILLERSPORT HWY

TOWN OF AMHERST
ERIE COUNTY, NEW YORK



APRIL 2022
REVISED MARCH 2024

WSA PROJECT NO. 13027C

37 CENTRAL AVENUE LANCASTER NEW YORK 14086-2143 P 716-683-5961 F 716-683-0169 WWW

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TABLE OF CONTENTS

1.0 INTRODUCTION 4

2.0 STORMWATER MANAGEMENT 5
2.1 Design Criteria/Standards 5
2.2 Existing Conditions 5
2.2.1 Onsite Wetland Areas 6
2.3 Proposed (Post-Development) Conditions 6
2.4 Stormwater Management/Retention System 7
2.4.1 Water Quantity Control 7
2.4.2 Water Quality Volume (WQ_V) 12
2.5 Stormwater Conveyance System 14

3.0 STORMWATER POLLUTION PREVENTION PLAN COMPONENTS 14
3.1 Temporary Controls 14
3.2 Permanent Controls 15
3.3 Construction Sequence and Maintenance Schedule 16
3.3.1 Permits 16
3.3.2 Construction Sequence 16
3.3.3 Initial Construction Site Assessment 17
3.3.4 Daily Construction Site Maintenance 17
3.3.5 Weekly Construction Site Maintenance Schedule 18
3.3.6 Final Construction Site Inspection 18
3.3.7 Post Construction Operation & Maintenance 19
3.4 Owner Responsibilities 19

4.0 SANITARY FACILITIES 20
4.1 Design Criteria/Standards 20
4.2 Proposed System 21
4.3 Design Basis 22

5.0 WATER SERVICES 24
5.1 Design Criteria/Standards 24
5.2 Existing System 24
5.3 Proposed System 25
5.4 Design Basis 25
5.5 Permits/applications 26

6.0 PROJECT ADMINISTRATION 26
6.1 Submittal/Review Process 26
6.2 Technical Questions 26

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

LIST OF FIGURES

Figure 1	Project Location Map
Figure 2	Site and SWPPP Design Plans

LIST OF APPENDICES

Appendix A	National Cooperative Soil Survey
Appendix B	FEMA Firmette
Appendix C	Green Infrastructure Calculations
Appendix D	Pre-Development Hydrographs & Post-Development Hydrographs
Appendix E	Storm Sewer Sizing Calculations
Appendix F	NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-20-001)
Appendix G	SPDES Notice of Intent and Notice of Termination
Appendix H	Owner/Contractor Certification Statement Form
Appendix I	Sample SWPPP Inspection Report Forms (Initial Site Assessment, Weekly Site Inspection, Monthly Summary, Quarterly Report)
Appendix J	Downstream Sanitary Sewer Capacity Documentation/ Town Board Out-of-District Resolution
Appendix K	ECWA Hydrant Flow Test Data Water Pressure Calculations
Appendix L	Letter from NYSDEC – Freshwater Wetland Determination AND NYSDEC Permit
Appendix M	ACOE Jurisdiction Determination
Appendix N	Wastewater Pump Station Design
Appendix O	Buoyancy Calculations
Appendix P	JM Davidson Technical Memorandum
Appendix Q	SEQR Negative Declaration

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

1.0 INTRODUCTION

The proposed Traditional Neighborhood development includes public roads, 38 patio homes, 4-unit and 2-unit townhomes and two combination commercial/residential structures.

The site is located on the north side of Millersport Hwy., within the Town of Amherst. The site is currently vacant with a mixture of brush and trees. The site has 34.84+/- acres of federally regulated wetlands, with a proposed disturbance area of 0.39+/- acres. The project includes proposed access points off of Millersport Highway, New Road and Smith Road. All proposed sanitary and storm water improvements (including on-site retention ponds) will be privately owned and operated via an HOA. All proposed waterline improvements will be public improvements. For wastewater collection, it is proposed to extend private sanitary sewer lines and construct a pump station with a forcemain connection to the public collection system along Millersport Hwy. A flow monitoring study was completed and approved by the Town of Amherst, resulting in the Town allowing sanitary service to the site, via an Out-of -District agreement. It is important to mention that the Planning Board previously issued a negative declaration for the project on February 16, 2023 [including the 2 mixed-use three-floor buildings along Millersport Highway, which will be Phase 2 & 3. Phase 4 of the project has been eliminated and is included as part of the Phase 1 project described above].

It is possible that the acreage of disturbed soil at any given time may exceed five (5) acres. Of the total site acreage (66.8 +/- acres), 21.8+/- acres are proposed to be disturbed for construction of the public roads, residential units, combined commercial/residential structures, sidewalks, parking areas, water and sanitary utilities, landscaping and storm water management facilities. The site includes 34.84+/- acres of federally regulated wetlands with a proposed disturbance of 0.39 acres.

Storm water runoff for the development area will be collected and temporarily stored within a combination of retention ponds located throughout the site. As of March 1, 2020, the NYSDEC has enacted new guidelines to reduce stormwater runoff on a project site through preservation of natural site conditions, reduction of impervious area and incorporation of "green infrastructure techniques" to reduce the required water quality volume to be treated. Following implementation of these new techniques, the Standard Management Practices (such as retention pond) will be used to treat the "reduced" volume of stormwater. "Green Infrastructure Techniques" were introduced in the 2010 release of the New York State Stormwater Management Design Manual, which are to be followed in the design of stormwater management facilities on project sites. Techniques that will be incorporated at this site are conservation of natural areas, reduction in impervious areas, and bio-retention basins. The remaining storm water runoff will be collected through a series of HDPE storm drainage pipes and roadside catch basins and conveyed to the retention ponds. Water quality pre-treatment will be provided by forebays located within the retention ponds.

Sanitary service will be provided to the mixed-use development area by installation of 8-inch private PVC sanitary sewer along the proposed public roads. The sanitary sewer collection system within the development will collect and direct wastewater to a proposed private wastewater pump station located to the east of the intersection of Local Road "A" and Local Road "B". Wastewater will be pumped to an existing 10-inch public force main on the east side of Millersport Hwy. A downstream capacity analysis was previously completed for the project and reviewed and approved by both the Town of Amherst and NYSDEC. The site falls beyond the Town Consolidated Sewer District. The Owner petitioned the Town for an Out-of-District service agreement, which was granted by the Town of Amherst on October 1, 2023.

The Owner has also committed to the required Infiltration / Inflow mitigation.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

The development will receive water service via a connection to existing water mains located along Smith Road and Millersport Highway. The proposed waterline within the development will be a public owned, operated and maintained system.

All other utilities required to service the Traditional Neighborhood development, including electricity, natural gas, television cable and telephone services will be installed in accordance with all applicable requirements of the respective utility companies. Arrangements will be made, by the Owner/Developer, with each utility, to determine the best method of providing those services.

This combination Engineer's Report and Storm Water Pollution Prevention Plan (SWPPP) narrative has been developed to provide the Town of Amherst, EC HWY, ECWA, ECHD, ACOE, NYSDEC, NYSDOT and other interested agencies with specific information necessary for their review of this project, and their assessment of this project's impact on other existing facilities and/or neighboring properties. The Storm Water Pollution Prevention Plan (SWPPP) includes a Construction Sequence Schedule, Water Quality and Water Quantity calculations, SWPPP design drawings and Notice of Intent (NOI) and has been prepared in order to comply with the NYSDEC SPDES General Permit for Storm Water Discharges from Construction Activity by planning and implementing the following practices:

1. Reduction or elimination of erosion and sediment loading to water bodies during construction.
2. Control of the impact of storm water runoff during and after construction
3. Control of the increased volume and peak rate of runoff during and after construction
4. Maintenance of storm water controls during and after completion of construction

2.0 STORMWATER MANAGEMENT

2.1 Design Criteria/Standards

Storm water drainage facilities for this development are designed in accordance with the following:

1. 2020 NYSDEC Stormwater Management Design Manual
2. Erie Niagara County Regional Planning Board - Storm Drainage Design Manual
3. NYSDEC SPDES General Permit for Storm Water Discharges from Construction Activities (2020 Construction General Permit GP-0-20-001 or latest version)
4. 2016 NYSDEC Standards and Specifications for Sediment and Erosion Control Bluebook

The Town of Amherst and NYSDEC requires review of the runoff generated during a 1-, 10-, and 100-year existing storm event and then compared to the runoff generated during the 1-, 10- and 100-year proposed storm events. Design of the storm water management system was completed in accordance with both the Town of Amherst and NYSDEC requirements.

2.2 Existing Conditions

Under existing conditions, the topography of the northern 61+/- acres of the site flows in a southeasterly direction across the site, into Town Ditch 26B, which ultimately drains into Ransom Creek. The southern

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

5.8+/- acres of the site drains in a northwesterly direction, into Town Ditch 26 B and ultimately into Ransom Creek. Town Ditch 26B flows in a southwesterly direction thru the site, crosses Smith Rd and empties into Ransom Creek. Under existing conditions, the parcel is vacant with a combination of wood areas, underbrush and federally regulated wetlands.

Based on the Erie County Soil Survey, the proposed disturbance area is comprised of Odessa silt loa and Cosad Loamy fine sand. These soils have classifications of "C/D", and the site is described as 100% poorly drained soil (See Appendix A).

The Federal Insurance Rate Maps (FIRM) for the Town of Amherst, Erie County, New York prepared by the Federal Emergency Management Agency Community Map No. 36029C00862H dated June 07, 2019 indicates that the entire project site falls within the 100-year floodplain. The associated 100-yr flood elevation (1% Annual Chance Flood) is 580.0 See Appendix B for the FEMA Firmette for this project site.

A Soils and Geotechnical Report has been generated and submitted to the Town under separate cover.

2.2.1 Onsite Wetland Areas

Approximately 34.84 acres of federally regulated wetlands have been identified on the project site by Earth Dimensions Inc. The ACOE has provided a jurisdiction determination. The NYSDEC has stated that it does not have jurisdiction of the wetlands. Respective letters from both agencies are included in Appendix L and Appendix M. It is proposed to disturb 0.39 acres of wetland as part of this project. A Joint Application for Permit has been applied for under this project. The respective permits will be submitted at a future date.

2.3 Proposed (Post-Development) Conditions

The proposed components of the Traditional Neighborhood Development include construction of the following:

Initial Phase of Development

- 38 patio homes
- Seven 4-unit Townhomes
- Six 2-unit Townhomes
- Two combination commercial / residential structures. The base footprint of each structure is 11,000+/- sf. The first floor is intended for future commercial/retail tenants. The second and third floors of each structure wile apartments, for a total of 44 units
- 3,750+/- feet of public road, 24-foot-wide asphalt roadway with gutter curbs
- Storm water management system (including catch basins, rear yard drainage, storm sewers and five (5) retention ponds with forebays)
- On-site utilities (public water service, private sanitary sewers and wastewater pump station, natural gas, electric, and telephone)
- Site landscaping and lighting

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Under proposed conditions, the impervious area will increase from 0 percent to 13 percent, due to public roadways, driveways, sidewalks and patio home and townhome home construction and the combination commercial/retail structures with associated parking areas.

2.4 Stormwater Management System

2.4.1 Water Quantity Control

Water Quantity Control has been addressed by construction of several proposed storm water retention ponds. As described previously, the project areas will discharge into the proposed retention ponds. Under all storms evaluated, the total of the controlled discharge from the retention ponds under developed conditions for each storm event does not exceed the runoff rate under existing conditions.

Storm water runoff for the western side of the development area (a section of Local Road A and Local Road C) will be collected and temporarily stored within Pond 1. Pond 1 has a controlled discharge into the Smith Road ditch. Runoff directed to the ditch flows in an easterly direction, until reaching Town Ditch 26B. Storm water runoff entering the retention ponds will be collected through a series of HDPE drainage pipes and catch basins. Water quality pre-treatment will be provided by forebays within the stormwater retention pond. The central portion of the development, (section of Local Road "A" and Local Road "B") will be collected and temporarily stored within Ponds 2/ 3. Pond 2/3 has a controlled discharge to Town Ditch 26B. Stormwater runoff from the eastern side of the development (eastern portion of Local Road "A" and Local Road "D") will be collected and temporarily stored within Pond 4. Pond 4 has a controlled discharge to Town Ditch 26B.

Each of the two proposed combination commercial/residential structures and associated parking areas will independently drain into two separate retention ponds, each with a controlled discharge to Town Ditch 26B.

The volume of the wet ponds has been sized to provide treatment of the water quality volume for the development area (See Appendix C).

Hydrographs representing pre-development and post-development runoff have been generated using the Soil Conservation Service-TR-55 and TR-20 methodology utilizing HydroCAD software. Hydrographs for the 1, 10 and 100-year storm events under existing conditions and the 1, 10 and 100-year storm events under proposed conditions were generated and are included in Appendix D. The post developed discharge rates from the retention ponds will not exceed the existing runoff rates for the comparable storm event for each corresponding pre-development drainage area.

The following table summarizes the pre-development and post development peak runoff conditions for the project site:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

AREA NORTH OF TOWN DITCH 26B

Stormwater Management Runoff Table – Existing Conditions

Storm Event	Pre-Development Drainage Area (North of Town Ditch 26B) – 61.2 acres		Pre-Development Drainage Area (South of Town Ditch 26B) – 5.6 acres	
	Peak Runoff Rate (cfs)		Peak Runoff Rate (cfs)	
1 Year	9.81		1.67	
10 Year	29.61		5.05	
90% Chance storm	1.45		0.22	
100 Year	66.55		11.29	

Stormwater Management Runoff Table – Proposed Conditions – Pond 1

Storm Event	Post Development Drainage Area to Retention Pond Peak Runoff Rate (cfs)	Retention Pond Controlled Discharge Peak Runoff Rate (cfs)	Retention Pond High Water Elevation	
	Peak Runoff Rate (cfs)	Peak Runoff Rate (cfs)		
1 Year	2.42	0.24	576.04	
10 Year	5.16	0.49	576.37	
25 year	6.64	0.64	576.48	
90% Chance Storm	0.83	0.07	575.85	
100 Year	9.54	0.86	576.79	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Stormwater Management Runoff Table – Proposed Conditions – Pond 2/3

Storm Event	Post Development Drainage Area to Retention Pond Peak Runoff Rate (cfs)	Retention Pond Controlled Discharge Peak Runoff Rate (cfs	Retention Pond High Water Elevation	
	Peak Runoff Rate (cfs)	Peak Runoff Rate (cfs)		
1 Year	7.57	5.15	574.47	
10 Year	22.01	14.83	575.58	
25 year	30.59	19.86	576.30	
90% Chance Storm	1.25	0.77	573.89	
100 Year	48.24	32.03	577.48	

Stormwater Management Runoff Table – Proposed Conditions – Pond 4

Storm Event	Post Development Drainage Area to Retention Pond Peak Runoff Rate (cfs)	Retention Pond Controlled Discharge Peak Runoff Rate (cfs	Retention Pond High Water Elevation	
	Peak Runoff Rate (cfs)			
1 Year	3.94	0.31	573.81	
10 Year	8.47	0.37	574.32	
25 year	10.93	0.40	574.60	
90% Chance Storm	1.32	0.21	573.43	
100 Year	15.79	0.46	575.17	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Stormwater Management Runoff Table – Proposed Conditions for Undisturbed Area and New Rd Bypass Area

And

Total Proposed Combined Discharge Rate for Development North of Town Ditch 26B

Storm Event	Undisturbed Area (Culvert to Ditch)	New Road Bypass	Total Combined Discharge Rate for Development North of Town Ditch 26B (cfs) Post Conditions	
	Runoff Rate (cfs)	Runoff rate (cfs)		
1 Year	1.59	0.37	7.66	(1 yr. pre = 9.81 cfs)
10 Year	4.84	0.78	21.31	(10 yr. pre = 29.61 cfs)
25 year	6.82	1.00	28.72	(10 yr. pre = 29.61 cfs)
90% Chance Storm	0.24	0.13	1.42	(90% chance pre = 1.45 cfs)
100 Year	10.92	1.42	45.69	(100 yr. pre = 66.55 cfs)

AREA SOUTH OF TOWN DITCH

Stormwater Management Runoff Table – Existing Conditions

Storm Event	Pre-Development Drainage Area (North of Town Ditch 26B) – 61.2 acres		Pre-Development Drainage Area (South of Town Ditch 26B) – 5.6 acres	
	Peak Runoff Rate (cfs)		Peak Runoff Rate (cfs)	
1 Year	9.81		1.67	
10 Year	29.61		5.05	
90% Chance storm	1.45		0.22	
100 Year	66.55		11.29	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Stormwater Management Runoff Table – Proposed Conditions – Pond 4
(West Commercial/Residential Development)

Storm Event	Post Development Drainage Area to Retention Pond Peak Runoff Rate (cfs)	Retention Pond Controlled Discharge Peak Runoff Rate (cfs	Retention Pond High Water Elevation	
	Peak Runoff Rate (cfs)	Peak Runoff Rate (cfs)		
1 Year	1.57	0.44	576.01	
10 Year	3.87	0.90	576.44	
25 year	5.16	1.15	576.68	
90% Chance Storm	0.39	0.11	575.74	
100 Year	7.73	1.53	577.18	

Stormwater Management Runoff Table – Proposed Conditions – Pond 5
(East Commercial / Residential Development)

Storm Event	Post Development Drainage Area to Retention Pond Peak Runoff Rate (cfs)	Retention Pond Controlled Discharge Peak Runoff Rate (cfs	Retention Pond High Water Elevation	
	Peak Runoff Rate (cfs)	Peak Runoff Rate (cfs)		
1 Year	1.13	0.80	575.76	
10 Year	3.38	1.43	576.26	
25 year	4.55	1.70	576.56	
90% Chance Storm	0.29	0.20	575.45	
100 Year	6.90	2.15	577.17	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Total Proposed Combined Discharge Rate for Development South of Town Ditch 26B

Storm Event		Total Combined Discharge Rate for Development North of Town Ditch 26B (cfs) Post Conditions	
1 Year		1.24	(1 yr. pre = 1.67 cfs)
10 Year		2.33	(10 yr. pre = 5.05 cfs)
25 year		2.85	(10 yr. pre = 5.05 cfs)
90% Chance Storm		0.31	(90% chance pre = 0.22 cfs)
100 Year		3.68	(100 yr. pre = 11.29 cfs)

2.4.2 Water Quality Volume (WQ_v)

Area North of Town Ditch

Calculations for the required Water Quality Volume (WQ_v), Channel Protection Volume (Cp_v), Overbank Flood Protection Volume (Q_{p-10}), Extreme Flood Protection Volume (Q_{f-100}) and pretreatment volumes, as outlined in the New York State Stormwater Management Design Manual (SMDM), have been included in Appendix C. The SMDM requires that the volume of water within the forebay or equivalent pretreatment area must be at least 10% of the WQv.

The total required WQ_v for the area discharging to the retention ponds is 0.702 ac-ft (30,580 CF). Under the proposed design, a forebay at the inlets to the retention ponds will provide the required water quality pre-treatment of storm water before entering the retention pond for the final water quality treatment.

For channel protection, the retention pond must provide 24-hour storage of the one-year storm event. The total required required CPv volume is 0.78 ac-ft cfs based on stormwater model calculations. The CPv volume provided by the ponds is 0.806 ac-ft See Appendices E and F.

As of March 1, 2011, the NYSDEC has enacted guidelines to reduce stormwater runoff in order to preserve the natural hydrologic conditions of a site and protect natural resources while still providing water quality treatment and decreasing the cost of long-term operation and maintenance. "Green Infrastructure Techniques" have been introduced in the 2010 release of the New York State Stormwater Management Design Manual (NYS SMDM) which are to be followed in the design of stormwater management facilities on project sites. Several of these techniques have been followed at this site such as preservation of natural

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

areas, reduction in impervious area and impervious disconnection (partial roof downspout system to discharge to rear yard areas that are adjacent to retention ponds).

The overall drainage area was first looked at to consider all area reduction practices. From the 66.8 +/- acre project area, a total of 45.05+/- acres will be left in its natural state. The majority of the 45.05+/- acres (34.84+/- acres) is federally regulated wetland. A portion of the stormwater from roof drains of residential units (those units directly adjacent to the retention ponds) will be directed overland and then into the proposed retention ponds or directly discharge into the retention ponds, acting as an impervious disconnection. The combined commercial/residential structures include bio-retention areas to meet green infrastructure requirements. Calculations for the green infrastructure techniques can be found in Appendix C. The overall Water Quality Volume (WQv) for the project site was calculated to be 0.702 ac-ft. The minimum Runoff Reduction Volume (RRv) calculated for the project site based on the "C/D" soils type is 0.10 ac-ft.

The project includes public roads. The public roads have a reduced ROW width of 52-ft ,this reduces the impervious area of the project. Additionally, a reduction in the overall impervious area was assumed by proposing to have the roof drains of residential units discharge at splash blocks along the building foundations and sheet flow directly across the lawn area, a vegetated and pervious area, which will filter and infiltrate runoff.

The provided RRv (0.202 ac-ft) is greater than the minimum required RRv of 0.10 ac-ft. The remaining water quality volume will ultimately be treated by the NYSDEC Standard Practice of wet retention ponds with pre-treatment forebays. See Appendix C for design calculations on the required sizing for the "green techniques."

Area South of Town Ditch

Calculations for the required Water Quality Volume (WQ_V), Channel Protection Volume (Cp_v), Overbank Flood Protection Volume ($Q_{p\text{-}10}$), Extreme Flood Protection Volume ($Q_{f\text{-}100}$) and pretreatment volumes, as outlined in the New York State Stormwater Management Design Manual (SMDM), have been included in Appendix C. The SMDM requires that the volume of water within the forebay or equivalent pretreatment area must be at least 10% of the WQv.

The total required WQ_V for the area discharging to the retention ponds is 0.13 ac-ft (5,666 CF). Under the proposed design, a forebay at the inlets to the retention ponds, in addition two bio-retention areas and dry swales will provide the required water quality pre-treatment of storm water before entering the retention ponds for the final water quality treatment.

For channel protection, the retention pond must provide 24-hour storage of the one-year storm event. The total required CPv Average Release Rate is 0.22 cfs based on stormwater model calculations. The combined CPv release rate from the ponds is 0.31 cfs. The proposed controlled release rate is slightly higher than the rate under existing conditions. The increase is minimal in nature and the diameter of the discharge control pipe is 8-inches. There is concern for clogging of the outlet pipe if the diameter was decreased. See Appendices E and F.

As of March 1, 2011, the NYSDEC has enacted guidelines to reduce stormwater runoff in order to preserve the natural hydrologic conditions of a site and protect natural resources while still providing water quality treatment and decreasing the cost of long-term operation and maintenance. "Green Infrastructure

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Techniques" have been introduced in the 2010 release of the New York State Stormwater Management Design Manual (NYS SMDM) which are to be followed in the design of stormwater management facilities on project sites. Several of these techniques have been followed at this site such as preservation of natural areas, reduction in impervious area and impervious disconnection (partial roof downspout system to discharge to rear yard areas).

The overall drainage area was first looked at to consider all area reduction practices. From the 5.6 +/- acre project area to the south of Town Ditch 26B, a total of 1.25 acres will be left in its natural state. A portion of the stormwater from a section of roof and areas of asphalt parking will be directed overland and empty into proposed bio-retention areas and dry swales, with final discharge into the proposed retention ponds #4 and #5. Calculations for the green infrastructure techniques can be found in Appendix C. The overall Water Quality Volume (WQv) for the south side of the project site was calculated to be 0.13 ac-ft. The minimum Runoff Reduction Volume (RRv) calculated for the south side of the project site based on the "C/D" soils type is 0.023 ac-ft.

The provided RRv (0.026 ac-ft) is greater than the minimum required RRv of 0.023 ac-ft. The remaining water quality volume (0.13 ac-ft – 0.026 ac-ft) will ultimately be treated by the NYSDEC Standard Practice of wet retention ponds with pre-treatment forebays. See Appendix C for design calculations on the required sizing for the "green techniques."

2.5 Stormwater Conveyance System

Stormwater from the roof drains of the new residential units will be conducted through downspouts that will convey runoff to the on-site piping collection system located within the roadways or discharged to the rear of the lot. In several areas of the development, the downspouts for the roofs will discharge to the lawn area which will serve as a landscaped filter strip area prior to reaching the the proposed retention ponds or the proposed rear yard piped collection system. For the remaining lots, the downspouts for the roofs will be connected and discharge to the roadway system. Catch basins located within the proposed roadways will collect storm water runoff from the associated paved areas. Storm sewers are sized for a 10-year storm event. See Appendix E.

3.0 STORMWATER POLLUTION PREVENTION PLAN COMPONENTS

As part of providing stormwater runoff quality, a Stormwater Pollution Prevention Plan and Detail design drawing has been prepared for this project and is included in Figure 2. Specific temporary and permanent control components are described below:

3.1 Temporary Controls

Temporary Stabilized Construction Entrance/Exit - Temporary construction entrances, will be established at the start of construction to minimize the tracking of soils offsite. During and/or immediately following wet weather events, it may become necessary to wash the tires of construction vehicles, prior to exiting the project site if material is being tracked off-site as determined by the Town and/or NYSDEC.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Equipment/Material Storage - An equipment and material storage area are proposed near the temporary stabilized construction entrance/exit. The location of the storage area may be modified if deemed acceptable, in advance, by the Town. The storage area will be graded to ensure that any material spillage shall be directed away from entering the storm drainage system. In addition, any identified chemical (oil, grease, etc) spills shall be addressed immediately and appropriate local officials contacted if necessary. A construction dumpster will be placed in the storage area to collect site and construction debris. Collected material shall be disposed of at an appropriate landfill on a as needed basis.

Concrete Washout Pit – A temporary concrete washout pit will be installed on the construction site in a location accessible to all construction vehicles. This washout pit shall be utilized to deter spillage/dumping of concrete waste and wastewater onto project site. This concrete washout pit shall be cleaned of accumulated debris on an as needed basis. Debris shall be disposed of at an appropriate landfill.

Temporary Soil Stockpiles – A temporary topsoil and subsoil stockpile area has been designated on the SWPPP Plan. The shape, size and location of the stockpile may be modified by the site contractor if deemed acceptable, in advance, by the Town. The stockpiles shall be perimeter protected with silt fence and seeded as soon as possible to minimize the potential for sediment transport and erosion.

Land Grading/Filling – Material placed during grading and filling operations will be compacted in layers not to exceed 6-inches in structural/embankment areas and layers not to exceed 12-inches in landscape areas. If fugitive dust is generated during construction, a water truck or other watering device will be used to routinely wet the ground surface.

Silt Fence – Silt fence will be constructed as shown on the Storm water Pollution Prevention Plan as a minimum requirement to capture potential sediment-laden runoff. If site conditions warrant, additional silt fence shall be installed in addition to these minimum requirements.

Storm Inlet Sediment Trap – Sediment traps will be installed at all storm inlet locations to prevent the possibility of silting the storm sewer piping and structures during construction. The sediment traps shall be removed upon establishment of vegetation.

3.2 Permanent Controls

Stormwater Retention Ponds – The proposed retention ponds, with forebays, will act in a water quantity and quality capacity. Stormwater runoff from the project site will be directed to the retention pond prior to discharge off-site. Immediately following excavation, the retention pond shall be finish graded and seeded above the normal water surface elevation.

Soil Restoration – in areas of the development where native soils have been disturbed, soil restoration shall take place. This is a practice where the soil will be mechanically de-compacted, and a compost amendment added during the final phases of construction and then vegetated. De-compacting the soil will increase the porosity and enhance permeability and drainage. This will also aid in groundwater recharge. Soil restoration shall adhere to the guidelines in the NYS SMDM.

Rip-Rap Outlet Protection – Rip-rap outlet protection will be placed at the outlet end of the storm pipe entering the retention pond, as well as at the pond outfall pipes, to reduce the velocity of discharging storm

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

water and prevent erosion of the receiving channel. Rock material will meet the requirements for NYSDOT Light Stone Fill.

3.3 Construction Sequence and Maintenance Schedule

3.3.1 Permits

SEQR review for the project will be initiated once the Site Plan package has been submitted for review.

Throughout development of this project, all conditions of the permits noted below will be adhered to:

- SPDES General Permit - 2020 Construction General Permit GP-0-20-001 (See Appendix F)

Due to the overall size of the project more than five (5) acres of soil will be disturbed. It is proposed that the acreage of disturbed soil at any given time will exceed the five (5) acre threshold as per the SPDES Construction General Permit. A written request by the Applicant or Contractor shall be submitted the MS4 (Town of Amherst) to request authorization to disturb the five (5) acre threshold. In addition, bi-weekly Construction Inspections as per the NYSDEC SPDES permit are required to be performed.

3.3.2 Construction Sequence

1. Obtain all necessary shop drawing approvals and applicable permits.
2. Conduct a pre-construction meeting.
3. Perform stakeout of property limits and facilities.
4. Install perimeter silt fencing:
   a. around proposed disturbance area and as shown on SWPPP Plan(s),
   b. around proposed temporary soil stockpiles.
5. Construct equipment/material storage areas
   a. Install the project site construction dumpsters
   b. Install the project site concrete washout pit
   c. Install stabilized construction entrance.
6. Maintain all erosion and sediment control devices throughout the construction period.
7. Engage a Qualified Professional to perform Initial Site Assessment.
8. Construct the retention ponds. Immediately topsoil and seed retention pond above normal water surface elevation and install rip-rapped outlet protection. Install the retention pond outlet piping.
9. Clear, strip, stockpile, and seed topsoil from proposed roadways and storm sewer installation areas including rear yard stormwater drainage areas.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

10. Install stormwater drainage inlets and piping to the retention ponds.

11. Install on-site utilities and install rear yard stormwater drainage inlets and piping.

12. Install pavement and concrete gutter curbs for the proposed roadways.

13. Rough grade areas intended for residential unit development, including placement and compaction of fill as needed.

14. Construct the proposed residential units and individual connections to existing utilities.

15. Final grade the area associated with eh residential units (including topsoil placement), seed and mulch all disturbed areas.

16. Remove sediment traps, silt fence and other erosion control devices after vegetation has been established in stabilized (topsoiled / seeded areas) areas.

17. Upon final stabilization of site and a completion of a final Site Inspection by WSA or another qualified professional, Owner shall file SPDES Notice of Termination (NOT) with NYSDEC. A copy of the blank NOT is included in Appendix G.

3.3.3 Initial Construction Site Assessment (Performed by Qualified Professional)

The Owner shall have Wm. Schutt and Associates (WSA) or another qualified professional conduct an assessment of the site prior to the start of construction and certify in an inspection report that the appropriate erosion and sediment controls described in the SWPPP and required by Part III.D of the SPDES General Permit (2020 Construction General Permit GP-0-20-001) have been adequately installed or implemented to ensure overall preparedness of the site for the start of construction.

3.3.4 Daily Construction Site Maintenance (Performed by Owner / Contractor)

It shall be instituted that at the beginning and end of each day of construction, the site shall be walked for all extraneous material (litter), including review of all storm water outfall locations. All debris shall be picked up and disposed of in an appropriate manner. Construction chemicals shall be stored in an area that is away from any temporary or permanent storm water drainage facilities and in an area that is elevated above ground surface, so that surface water runoff does not deteriorate the associated container/bag. All containers shall be adequately sealed at the end of each workday or at the end of use. Construction debris shall be stockpiles in one particular area within the site that is located away from any permanent or temporary storm drainage facility. All construction debris shall be removed from the site and disposed of in an appropriate manner. The material/equipment storage area shall be monitored on a daily basis for any identified chemical (oil, grease, etc) spills.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

3.3.5 Weekly Construction Site Maintenance Schedule (Performed by Qualified Professional)

1. Verify with the Owner / Contractor that the site is being inspected and maintained on a daily basis as detailed in section 3.3 "Daily Site Maintenance" and perform visual inspection to identify items not conforming to Daily Site Maintenance requirements.

2. All erosion and sediment control practices as shown on the SWPPP plan shall be inspected by a Qualified Inspector at least every 7 calendar days for project sites with less than five (5) acres of disturbance. For sites with greater than five (5) acres, site inspections must occur twice in a 7-day period. Any required maintenance shall be reported to the Owner and completed immediately.

3. Any silt fence that becomes torn shall be replaced immediately. Any sediment deposits in excess of 6-inches shall be removed immediately to maintain adequate storage volume for the next wet weather event and to minimize pressure on the fence.

4. Watering for dust control shall be performed as needed to responsibly control fugitive dust and shall be modified as deemed necessary by Town Code Enforcement Officer or other authorized Town officials.

5. Inspection and maintenance of all inlet protection and stabilized construction entrances shall be performed weekly.

6. Any necessary changes to the SWPPP, reflecting additional measures that may need to be implemented, etc, shall be addressed immediately. The SWPPP, in its most updated form, NOI's and copies of all inspection reports shall be maintained on site and be readily available for review.

3.3.6 Final Construction Site Inspection

Prior to filing the Notice of Termination or the end of the permit term, the Owner shall have WSA, or another qualified professional perform a level 1 final site inspection. The qualified professional shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed.

Once stabilization has been achieved, the level 1 inspection shall include inspection of stormwater practices. All catch basins shall be free from debris and accumulation of sediment. The final inspection report shall be submitted to the Town's stormwater management officer, with the Notice of Termination document.

In addition, the Town MS4 agent shall also perform a final inspection to ensure that the site has achieved final stabilization.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

3.3.7 Post Construction Operation & Maintenance

After all construction has been completed and the stormwater management facilities are operational, operation and maintenance become the responsibility of the Homeowner Association (HOA). The Town of Amherst requires that a Stormwater Maintenance Agreement be instituted between the Town and the HOA. This enforceable maintenance agreement must be established between the local review authority (Town of Amherst) and the HOA to ensure that post construction management practices are in place and maintained.

1. On a quarterly basis, perform the following:
   a. Inspect catch basins, storm piping and retention pond for debris and accumulation of sediment.
   b. Remove and properly dispose of any collected debris from structures
   c. Flush storm sewers with water, if necessary to remove accumulated sediment
   d. Check all stone outfall structures for erosion and re-stone, if necessary to prevent further erosion
   e. Inspect grassed/landscaped areas for un-vegetated areas or areas with less than 80% healthy stand of grass and reseed and mulch as necessary. Water areas daily if reseeded through July and August.

2. Maintain all lawn areas by regular mowing, including the grassed slopes of the wet pond. Any eroded areas shall be re-graded, seeded and mulched immediately. The private homeowners shall maintain all lawn areas by regular mowing, including the grassed slopes of the retention ponds and grassed filter strip area that fall within their property lines. Any eroded areas shall be re-graded, seeded and mulched immediately.

3. The retention ponds and forebays shall be inspected annually. When the depth of the retention ponds at center measures 6.0-ft or less, sediment shall be removed to restore the original 8.0-ft minimum depth below normal water surface elevation.

4. Sediment should be removed from the forebays a minimum of every six years or when the depth of the forebays at center measures 2.5-ft or less. Sediment shall be removed to restore original minimum depth.

3.4 Owner Responsibilities

The responsible party for implementation of all components of the Stormwater Pollution and Prevention Plan (SWPPP) will be Cimato Enterprises, Inc. (Owner/Operator) represented by Mr. Fred Cimato. Mr. Cimato and his representatives will be responsible for meeting the requirements as defined within this SWPPP and the conditions of the SPDES General Permit (2020 Construction General Permit GP-0-20-001). These responsibilities include but are not necessarily limited to the following:

a. Owner shall have an initial site assessment performed prior to start of construction (refer to section 3.3)

b. Owner shall ensure that daily site maintenance (see section 3.4) and weekly maintenance (see section 3.5) requirements are met

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

c. Owner shall notify all contractors and subcontractors of the required practices and will also be responsible for making sure that Wm. Schutt and Associates or another qualified professional (as defined by the SPDES General Permit) completes the required inspection services

d. Owner shall ensure that the SWPPP is kept current and is amended whenever there is a significant change in design, construction, operation or maintenance or if the SWPPP proves to be ineffective or when any new contractor or subcontractor will be implementing any measures of the SWPPP (see also section 3.5, item #5)

e. Owner shall ensure that all inspection reports are maintained in a site logbook, that a current copy of the SWPPP, NOI and other related documentation are kept on-site and are readily available for review by NYSDEC, the Town or other interested party from the date of initiation of construction activities until the date of final site stabilization

f. Owner shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis

g. Owner shall prepare a written summary of its status with respect to compliance with the SPDES General Permit at least once every three (3) months during which coverage under the permit exists. The summary should address the status of achieving each component of the SWPPP

h. Upon final site stabilization, Owner shall have a final site inspection performed (see section 3.3.6)

i. Owner shall file a Notice of Termination (NOT) with NYSDEC identifying the termination of permit coverage (a copy of a blank NOT is included in Appendix G). The NOT form shall be signed by the Qualified Inspector, MS4 agent and Owner

j. Owner shall retain copies of all SWPPP and related documentation for a period of at least five (5) years from the date that the site is finally stabilized

k. Owner shall ensure that all post construction operation and maintenance procedures are followed as described in Section 3.3.7.

4.0 SANITARY FACILITIES

4.1 Design Criteria/Standards

The sanitary facilities for the project are designed in accordance with the following:

a. "Recommended Standards for Sewage Works" (GLUMRB)

b. Town of Amherst Design and Construction Standards

c. Erie County Health Department Sewer Design and Construction Standards

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4.2 Proposed System

The proposed sanitary sewer system to service the proposed mixed-use development will consist of approximately 4,670+/- linear feet of private 8-inch PVC (SDR-35) sanitary sewer and twenty-seven (27) private sanitary sewer manholes. The sanitary sewer system is proposed to connect to the existing Town of Amherst 10-inch public force main (10-inch) along the south side of Millersport Hwy. From this connection point, wastewater is directed through the public collection system to the Town of Amherst Wastewater Treatment Plant.

The private sanitary sewer system within the development will collect and direct wastewater to a proposed private wastewater pump station, located southeast of the intersection of Local Road "A" and Local Road "B", which will then pump wastewater to the existing10-inch public force main along the south side of Millersport Hwy.

Prior to proposing a private wastewater collection and pump system within the development, numerous discussions were undertaken with the Town. It was determined by the Town that to move forward with the proposed project, the Owner would need to pursue an Out-of-District agreement with the Town Consolidated Sewer District, as the project site falls beyond the limits of the existing district. The process of requesting an Out-of-District agreement started by completing a downstream capacity analysis to determine existing conditions within the system. The Owner contracted with TECsmith to monitor sanitary sewer flows at several nodes within the collection system.

The resulting collected data was analyzed, and a summary report generated. That summary report was issued to the Town of Amherst and NYSDEC for review and was subsequently accepted. The Town then approved the request for an Out-of-District service agreement on October 1, 2023. (See Appendix J)

The Owner of the proposed development has committed to Infiltration / Inflow mitigation, as required based on future flow contributions from the proposed development. (See Appendix J).

At full build out, the maximum daily flow to the private wastewater pump station is station is 84.6 gpm. The base flow capacity of an 8-inch sanitary sewer based on Manning's Formula using n = 0.013, and S = 0.4% is equal to 345.6 gpm. Comparing the peak flow to the station,84.6 gpm, to the capacity of the proposed 8-inch pipe, the connecting pipe is sufficiently sized.

Per the analysis completed, a duplex pump station is proposed with each pump utilizing a 2-inch guide rail and 4-inch diameter discharge. Based on the calculations performed (refer to Appendix N), it was determined that one 10-ft diameter wet well is needed to provide the necessary volume required at the proposed duplex wastewater pump station. A 6-ft by 6-ft valve pit (located downstream of the wet well) will utilize 4-inch diameter components. Buoyancy calculations have also been included in Appendix O.

To maintain adequate cleansing velocities, while trying to economize horsepower requirements, it was determined that a 4-inch force main is required. The wet well will have two 4-inch discharge pumps, each operating at 20.0 HP. From the pump station, flow will be directed to a valve pit. The valve pit is a 6-ft by 6-ft structure. From the valve pit, wastewater will be directed through approximately 600-ft of 4-inch diameter force main, in a southerly direction, boring Millersport Hwy and connecting into the existing 10-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

public force main on the south side of the road. The proposed force main will be installed at a typical depth of 4.5-ft and includes placement of a force main markers at every horizontal change in alignment and a maximum separation distance of 500-ft

The private wastewater pump station and associated force main are to be constructed and tested using materials and methods in accordance with Town of Amherst standards

The pumps within the pump station will have an ultimate capacity of two times the peak flow rate. The head loss calculation through the 600-ft of force main, as well as volume requirements is based on the ultimate flow rate. Also, based on utilizing a standby generator, a 4-ft depth has been incorporated between the high-water alarm and the lowest pipe invert directing wastewater into the wet well. (Refer to Appendix N).

In addition, sizing the pumps has taken into account overcoming the upstream pressure within the existing 10-inch forcemain.

North of the proposed development area, along Millersport Highway, is an existing wastewater pump station. That pump station was designed as part of a Sanitary Sewer Master Plan and Pump Station Design that included the comprehensive Dockside Village Apartment Project. The existing pump station design included a 10-inch force main that travels southerly along the east side of Millersport Highway. The force main empties into a 12-inch gravity sanitary sewer along Hopkins Road. The pump station was initially private but has since been taken over by the Town .

Sizing the pumps within the 4300 Millersport Hwy project has taken into account overcoming the pressure within the downstream existing 10-inch forcemain. Also, the proposed connection cannot negatively impact the existing Dockside pump station.

JM Davidson was contracted with to analyze these design concerns. The resulting memorandum produced by JM Davidson is included in Appendix P.

4.3 Design Basis - Proposed Traditional Neighborhood Development

Average Daily Flows	
PHASE 1	
Patio Homes - 38 homes	
Bedrooms per home =	*2*
*Total number of bedroom (2*38) =*	*76*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow (76*110) =	***8,360 gpd***
Four Unit Town Homes – 7 buildings	
Bedrooms per unit =	*2*
*Total number of bedrooms (7 * 4 *2) =*	*56*
Flow rate per Bedroom =	*110 gpd*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Average Daily Flow (56 *110) =	***6,160 gpd***
Two Unit Town Homes - 6 buildings	
Bedrooms per unit =	*2*
*Total number of bedrooms = (6 *2 *2)*	*24*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow = (24 *110)	***2,640 gpd***
PHASE 2	
MIXED USE BUILDING #1 – 11,000 sf footprint	
First floor commercial space – 11,000 sf	
Average daily flow = (0.1 gpd * 11,000 sf)	***1,100 gpd***
Employees =	*28*
Average daily flow = (15 gpd * 28)	***420 gpd***
Second Floor apartments =	*11*
Bedrooms per apartment =	*2*
*Total number of bedrooms = (11*2)*	*22*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow = (22 *110)	***2,420 gpd***
Third Floor apartments =	*11*
Bedrooms per apartment =	*2*
Total number of bedrooms =	*22*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow = (11* 110)	***2,420 gpd***
PHASE 3	
MIXED USE BUILDING #2 – 11,000 sf footprint	
First floor commercial space – 11,000 sf	
Average daily flow = (0.1 gpd * 11,000 sf)	***1,100 gpd***
Employees =	*28*
Average daily flow = (15 gpd * 28)	***420 gpd***
Second Floor apartments =	*11*
Bedrooms per apartment =	*2*
*Total number of bedrooms = (11*2)*	*22*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow = (22 *110)	***2,420 gpd***
Third Floor apartments =	*11*
Bedrooms per apartment =	*2*
Total number of bedrooms =	*22*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow = (11* 110)	***2,420 gpd***

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TOTAL AVERAGE DAILY FLOW (Phases 1 thru 3)	***29,880 GPD***
Peak Daily flow	
Population (P) =	*299 people*
P = Population / 1,000 = 299 / 1,000	*0.299*
Peak Factor = Qmax/ Qavg = (18+(P)^1/2) / (4+(P)^1/2)	*4.079*
Peak Daily Flow = Avg. Daily Flow X Peak Factor	***121,880 gpd 84.6 gpm (over 24 hours)***

5.0 WATER SERVICES

5.1 Design Criteria/Standards

The combined public / private water distribution system is designed in accordance with the following standards:

- "Recommended Standards for Water Works" (New York State Department of Health Bulletin No. 42).
- Erie County Health Department Standards and Specifications
- Erie County Water Authority (ECWA) Specifications

5.2 Existing System

The mixed-use development will receive water service via a connection to existing Erie County Water Authority (ECWA) waterlines along Smith Road and Millersport Highway.

The Erie County Water Authority (ECWA) performed flow tests on the existing lines as summarized below:

Flow Test Data:

Test Date	Location	Main Size	Static Pressure (psig)	Residual Pressure (psig)	Measured Flow (gpm)
04/20/21	K03C61 Millersport Hwy	10-inch	95	80	2,521
04/20/21	K03G01 205 Smith Rd	8-inch	94	87	1,501

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

5.3 Proposed System

Waterline installation for the proposed development will include a public 8-inch watermain system. Local Roads A, B , C and D will include 3,280+/- lf of public waterline, with Local Road A connecting to the Smith Rd waterline and Local Rd B connecting to the Millersport Hwy waterline. The waterline analysis completed looks at the available flow and pressures when looking at peak domestic and fire flows, under two conservative scenarios. One set of calculations looks at connection to the Millersport Hwy waterline, independently and the second set of calculations looks at an independent connection to the Smith Road waterline. .

Additionally, six (6) public hydrant assemblies and eight (8) public 8-inch gate valves will be installed as part of the water distribution and fire protection system.

Water mains, hydrants, valves, bends, fittings, etc., are to be constructed using materials and methods in accordance with ECWA construction specifications and standard details. All testing of the water system will also be in accordance with the ECHD requirements. The water system in the Town of Amherst is leased managed to the ECWA but the water system for the development will be a combination public/ privately owned system. The project's proposed private watermain will be owned, operated and maintained by the development's Homeowner's Association after construction is complete.

5.4 Design Basis

Using the existing pressures and flow rates provided by the ECWA and a peak water demand of 3 gpm for each residential unit (122 at full build out) for the proposed development (366 gpm) and a C-factor of 100 the pressures calculated are summarized below. A 1100 gpm fire demand flow rate was analyzed as well. The calculated pressures are summarized below:

It has been determined that the existing water mains have adequate flow and pressure to supply the peak domestic demand and fire demand required by the new development, while maintaining a minimum pressure in excess of 20 psi (see Appendix K).

Based on the above criteria, the following design flows are:

<u>Pressure @ Computed Peak Domestic Demand (366 gpm) and Fire Demand (1186.4 gpm) – Using Smith Road connection point</u>

Lowest resulting pressure at end of 8-inch public watermain along Local Road "C" - peak daily	90.71 psi
Pressure at end of 8-inch public watermain along Local Road "C" - fire flow	68.84 psi

<u>Pressure @ Computed Peak Domestic Demand (366 gpm) and Fire Demand (1100 gpm) – Using Millersport Hwy connection point</u>

Pressure at end of 8-inch public watermain along Local Road "D" - peak daily	86.76 psi
Pressure at end of 8-inch public watermain along Local Road "D"- fire flow	46.35 psi

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

5.5 Permits/Applications

It has been determined that the existing water mains have adequate flow and pressure to supply the peak domestic demand and required fire flow for the traditional neighborhood development, while maintaining a minimum pressure in excess of 20 psi (see Appendix K).

Water mains, valves, bends, fittings, etc., are to be constructed using materials and methods in accordance with the ECWA waterline construction specifications and standard details. All testing of the water system will also be in accordance with the ECWA and NYSDOH requirements. Water Service construction will require a permit from the ECWA. The backflow prevention plan will be submitted to the ECWA for review/approval.

6.0 PROJECT ADMINISTRATION

6.1 Submittal/Review Process

- Fourteen (14) complete sets of Site Plan Design Drawings and four (4) Engineering Reports will be submitted to the Town of Amherst Planning Department for review, distribution and final acceptance.
- One (1) set of design plans and engineering reports will be submitted to the NYSDOT for review and approval.
- One (1) set of design plans and engineering report will be submitted to the EC Hwy Dept for review and approval
- Two (2) sets of design plans and engineering reports will be submitted to the Erie County Water Authority for review and approval.

6.2 Technical Questions

Technical questions concerning data presented herein or concerning respective engineering drawings and details should be addressed to:

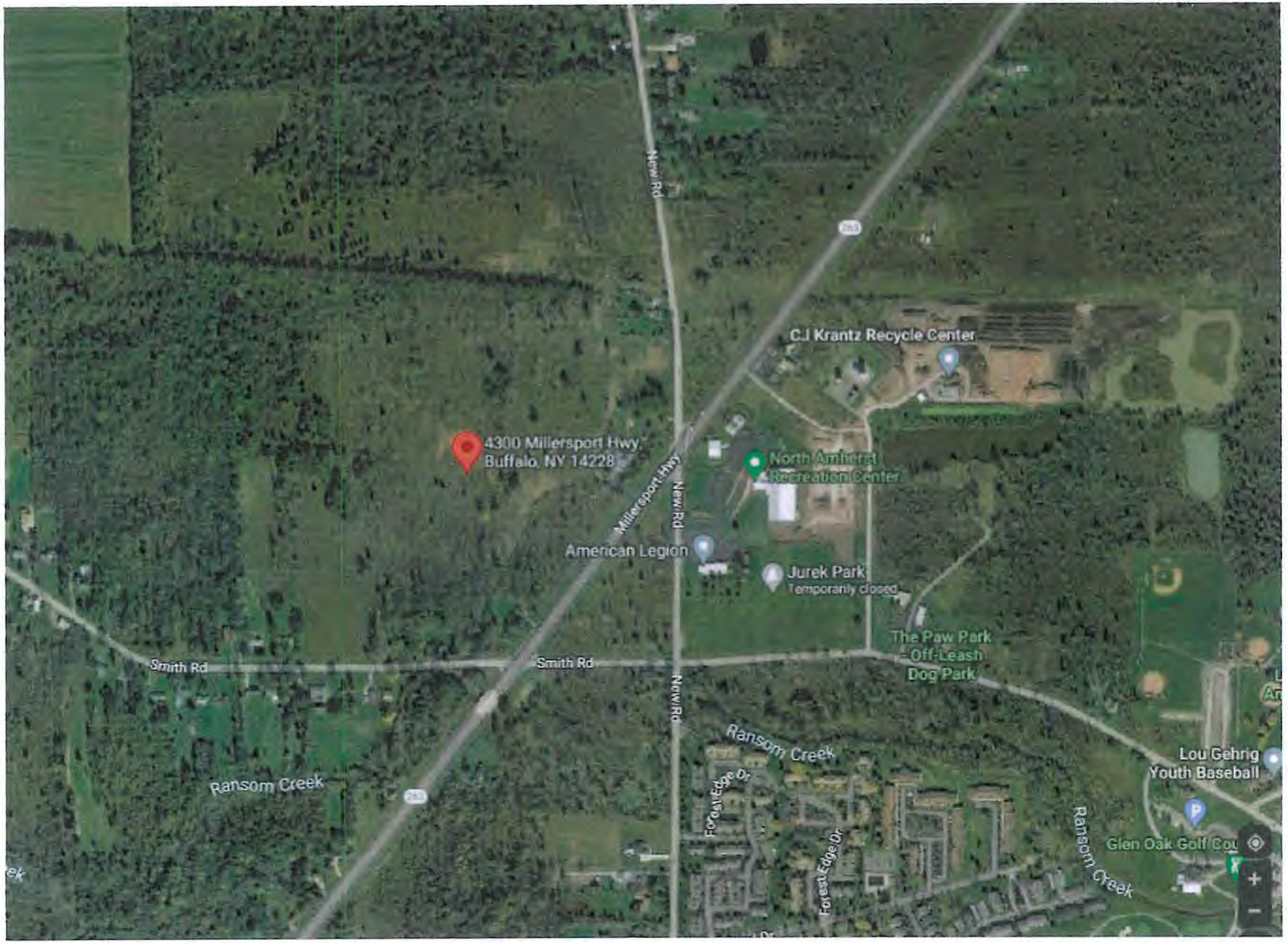
Wm. Schutt & Associates, P.C.
37 Central Avenue
Lancaster, New York 14086-2143
Tel: (716) 683-5961
Fax: (716) 683-0169
Email: wsa@wmschutt.com

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

FIGURE 1

PROJECT LOCATION MAP

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

FIGURE 2

PLAN SHEETS

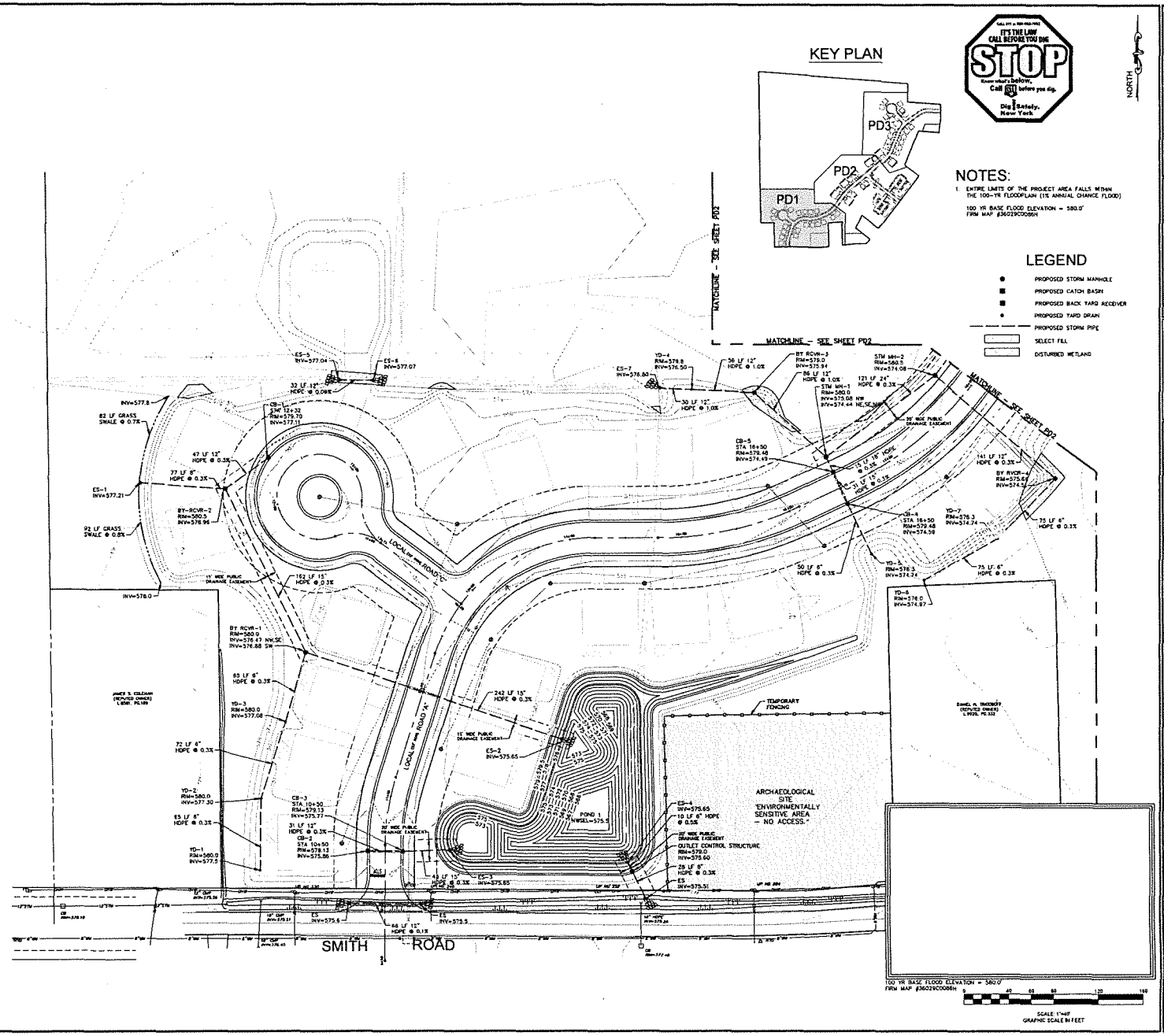
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

GRADING/PAVING/STORM NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF AMHERST STANDARD CONSTRUCTION SPECIFICATIONS WHERE APPLICABLE AND/OR SUBJECT TO THE LATEST REVISIONS AS APPROVED BY TOWN ENGINEER.
2. CONTRACTOR REQUIRED TO OBTAIN PERMIT FROM THE ERIE COUNTY HIGHWAY DEPARTMENT FOR ANY AND ALL WORK WITHIN ROW OF MILLERSPORT HIGHWAY AND SMITH ROAD.
3. ANY DAMAGE CAUSED BY CONTRACTORS OPERATIONS TO EXISTING PAVEMENT, SHOULDERS, DRIVES AND/OR STORM DRAINAGE FACILITIES SHALL BE REPAIRED OR REPLACED IN KIND BY THE CONTRACTOR AND SHALL BE ACCEPTABLE TO THE OWNER OR AGENCY HAVING JURISDICTION.
4. THE CONTRACTOR SHALL TAKE ANY AND ALL PRECAUTIONS NECESSARY TO PROTECT TREES AND SHRUBBERY FROM DAMAGE, UNLESS SPECIFICALLY ORDERED FOR CLEARING. THE CONTRACTOR SHALL PROVIDE AND PLAT REPLACEMENT TREES OR SHRUBBERY AT HIS EXPENSE.
5. THE CONTRACTOR SHALL BE AWARE THAT SOIL CONDITIONS ARE UNKNOWN AND ASSUMED TO VARY AT DIFFERENT DEPTHS AND LOCATIONS.
6. ALL ROAD AND DRIVE CROSSINGS SHALL BE BACKFILLED WITH NO.2 RUN OF CRUSHER STONE PLACED IN 6-INCH LIFTS AND PROPERLY COMPACTED. SELECT BACKFILL MATERIAL SHALL EXTEND A MINIMUM OF 5-FEET BEYOND EDGE OF PAVEMENT.
7. MANHOLE RIMS AND WATER MAIN VALVE BOXES SHALL BE SET A MINIMUM OF 1-INCH ABOVE FINISHED GRADE.
8. DURING GRADING OPERATIONS, EXCAVATION AREAS, EMBANKMENTS AND/OR SUBGRADES SHALL BE SHAPED, SLOPED, PROTECTED AND MAINTAINED TO FACILITATE THE DRAINAGE OF SURFACE WATER. EXISTING DRAINAGE ROUTES AND FACILITIES SHALL BE PROTECTED AND MAINTAINED.
9. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL STATUTES REGARDING THE PREVENTION AND ABATEMENT OF SOIL EROSION, SEDIMENTATION AND WATER POLLUTION.

GENERAL NOTES

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF AMHERST, CONSTRUCTION SPECIFICATIONS WHERE APPLICABLE AND/OR SUBJECT TO THE LATEST REVISIONS BY THE TOWN ENGINEER. ALL SITE WORK TO CONFORM TO TOWN OF AMHERST AND OWNER'S CODES, REQUIREMENTS AND STANDARD SPECIFICATIONS. ANY PERMITS AND/OR LICENSES NECESSARY FOR THE EXECUTION FOR THE WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER AND TOWN OF AMHERST OF ANY HAZARDOUS SUBSTANCE ENCOUNTERED DURING THE CONSTRUCTION OF THE WORK. HE SHALL AT HIS EXPENSE, CONFORM TO ALL LAWS, RULES, REGULATIONS AND DIRECTIONS AS PROMULGATED BY THE UNITED STATES DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH AND ANY SUCH LOCAL RULES, ORDINANCES AND LAWS WHEN ENCOUNTERING OR WORKING WITH ANY SUCH HAZARDOUS SUBSTANCE.
3. THE CONTRACTOR SHALL COMPLY IN ALL RESPECTS TO THE INDUSTRIAL CODE PART (RULE NO.) 53 RELATING TO CONSTRUCTION, EXCAVATION AND DEMOLITION OPERATIONS AT OR NEAR UNDERGROUND FACILITIES, AS ISSUED BY THE STATE OF NEW YORK DEPARTMENT OF LABOR - BOARD OF STANDARD AND APPEALS.
4. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AHEAD OF THE PIPE LAYING OPERATION, SO THAT, IF MINOR ADJUSTMENTS MUST BE MADE IN ELEVATION AND/OR ALIGNMENT DUE TO INTERFERENCE FROM OTHER UTILITIES, SAID CHANGES CAN BE MADE IN ADVANCE OF THE WORK.
5. UNSUITABLE MATERIALS SUCH AS FROZEN ORGANIC AND/OR VEGETABLE MATERIAL, DEBRIS, TREES, LUMBER, LARGE STONES OR CLODS (6.0" OR LARGER), MUCK, PEAT, ORGANIC SILT WILL NOT BE ACCEPTABLE FILL AND CERTAIN MAN-MADE DEPOSITS OF INDUSTRIAL WASTE, SLUDGE OR LANDFILL MAY ALSO BE DETERMINED AS UNSUITABLE HAZARDOUS MATERIAL AND SHOULD BE DISPOSED OF AT A LOCATION APPROVED BY NYSDEC.
6. THE COMPACTION OF ALL MATERIALS WILL OCCUR AT 6" INCREMENTS. (UNLESS OTHERWISE NOTED).
7. ALL PIPE CROSSING UNDER PAVED AREAS ARE TO BE BACKFILLED TO SUBGRADE WITH COMPACTED RUN OF CRUSHER STONE 2-1/2" MAX. TO MIN. FIVE (5) FEET OUTSIDE THE PAVEMENT EDGES.
8. CAST IN PLACE CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF N.Y.S.D.O.T. STANDARD SPECIFICATION SECTION 501 FOR PORTLAND CEMENT CONCRETE.
9. CATCH BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH N.Y.S.D.O.T. STANDARD SPECIFICATION 604.
10. ALL NEW STORM SEWERS TO BE HIGH DENSITY POLYETHYLENE PIPE (HDPE) WITH ANNULAR CORRUGATIONS, SMOOTH BORE ADS N-12 STORM SEWER OR EQUAL, UNLESS NOTED.
11. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS (IE. CURB CUTS, ETC.) FOR THE PROJECT.
12. FILL SHALL BE INSTALLED AND SATISFACTORILY COMPACTED PRIOR TO THE INSTALLATION OF WATER AND SEWER (TYP.). COMPACTION MUST RECEIVE APPROVAL BY THE CONSTRUCTION MANAGER.
13. CONTRACTOR MUST REPLACE CONCRETE SIDEWALKS IN ACCORDANCE WITH TOWN SPECIFICATIONS.



DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/19/24	ADDED PUBLIC EASEMENTS

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

PAVING AND DRAINAGE PLAN

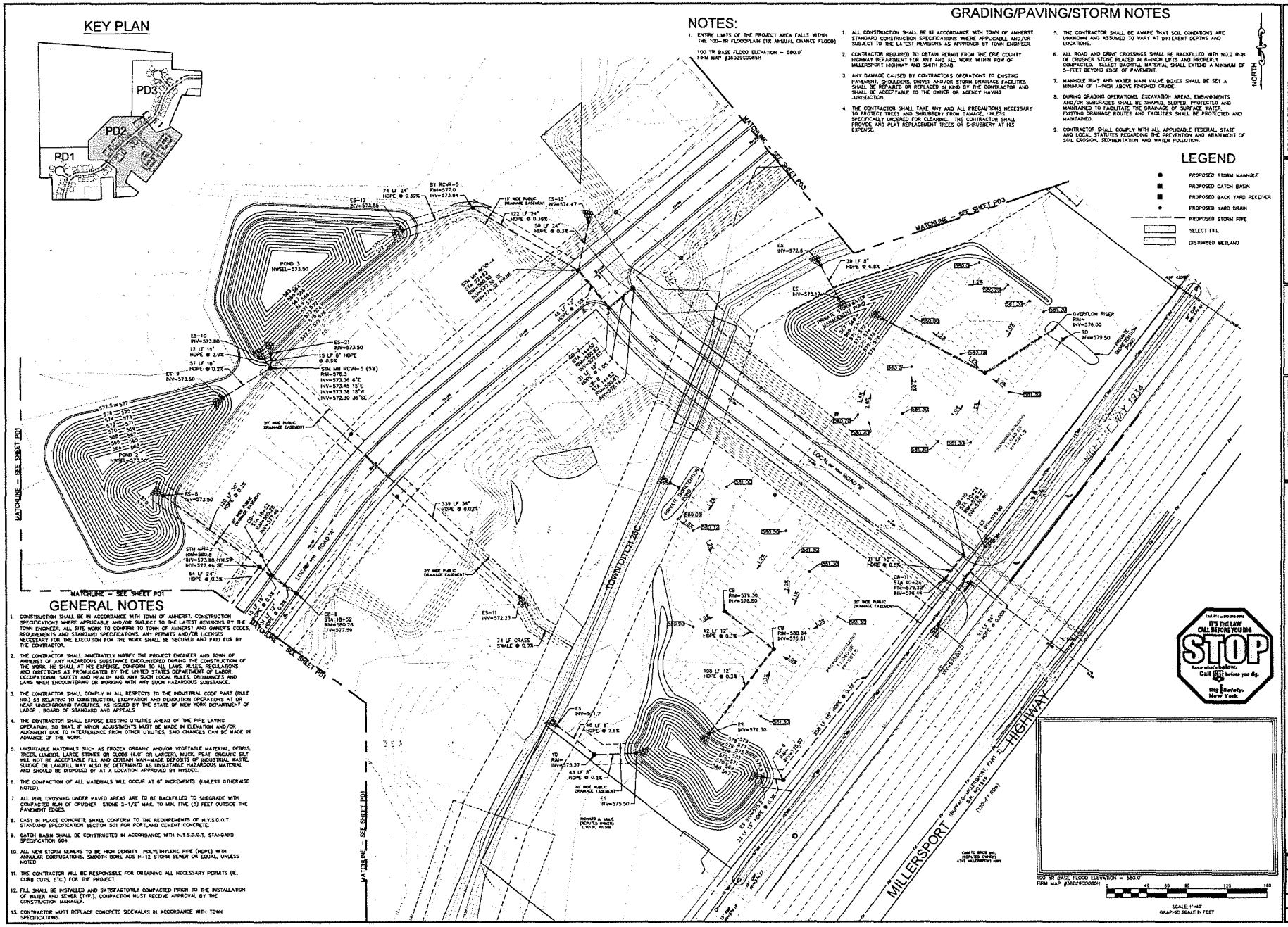
THIS SHEET ISSUED APRIL 19, 2024

PD1

DRAWING SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/29/24	ADDED PUBLIC EASEMENTS

DESIGNED BY: PMG
DRAWN BY: DLS
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DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

PAVING AND DRAINAGE PLAN

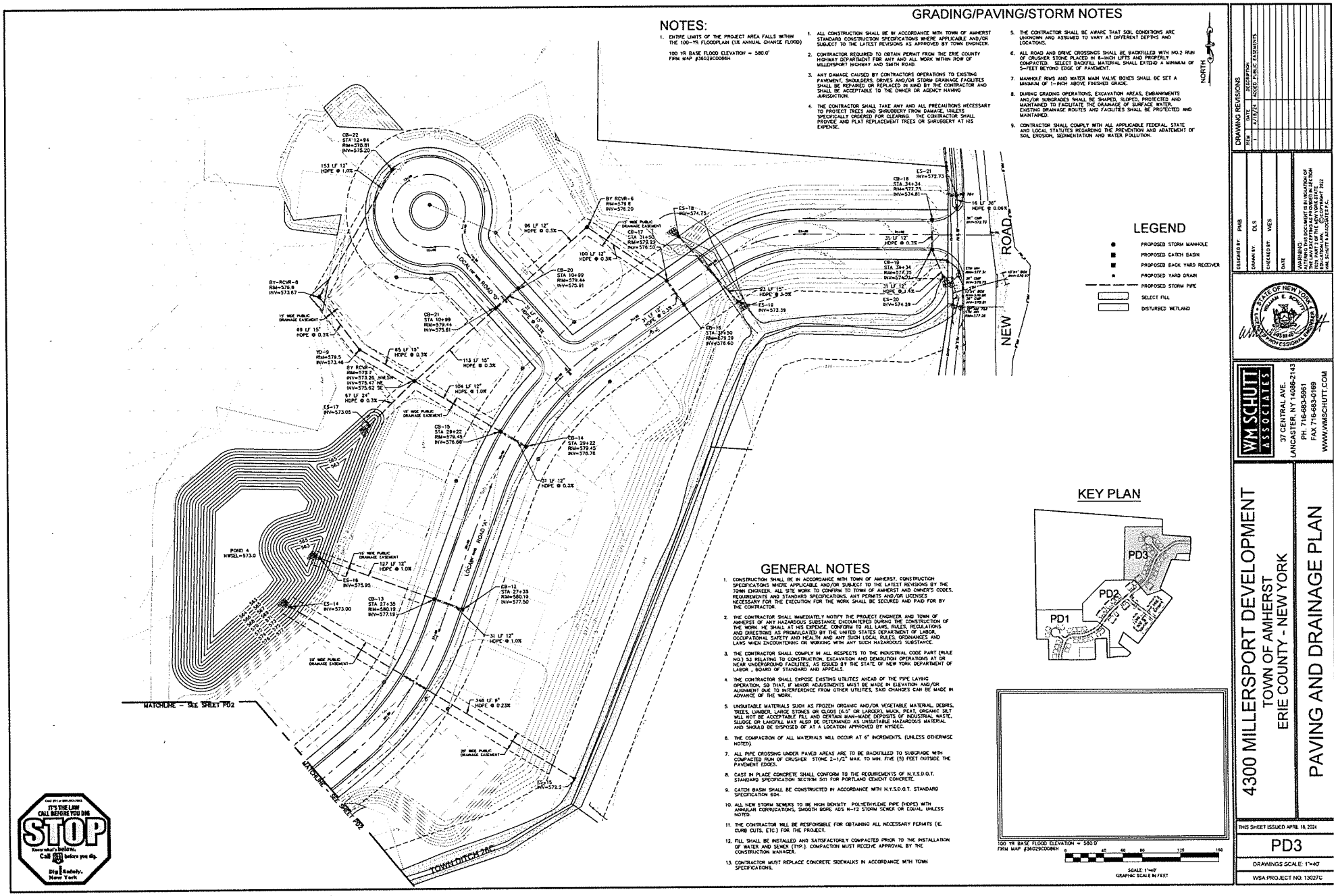
THIS SHEET ISSUED APRIL 18, 2024

PD2

DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



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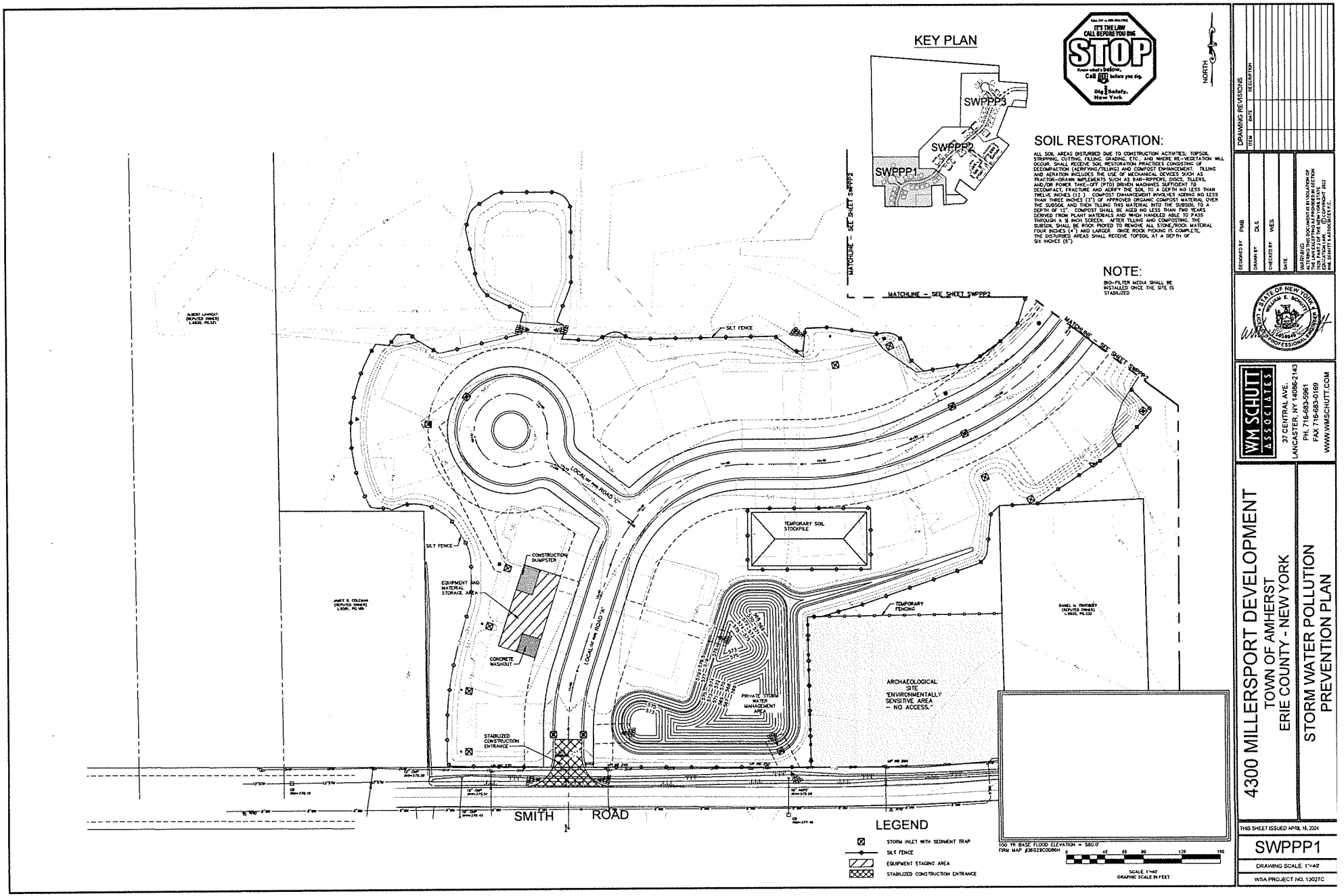

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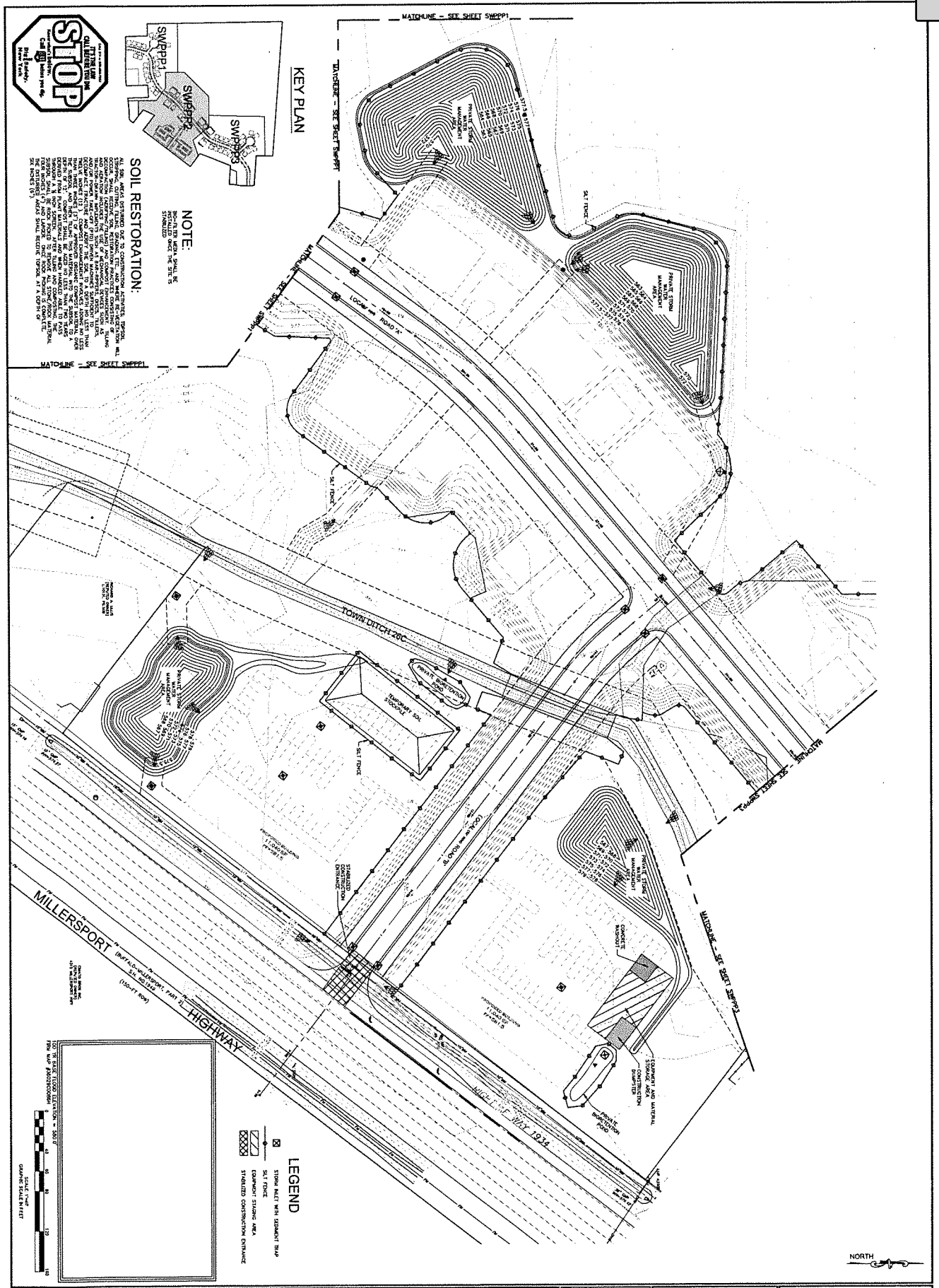

4300 MILLERSPORT DEVELOPMENT

TOWN OF AMHERST
ERIE COUNTY - NEW YORK

STORM WATER POLLUTION PREVENTION PLAN

SWPP2

THIS SHEET ISSUED April 14, 2022

DRAWINGS SCALE 1"=40'

WM PROJECT NO. 13021C

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DESIGNED BY: PMB
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ITEM	DATE	DESCRIPTION

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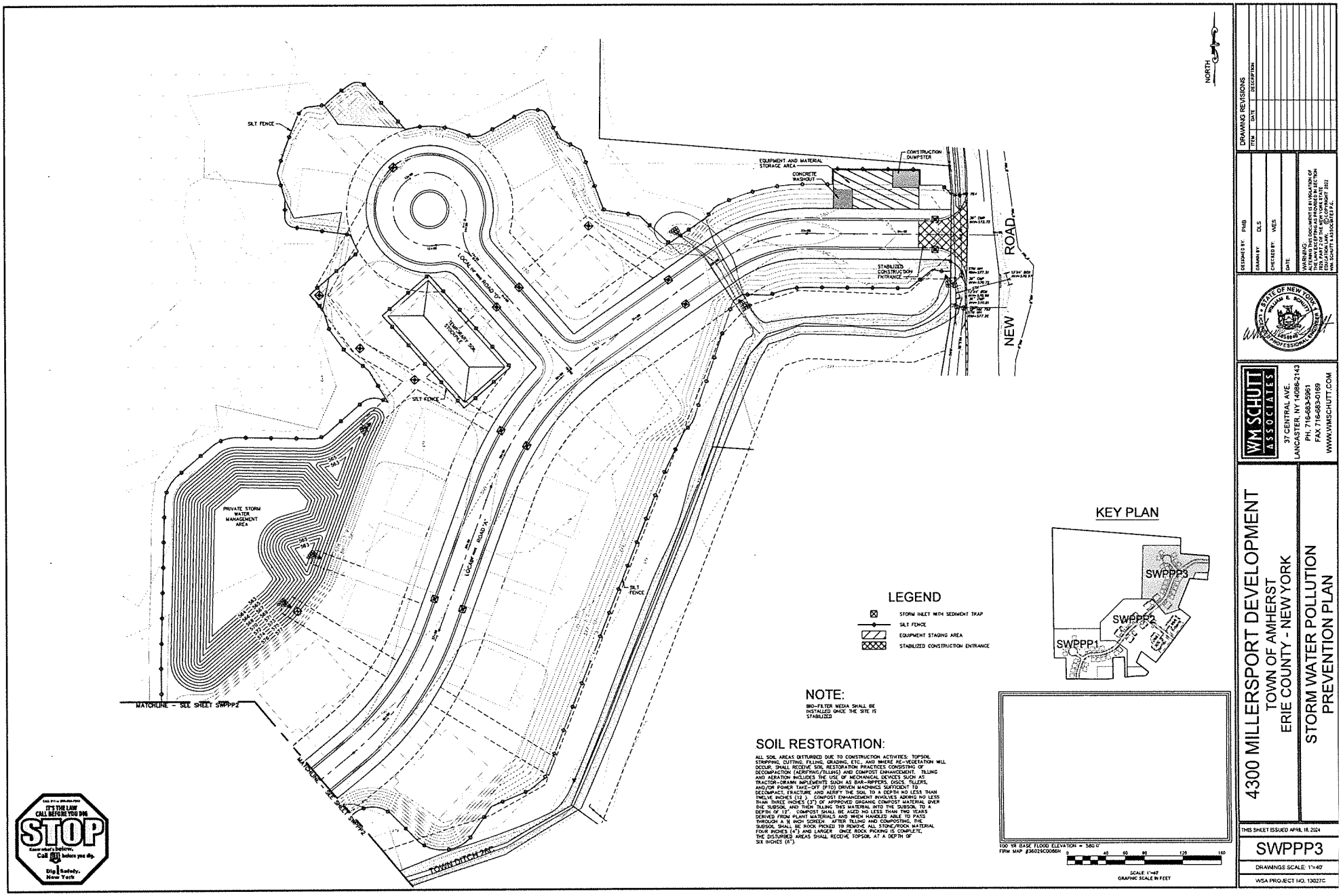

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ITEM	DATE	DESCRIPTION

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STATE OF NEW YORK
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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

STORM WATER POLLUTION PREVENTION PLAN

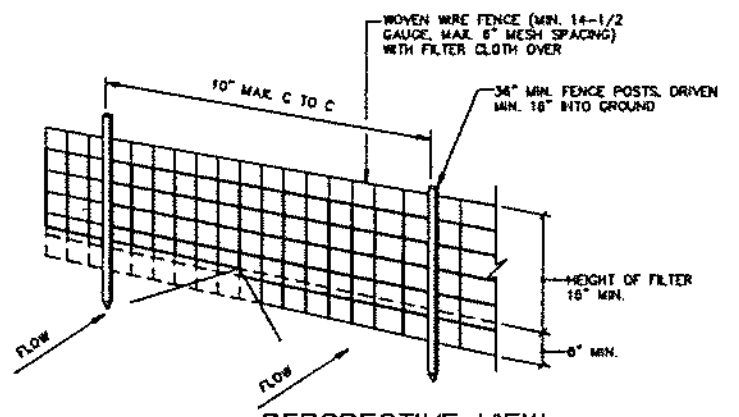
THIS SHEET ISSUED APRIL 18, 2024

SWPPP3

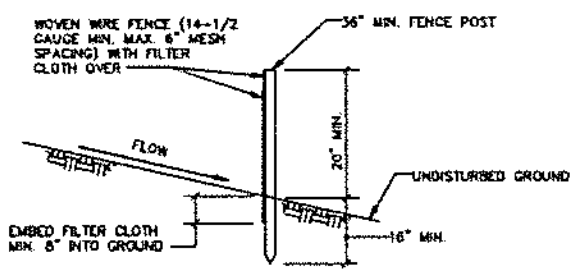
DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



PERSPECTIVE VIEW



SECTION

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1.) WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2.) FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3.) WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4.) MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE.

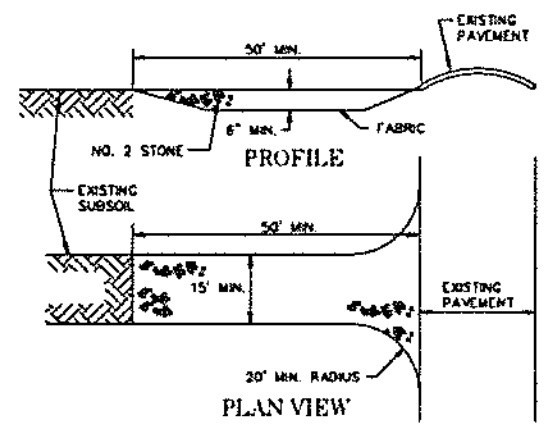
POSTS: Steel either T or U type or 2" hardwood.

FENCE: Woven wire, 14-1/2 Ga. 6" max. mesh opening.

FILTER CLOTH: Filter x, Mirafi 100x, Stabi-Linka T140N or approved equal.

PREFABRICATED UNIT: Geofab, Envirofence, or approved equal.

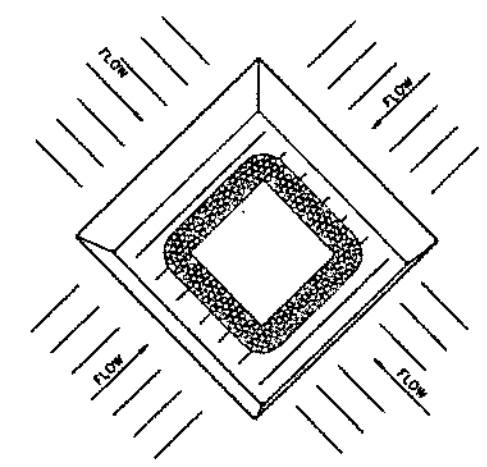
SILT FENCE DETAIL



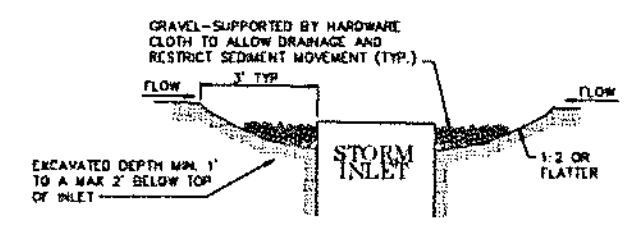
CONSTRUCTION NOTES

1. STONE SIZE – NO. 2 STONE
2. LENGTH – NOT LESS THAN 50 FEET
3. THICKNESS – NOT LESS THAN SIX (6) INCHES AFTER STRIPPING TOPSOIL.
4. WIDTH – TWENTY (20) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE FABRIC – WILL BE PLACED OVER THE ENTIRE AREA AFTER TOPSOIL IS STRIPPED AND PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED UNDER ENTRANCE IF POSSIBLE. SIZE PIPES AS DETERMINED BY AGENCY HAVING JURISDICTION.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN EQUIPMENT WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE



STORM INLET PLAN

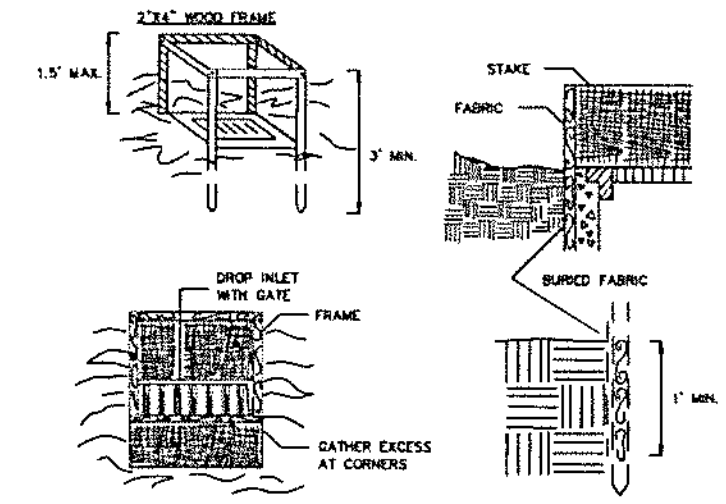


SECTION

CONSTRUCTION NOTES

1. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO A 6" DEPTH.
REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
2. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND CLEANED.
3. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.
4. ALL CUT SLOPES SHALL BE 2:1 OR FLATTER.

DROP INLET PROTECTION DETAIL

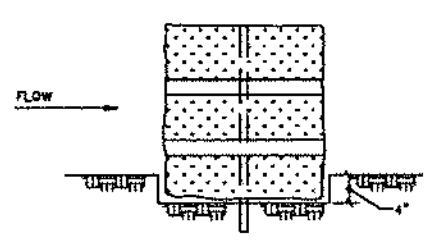


CONSTRUCTION SPECIFICATIONS

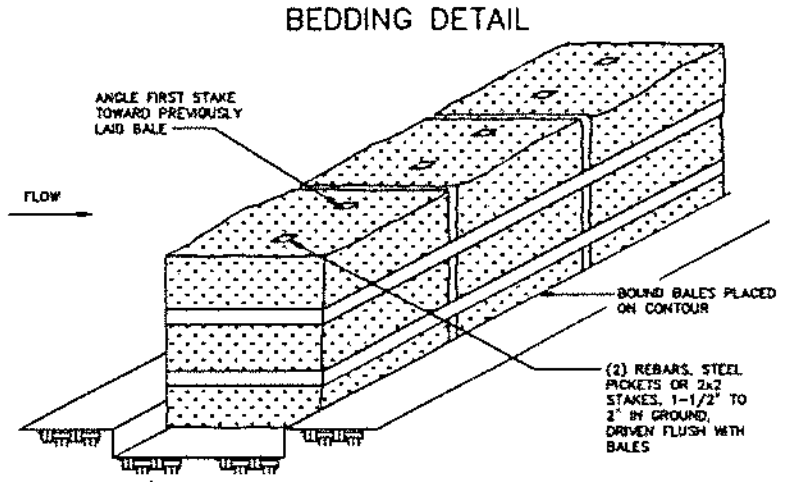
1. FILTER FABRIC SHALL HAVE AN EOS OF 40–85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

MAXIMUN DRAINAGE AREA 1 ACRE

FILTER FABRIC DROP INLET PROTECTION



BEDDING DETAIL

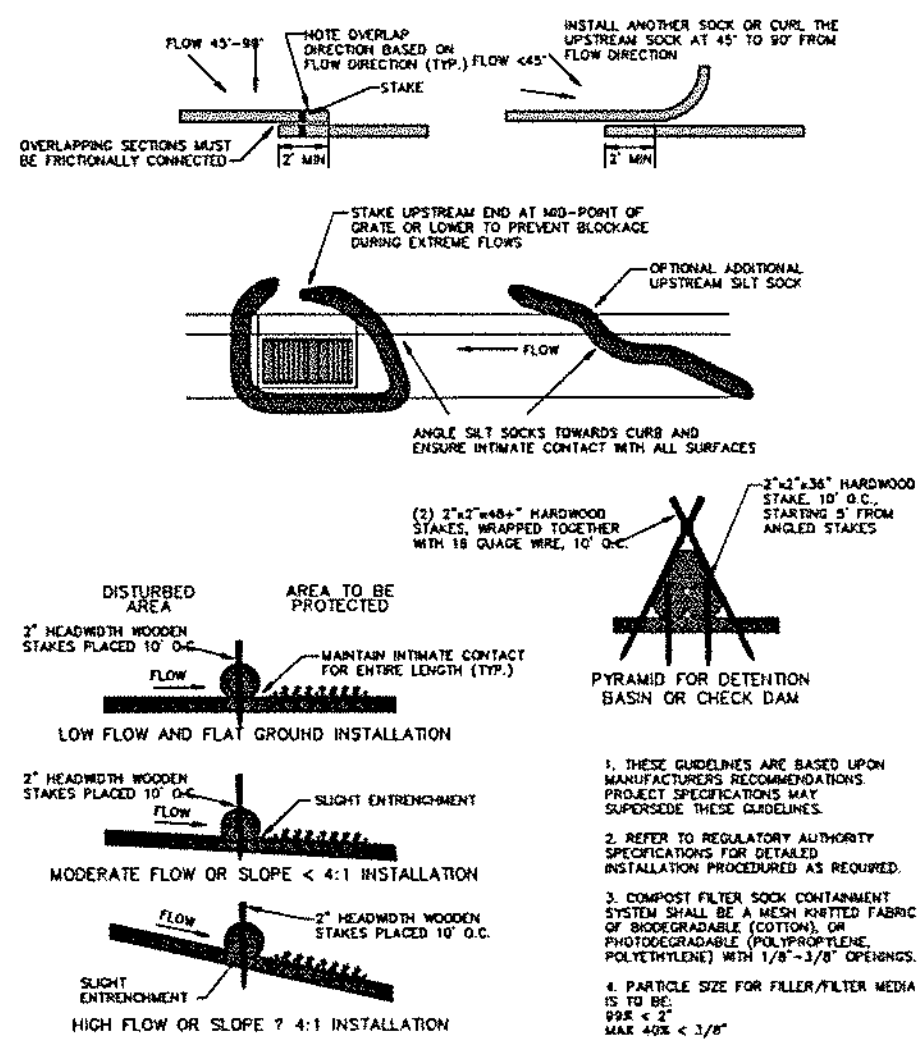


ANCHORING DETAIL

CONSTRUCTION SPECIFICATIONS

1) BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2) EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4 INCHES AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3) BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4) INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5) BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAW BALE DIKE DETAIL



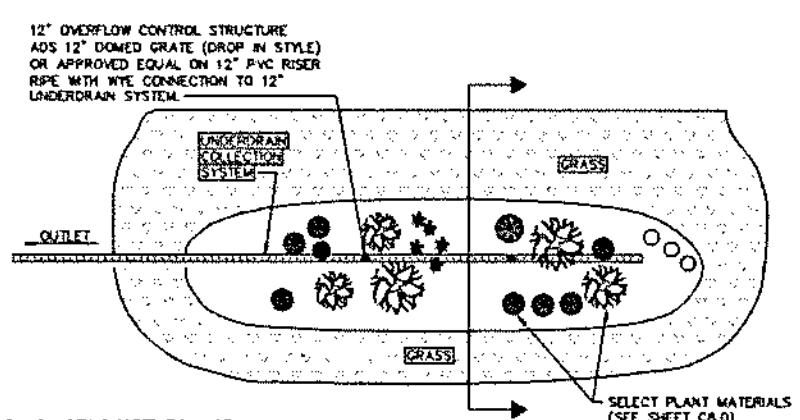
1. THESE GUIDELINES ARE BASED UPON MANUFACTURERS RECOMMENDATIONS. PROJECT SPECIFICATIONS MAY SUPERSEDE THESE GUIDELINES.

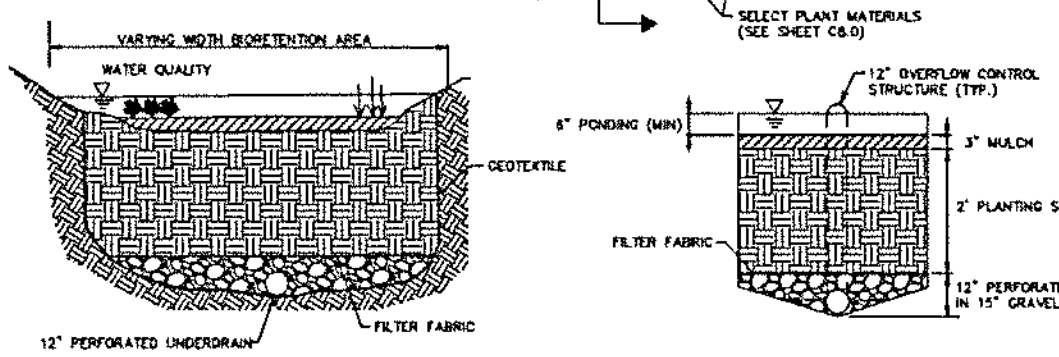
2. REFER TO REGULATORY AUTHORITY SPECIFICATIONS FOR DETAILED INSTALLATION PROCEDURED AS REQUIRED.

3. COMPOST FILTER SOCK CONTAINMENT SYSTEM SHALL BE A MESH KNITTED FABRIC OF BIODEGRADABLE (COTTON), OR PHOTODEGRADABLE (POLYPROPYLENE, POLYETHYLENE) WITH 1/8"-3/8" OPENINGS.

4. PARTICLE SIZE FOR FILLER/FILTER MEDIA IS TO BE:
99% < 2"
MAX 40% < 3/8"

COMPOST FILTER SOCK





BIORETENTION PLANTING SOIL MATERIAL

ALL AREAS TO BE USED AS BIORETENTION FACILITIES SHALL BE BACK-FILLED WITH A SUITABLE SANDY LOAM PLANTING MEDIA. THE BORROW SOURCE OF THIS MEDIA, WHICH MAY BE THE SAME OR DIFFERENT LOCATION FROM THE BIORETENTION AREA ITSELF, MUST BE TESTED AS FOLLOWS:

IF THE BORROW AREA IS VIRGIN, UNDISTURBED SOIL, ONE TEST IS REQUIRED PER 200 SF OF BORROW AREA; THE TEST CONSISTS OF "GRAB" SAMPLES AT ONE-FOOT DEPTH INTERVALS TO THE BOTTOM OF THE BORROW AREA. ALL SAMPLES AT THE TESTING LOCATION ARE THEN MIXED, AND THE RESULTING SAMPLE IS THEN LAB-TESTED TO MEET THE FOLLOWING CRITERIA:

a) USDA MINIMUM TEXTURAL ANALYSIS REQUIREMENTS: A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED. THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
SAND CONTENT: 35 – 60%
SILT CONTENT: 30 – 55%
CLAY CONTENT: 10 – 25%

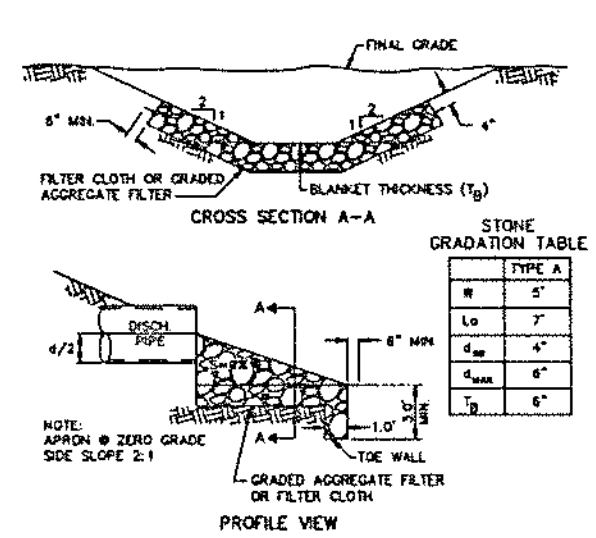
b) THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES.

c) THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
PH RANGE: 5.2 – 7.0
ORGANIC MATTER: 1.5 – 4%
MAGNESIUM: 35 LB./AC
PHOSPHORUS P2O5: 75 LB./AC
POTASSIUM K2O: 85 LB./AC
SOLUBLE SALTS NOT TO EXCEED: 500 PPM

BIORETENTION DETAIL AND CROSS SECTION

(REFER TO SPECIFIC PLANTING DETAILS ON SHEET LANDSCAPE PLAN BY OTHERS)

PLANTING NOTE:
CONTRACTOR SHALL SUBMIT CERTIFICATION TO DESIGN ENGINEER THAT MATERIAL SPECIFIED FOR THE BIORETENTION AREA COMPONENTS MEET NYSDEC AND DESIGN ENGINEER REQUIREMENTS.



STONE GRADATION TABLE

	TYPE A
W	5'
Lo	7'
d_{50}	4"
d_{MAX}	6"
T_B	6"

CONSTRUCTION NOTES:

1. THE SUBGRADE FOR THE RIPRAP SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIPRAP OR FILTER.
3. FILTER CLOTH SHALL BE PROTECTED FROM PUNCHING, CUTTING OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF CLOTH OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE CLOTH. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF CLOTH SHALL BE A MINIMUM OF ONE FOOT.
4. STONE FOR RIPRAP OUTLETS MAY BE PLACED BY EQUIPMENT. AND SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIPRAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONE. RIPRAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR FILTER CLOTH. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
5. RIPRAP SHALL BE COMPOSED OF A WELL GRADED MIXTURE OF STONE SIZE SO THAT 50 PERCENT OF THE PIECES, BY WEIGHT, SHALL BE LARGER THAN THE d_{50} SIZE DETERMINED BY USING THE CHARTS. A WELL GRADED MIXTURE AS USED HEREIN IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF LARGER STONE SIZE BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE d_{50} SIZE.

ROCK OUTLET PROTECTION

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

STORM WATER POLLUTION PREVENTION DETAILS

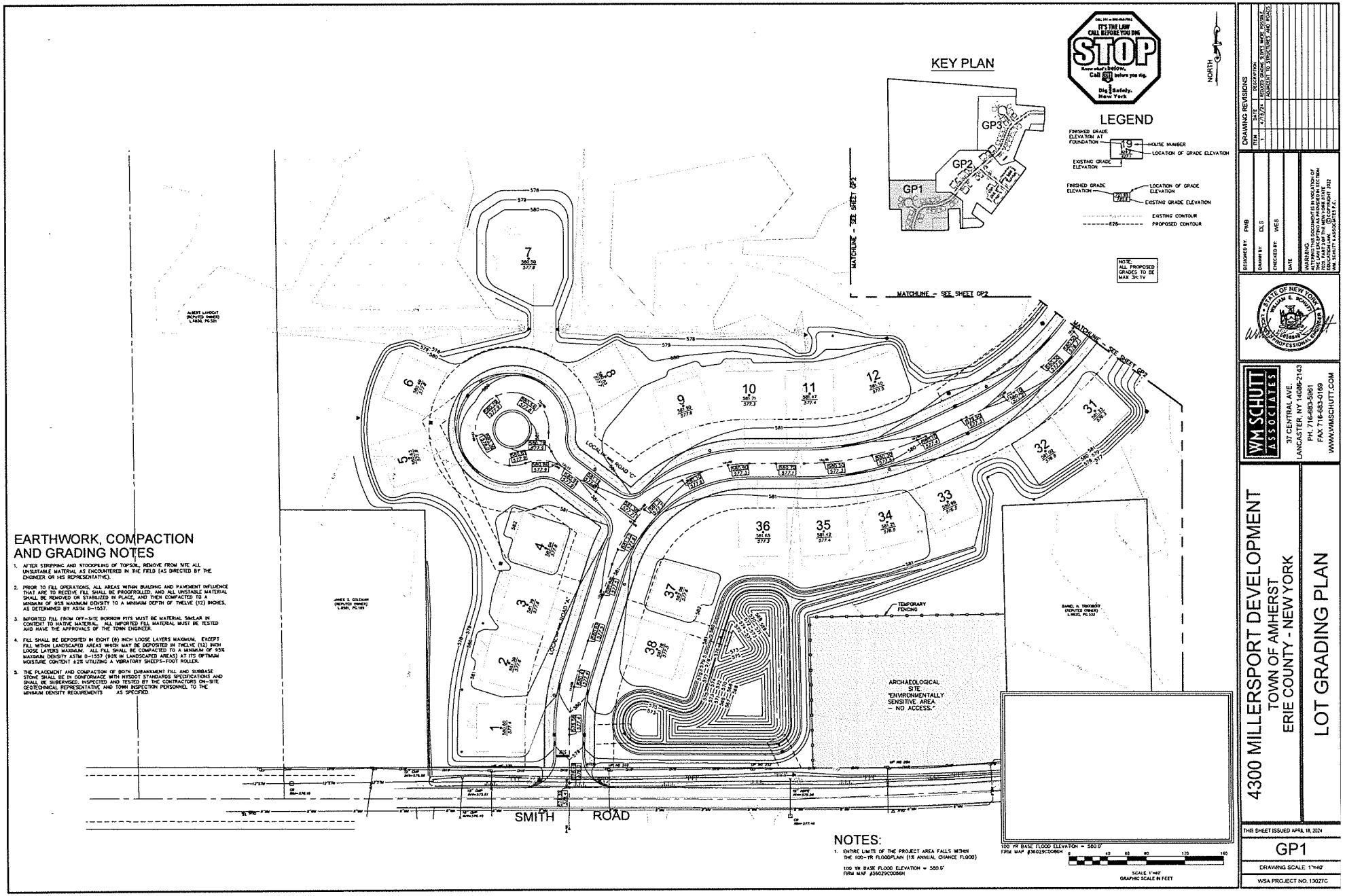
THIS SHEET ISSUED APRIL 18, 2024

SWPPP4

DRAWING SCALE: NONE

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



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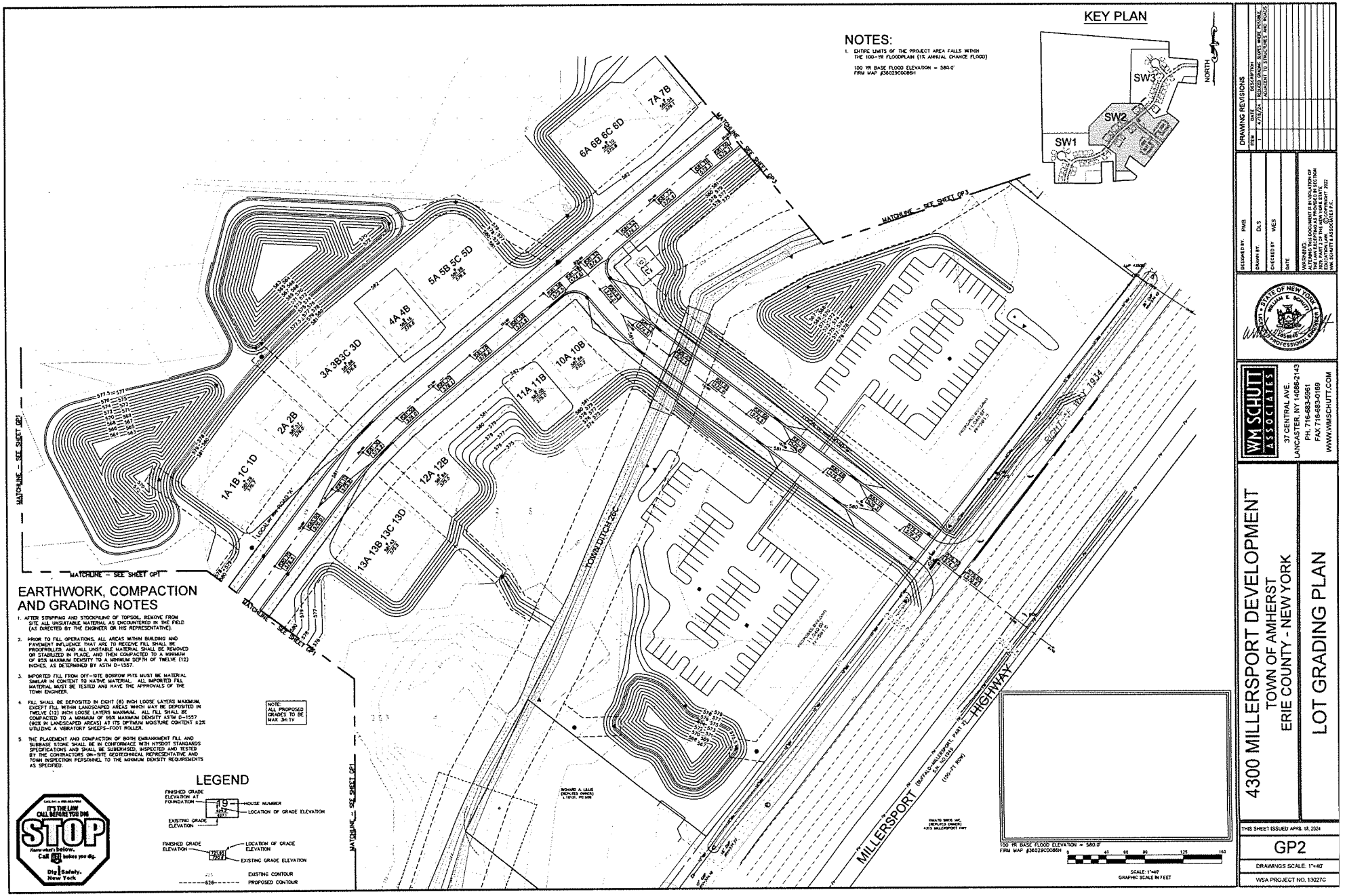

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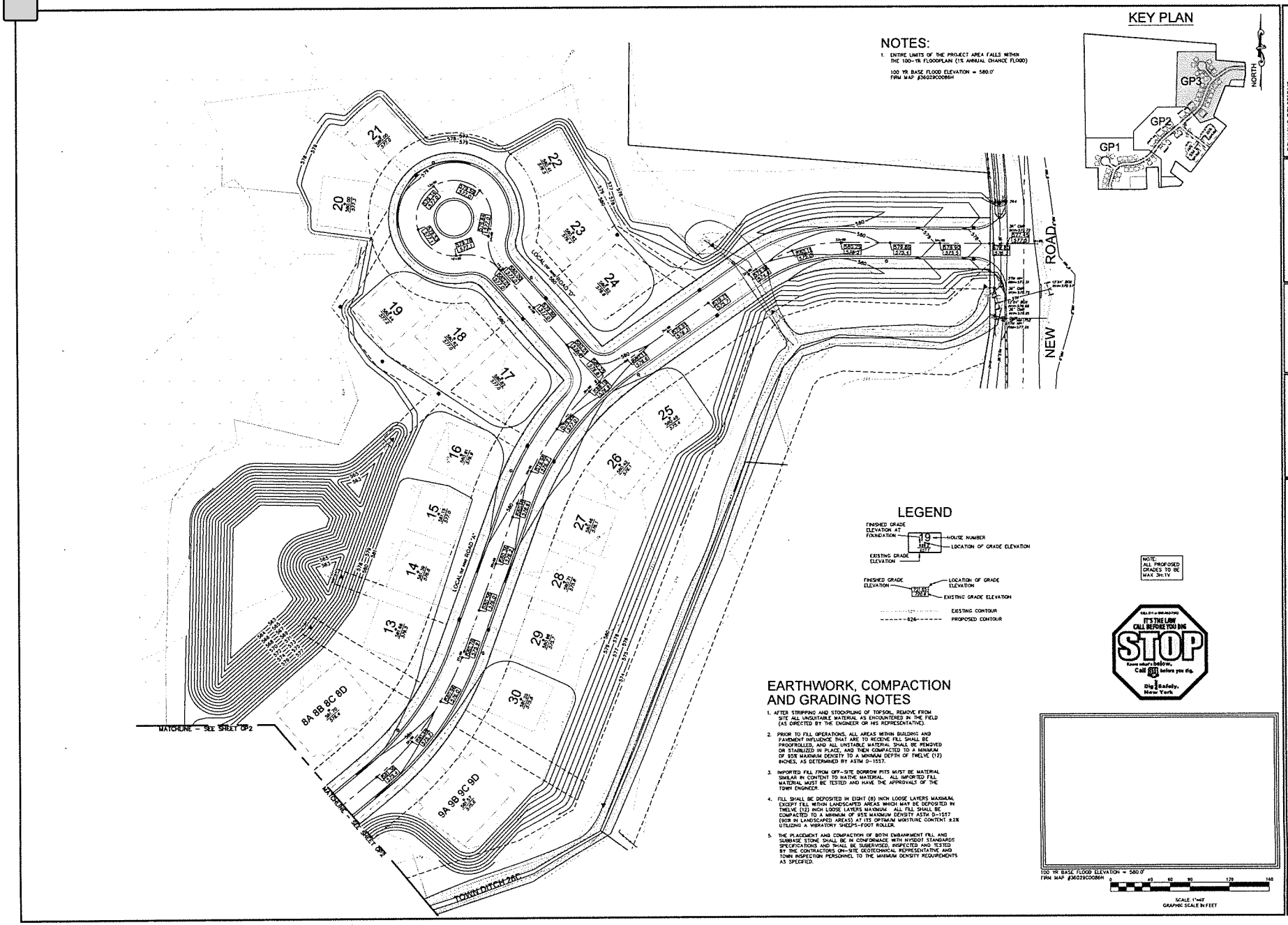

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/19/24	REVISED GRADING, SLOPES, WALK, ROOFDRAIN, ADDED TEL STRUCTURES AND CURBS

DESIGNED BY: PWB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

WARNING
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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

LOT GRADING PLAN

THIS SHEET ISSUED APRIL 18, 2024

GP3

DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

APPENDIX A

NATIONAL COOPERATIVE SOIL SURVEY

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Web Soil Survey - Home | Web Soil Survey

websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

Area of Interest (AOI) | Soil Map | Soil Data Explorer | Download Soils Data | Shopping Cart (Free)

Printable Version | Add to Shopping Cart

Search

Clear | Search

Basic Search

Enter keywords

Advanced Search

Clear | Search

Map Unit Legend

Erie County, New York (NY029)

Erie County, New York (NY029)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ch	Cheektowaga fine sandy loam	0.0	0.0%
Cv	Cosad loamy fine sand	13.7	20.2%
La	Lakemont silt loam, 0 to 3 percent slopes	6.8	10.0%
NfA	Niagara silt loam, 0 to 3 percent slopes	6.0	8.9%
Od	Odessa silt loam, 0 to 3 percent slopes	41.3	60.9%
Totals for Area of Interest		**67.8**	**100.0%**

Soil Map

Legend

Scale (not to scale)



Warning: Soil Map may not be valid at this scale.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Erie County, New York

Od—Odessa silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2wrd8
Elevation: 260 to 1,540 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Odessa and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Odessa

Setting

Landform: Lake terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Red clayey glaciolacustrine deposits derived from calcareous shale

Typical profile

Ap - 0 to 8 inches: silt loam
Bt/E - 8 to 10 inches: silty clay loam
Bt1 - 10 to 15 inches: silty clay
Bt2 - 15 to 25 inches: silty clay
C - 25 to 79 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Hydrologic Soil Group: D
Ecological site: F101XY009NY - Moist Lake Plain
Hydric soil rating: No

Minor Components

Lakemont
Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Schoharie
Percent of map unit: 5 percent
Landform: Lake terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Churchville
Percent of map unit: 3 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Rhinebeck
Percent of map unit: 2 percent
Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Erie County, New York
Survey Area Data: Version 21, Aug 29, 2021

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Erie County, New York

Cv—Cosad loamy fine sand

Map Unit Setting

National map unit symbol: 9rl8
Elevation: 200 to 800 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Cosad and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cosad

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Sandy glaciofluvial or deltaic deposits over clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: loamy fine sand
H2 - 9 to 21 inches: loamy fine sand
H3 - 21 to 24 inches: fine sandy loam
H4 - 24 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Ecological site: F101XY006NY - Moist Outwash
Hydric soil rating: No

Minor Components

Cheektowaga
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Claverack
Percent of map unit: 5 percent
Hydric soil rating: No

Odessa
Percent of map unit: 5 percent
Hydric soil rating: No

Minoa
Percent of map unit: 5 percent
Hydric soil rating: No

Lamson
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Erie County, New York
Survey Area Data: Version 21, Aug 29, 2021

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX B

FEMA Firmette

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 18. The horizontal datum was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

Base map information shown on this FIRM was derived from multiple sources, including the New York State Office of Cyber Security & Critical Infrastructure Coordination, and the USDA's Farm Service Agency, Aerial Photography Field Office, dated 2015.

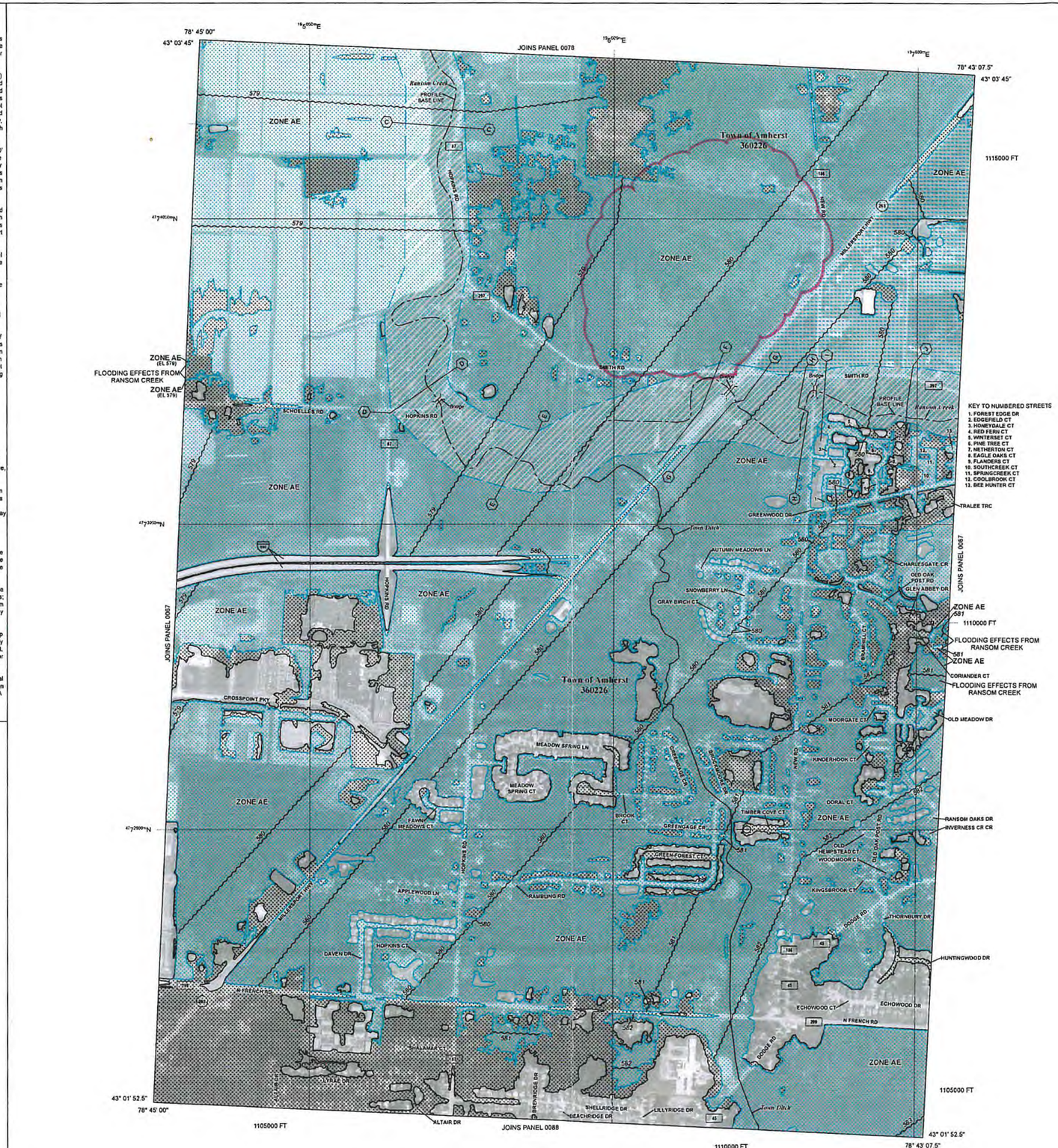
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to confirm to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map,** how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A — No Base Flood Elevations determined.
- ZONE AE — Base Flood Elevations determined.
- ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR — Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99 — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% Annual Chance Floodplain Boundary
- 0.2% Annual Chance Floodplain Boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- A / A — Cross section line
- 23 / 23 — Transect line
- Culvert
- Bridge
- 45° 02' 08", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 3100000 FT — 5000-foot ticks: New York State Plane West Zone (FIPS Zone 3103), Transverse Mercator projection
- 4765000 N — 1000-meter Universal Transverse Mercator grid values, zone 18
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
June 7, 2019

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0086H

FIRM

FLOOD INSURANCE RATE MAP

ERIE COUNTY, NEW YORK (ALL JURISDICTIONS)

PANEL 86 OF 807
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

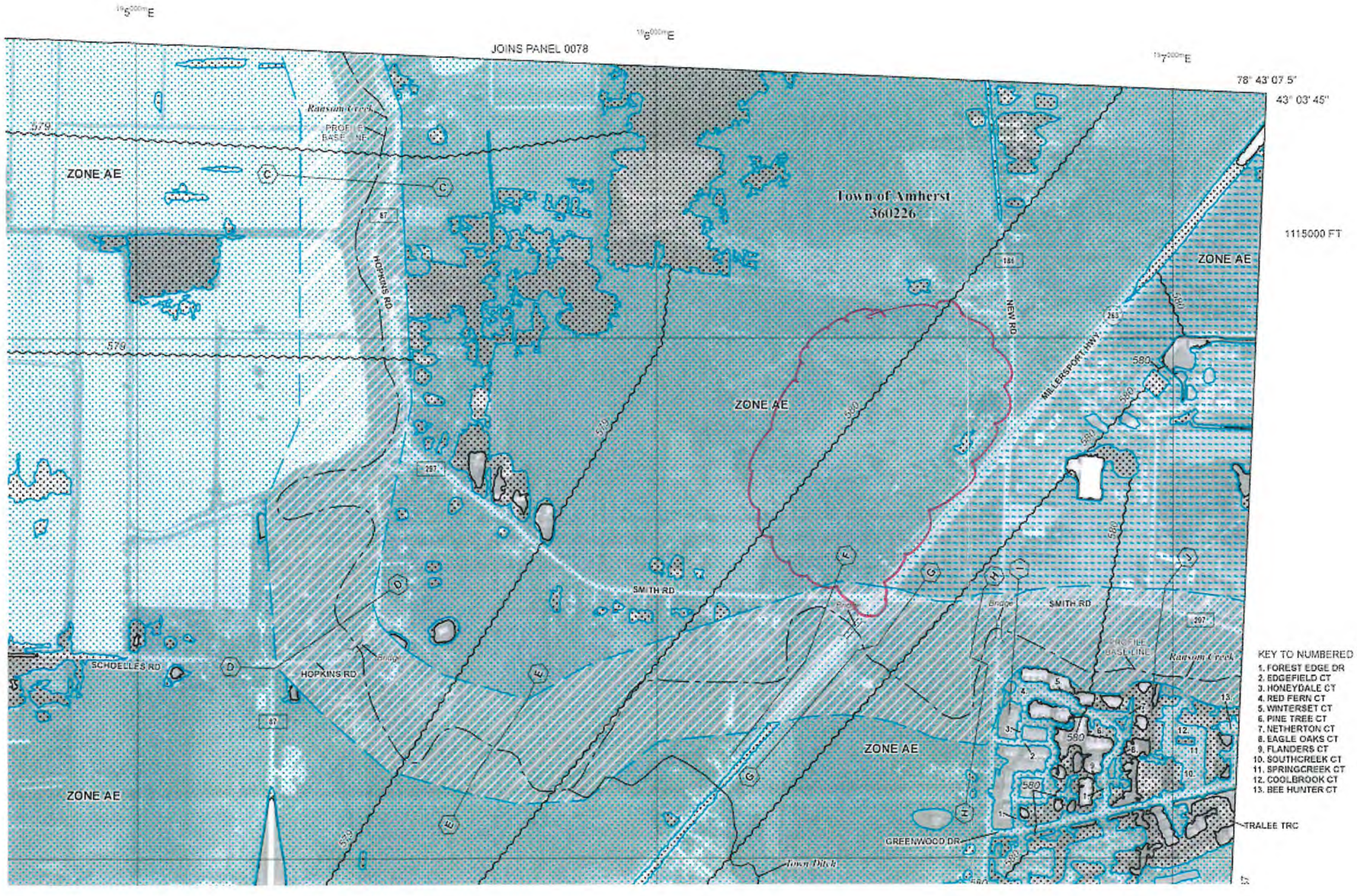
COMMUNITY	NUMBER	PANEL	SUFFIX
AMHERST, TOWN OF	360226	0086	H

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
36029C0086H
EFFECTIVE DATE
JUNE 7, 2019

Federal Emergency Management Agency

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surfa elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevati determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); averag depths determined. For areas of alluvial fan flooding, velocities also detern
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chanc flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to prov protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determine
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elev determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevatio determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept f encroachment so that the 1% annual chance flood can be carried without substantial increase flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% Annual Chance Floodplain Boundary
	0.2% Annual Chance Floodplain Boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and bounda dividing Special Flood Hazard Areas of different Base Flood Elev flood depths, or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevatio feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
	Culvert
	Bridge

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX C

GREEN INFRASTRUCTURE CALCULATIONS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Area north of Town Ditch 2023

Version 1.8
Last Updated: 11/09/2015

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....		
Design Point:		
P=	0.90	*inch*

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	39.40	0.00	0%	0.05	6,436	Conservation of Natural Areas
2	1.93	1.14	59%	0.58	3,661	pond 1
3	14.51	2.55	18%	0.21	9,868	pond 2/3
4	4.32	2.40	56%	0.55	7,762	pond 4
5	0.19	0.12	61%	0.60	372	new rd bypass
6	0.80	0.80	100%	0.95	2,480	roof disconnect
7						
8						
9						
10						
Subtotal (1-30)	61.15	7.00	11%	0.15	**30,580**	**Subtotal 1**
Total	61.15	7.00	11%	0.15	**30,580**	**Initial WQv**	**0.70**	**af**

Identify Runoff Reduction Techniques By Area

Technique	Total Contributing Area *(Acre)*	Contributing Impervious Area *(Acre)*	Notes
Conservation of Natural Areas	39.40	0.00	*minimum 10,000 sf*
Riparian Buffers	0.00	0.00	*maximum contributing length 75 feet to 150 feet*
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	*Up to 100 sf directly connected impervious area may be subtracted per tree*
Total	**39.40**	**0.00**	

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*		
"<<Initial WQv"	61.15	7.00	11%	0.15	30,580		
Subtract Area	-39.40	0.00					
WQv adjusted after Area Reductions	**21.75**	**7.00**	32%	0.34	24,144		
Disconnection of Rooftops		0.80					
Adjusted WQv after Area Reduction and Rooftop Disconnect	21.75	6.20	29%	0.31	**21,794**	**0.50**	**af**
WQv reduced by Area Reduction techniques					8,785	**0.20**	**af**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Total Water Quality Volume Calculation

WQv(acre-feet) = [(P)(Rv)(A)] /12

All Subcatchments						
Catchment	Total Area (Acres)	Impervious Cover (Acres)	Percent Impervious %	Runoff Coefficien t Rv	WQv (ft^3)	Description
1	39.40	0.00	0.00	0.05	6435.99	Conservation of Natural
2	1.93	1.14	0.59	0.58	3,661	pond 1
3	14.51	2.55	0.18	0.21	9867.97	pond 2/3
4	4.32	2.40	0.56	0.55	7762.39	pond 4
5	0.19	0.12	0.61	0.60	372.11	new rd bypass
6	0.80	0.80	1.00	0.95	2479.82	roof disconnect
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
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27						
28						
29						
30						

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Runoff Reduction Volume and Treated volumes						
	Runoff Reduction Techiques/Standard SMPs		Total Contributing Area	Total Contributing Impervious Area	WQv Reduced (RRv)	WQv Treated
			(acres)	(acres)	cf	cf
Area/Volume Reduction	Conservation of Natural Areas	RR-1	39.40	0.00		
	Sheetflow to Riparian Buffers/Filter Strips	RR-2	0.00	0.00		
	Tree Planting/Tree Pit	RR-3	0.00	0.00		
	Disconnection of Rooftop Runoff	RR-4		0.80		
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	0.00	0.00	0	
	Rain Barrel/Cistern	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.00	0.00	0	
	Green Roof (Intensive & Extensive)	RR-10	0.00	0.00	0	
Standard SMPs w/RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	0.00	0.00	0	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4				
	Bioretention & Infiltration Bioretention	F-5	0.00	0.00	0	0
	Dry swale	O-1	0.00	0.00	0	0
Standard SMPs	Micropool Extended Detention (P-1)	P-1				
	Wet Pond (P-2)	P-2	21.75	6.20		35032.000
	Wet Extended Detention (P-3)	P-3				
	Multiple Pond system (P-4)	P-4				
	Pocket Pond (p-5)	P-5				
	Surface Sand filter (F-1)	F-1				
	Underground Sand filter (F-2)	F-2				
	Perimeter Sand Filter (F-3)	F-3				
	Organic Filter (F-4	F-4				
	Shallow Wetland (W-1)	W-1				
	Extended Detention Wetland (W-2	W-2				
	Pond/Wetland System (W-3)	W-3				
	Pocket Wetland (W-4)	W-4				
	Wet Swale (O-2)	O-2				
Totals by Area Reduction →			39.40	0.80	8785	
Totals by Volume Reduction →			0.00	0.00	0	
Totals by Standard SMP w/RRV →			0.00	0.00	0	0
Totals by Standard SMP →			21.75	6.20		35032
Totals (Area + Volume + all SMPs) →			61.15	7.00	8,785	35,032

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

	Impervious Cover √	error				
	Total Area √	error				

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A		55%
B		40%
C		30%
D	**61.20**	20%
Total Area	61.2	
Calculate the Minimum RRv		
S =	**0.20**	
Impervious =	7.00	*acre*
Precipitation	0.9	*in*
Rv	0.95	
Minimum RRv	**4,347**	***ft3***
	0.10	af

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOI QUESTIONS

#	NOI Question	Reported Value	
		cf	af
28	Total Water Quality Volume (WQv) Required	30580	*0.702*
30	Total RRV Provided	8785	*0.202*
31	Is RRv Provided ≥WQv Required?	No	
32	Minimum RRv	4347	*0.100*
32a	Is RRv Provided ≥ Minimum RRv Required?	Yes	
33a	Total WQv Treated	35032	*0.804*
34	Sum of Volume Reduced & Treated	43817	*1.006*
34	Sum of Volume Reduced and Treated	43817	*1.006*
35	Is Sum RRv Provided and WQv Provided ≥WQv Required?	Yes	

Apply Peak Flow Attenuation			
36	Channel Protection	*Cpv*	
37	Overbank	*Qp*	
37	Extreme Flood Control	*Qf*	
	Are Quantity Control requirements met?		

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOI QUESTIONS

20.05%

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Conservation of Natural Areas

Design Point:	

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
1	39.40	0.00	0.00	0.05	6435.99	0.90	Conservation of Natural Areas

Design Elements	
Is Contiguous Area ≥ 10,000 ft2?	*Yes*
Will limits of disturbance be clearly shown on all construction drawings and marked in field/project development site with structural barriers?	*Yes*
Is the Conservation area located in an acceptable conservation easement instrument that ensures perpetual protection of proposed area?	*Yes*
Does the easement specify how the natural area vegetation will be managed and boundaries will be marked?	*Yes*
Does the conservation area receive runoff from other contributing areas?	*No*
Does Conservation Area drain to a Design Point?	*Yes*
Is Sheet Flow to Riparian Buffer or another area based practice already being Used for this area?	*No*

Are All Criteria in Section 5.3.1 Met?	*Yes*

Area Reduction Adjustments		
Subtract	***39.40***	***Acres from Total Area***
Subtract	***0.00***	***Acres from Total Impervious Area***

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Conservation of Natural Areas

Design Point:	

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**

Design Elements	
Is Contiguous Area ≥ 10,000 ft2?	
Will limits of disturbance be clearly shown on all construction drawings and marked in field/project development site with structural barriers?	
Is the Conservation area located in an acceptable conservation easement instrument that ensures perpetual protection of proposed area?	
Does the easement specify how the natural area vegetation will be managed and boundaries will be marked?	
Does the conservation area receive runoff from other contributing areas?	
Does Conservation Area drain to a Design Point?	
Is Sheet Flow to Riparian Buffer or another area based practice already being Used for this area?	

Are All Criteria in Section 5.3.1 Met?	

Area Reduction Adjustments		
Subtract	***0.00***	***Acres from Total Area***
Subtract	***0.00***	***Acres from Total Impervious Area***

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Conservation of Natural Areas

Design Point:	

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**

Design Elements	
Is Contiguous Area ≥ 10,000 ft2?	
Will limits of disturbance be clearly shown on all construction drawings and marked in field/project development site with structural barriers?	
Is the Conservation area located in an acceptable conservation easement instrument that ensures perpetual protection of proposed area?	
Does the easement specify how the natural area vegetation will be managed and boundaries will be marked?	
Does the conservation area receive runoff from other contributing areas?	
Does Conservation Area drain to a Design Point?	
Is Sheet Flow to Riparian Buffer or another area based practice already being Used for this area?	

Are All Criteria in Section 5.3.1 Met?	

Area Reduction Adjustments		
Subtract	***0.00***	***Acres from Total Area***
Subtract	***0.00***	***Acres from Total Impervious Area***

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Conservation of Natural Areas

Design Point:	

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**

Design Elements	
Is Contiguous Area ≥ 10,000 ft2?	
Will limits of disturbance be clearly shown on all construction drawings and marked in field/project development site with structural barriers?	
Is the Conservation area located in an acceptable conservation easement instrument that ensures perpetual protection of proposed area?	
Does the easement specify how the natural area vegetation will be managed and boundaries will be marked?	
Does the conservation area receive runoff from other contributing areas?	
Does Conservation Area drain to a Design Point?	
Is Sheet Flow to Riparian Buffer or another area based practice already being Used for this area?	

Are All Criteria in Section 5.3.1 Met?	

Area Reduction Adjustments		
Subtract	***0.00***	***Acres from Total Area***
Subtract	***0.00***	***Acres from Total Impervious Area***

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Conservation of Natural Areas

Total Subtracted from Total Area	39.40
Total Subtracted from Total Impervious Area	0.00

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Conservation of Natural Areas

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Version 1.8
Last Updated: 11/09/2015

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

AREA South of Town Ditch 26B

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....	

Design Point:		
P=	0.90	*inch*

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	1.25	0.00	0%	0.05	204	conservation area
2	1.97	0.73	37%	0.38	2,454	pond 4
3	1.93	0.60	31%	0.33	2,079	pond 5
4	0.07	0.07	100%	0.95	217	bioretention
5	0.09	0.09	100%	0.95	279	Bioretention
6	0.16	0.07	45%	0.46	238	Dry Swale
7	0.11	0.06	55%	0.54	194	Dry Swale
8						
9						
10						
Subtotal (1-30)	5.58	1.62	29%	0.31	**5,666**	**Subtotal 1**
Total	5.58	1.62	29%	0.31	**5,666**	**Initial WQv**	**0.13**	**af**

Identify Runoff Reduction Techniques By Area

Technique	Total Contributing Area *(Acre)*	Contributing Impervious Area *(Acre)*	Notes
Conservation of Natural Areas	1.25	0.00	*minimum 10,000 sf*
Riparian Buffers	0.00	0.00	*maximum contributing length 75 feet to 150 feet*
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	*Up to 100 sf directly connected impervious area may be subtracted per tree*
Total	**1.25**	**0.00**	

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*		
"<<Initial WQv"	5.58	1.62	29%	0.31	5,666		
Subtract Area	-1.25	0.00					
WQv adjusted after Area Reductions	**4.33**	**1.62**	37%	0.39	5,462		
Disconnection of Rooftops		0.00					
Adjusted WQv after Area Reduction and Rooftop Disconnect	4.33	1.62	37%	0.39	**5,462**	**0.13**	**af**
WQv reduced by Area Reduction techniques					204	**0.00**	**af**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

All Subcatchments						
Catchment	**Total Area** *(Acres)*	**Impervious Cover** *(Acres)*	**Percent Impervious** *%*	**Runoff Coefficient** *Rv*	**WQv** *(ft^3)*	**Description**
1	1.25	0.00	0.00	0.05	204.19	conservation area
2	1.97	0.73	0.37	0.38	2,454	pond 4
3	1.93	0.60	0.31	0.33	2079.45	pond 5
4	0.07	0.07	1.00	0.95	217.26	bioretention
5	0.09	0.09	1.00	0.95	279.33	Bioretention
6	0.16	0.07	0.45	0.46	237.84	Dry Swale
7	0.11	0.06	0.55	0.54	194.39	Dry Swale
8						
9						
10						
11						
12						
13						
14						
15						
16						
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19						
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27						
28						
29						
30						

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Runoff Reduction Volume and Treated volumes						
	Runoff Reduction Techiques/Standard SMPs		Total Contributing Area	Total Contributing Impervious Area	WQv Reduced (RRv)	WQv Treated
			(acres)	(acres)	cf	cf
Area/Volume Reduction	Conservation of Natural Areas	RR-1	1.23	0.00		
	Sheetflow to Riparian Buffers/Filter Strips	RR-2	0.00	0.00		
	Tree Planting/Tree Pit	RR-3	0.00	0.00		
	Disconnection of Rooftop Runoff	RR-4		0.00		
	Vegetated Swale	RR-5	0.00	0.00	0	
	Rain Garden	RR-6	0.00	0.00	0	
	Stormwater Planter	RR-7	0.00	0.00	0	
	Rain Barrel/Cistern	RR-8	0.00	0.00	0	
	Porous Pavement	RR-9	0.00	0.00	0	
	Green Roof (Intensive & Extensive)	RR-10	0.00	0.00	0	
Standard SMPs w/RRv Capacity	Infiltration Trench	I-1	0.00	0.00	0	0
	Infiltration Basin	I-2	0.00	0.00	0	0
	Dry Well	I-3	0.00	0.00	0	0
	Underground Infiltration System	I-4				
	Bioretention & Infiltration Bioretention	F-5	0.17	0.16	497	0
	Dry swale	O-1	0.27	0.13	432	0
Standard SMPs	Micropool Extended Detention (P-1)	P-1				
	Wet Pond (P-2)	P-2	4.16	1.62		46832.000
	Wet Extended Detention (P-3)	P-3				
	Multiple Pond system (P-4)	P-4				
	Pocket Pond (p-5)	P-5				
	Surface Sand filter (F-1)	F-1				
	Underground Sand filter (F-2)	F-2				
	Perimeter Sand Filter (F-3)	F-3				
	Organic Filter (F-4	F-4				
	Shallow Wetland (W-1)	W-1				
	Extended Detention Wetland (W-2	W-2				
	Pond/Wetland System (W-3)	W-3				
	Pocket Wetland (W-4)	W-4				
	Wet Swale (O-2)	O-2				
Totals by Area Reduction →			1.23	0.00	204	
Totals by Volume Reduction →			0.00	0.00	0	
Totals by Standard SMP w/RRV →			0.44	0.29	929	0
Totals by Standard SMP →			4.16	1.62		46832
Totals (Area + Volume + all SMPs) →			5.83	1.91	1,133	46,832
	Impervious Cover √	error				
	Total Area √	error				

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A		55%
B		40%
C		30%
D	**5.58**	20%
Total Area	5.58	

Calculate the Minimum RRv		
S =	**0.20**	
Impervious =	1.62	*acre*
Precipitation	0.9	*in*
Rv	0.95	
Minimum RRv	**1,004**	***ft3***
	0.02	af

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOI QUESTIONS

#	NOI Question	Reported Value	
		cf	af
28	Total Water Quality Volume (WQv) Required	5666	*0.130*
30	Total RRV Provided	1133	*0.026*
31	Is RRv Provided ≥WQv Required?	No	
32	Minimum RRv	1004	*0.023*
32a	Is RRv Provided ≥ Minimum RRv Required?	Yes	
33a	Total WQv Treated	46832	*1.075*
34	Sum of Volume Reduced & Treated	47965	*1.101*
34	Sum of Volume Reduced and Treated	47965	*1.101*
35	Is Sum RRv Provided and WQv Provided ≥WQv Required?	Yes	

2.36%

Apply Peak Flow Attenuation			
36	Channel Protection	*Cpv*	
37	Overbank	*Qp*	
37	Extreme Flood Control	*Qf*	
	Are Quantity Control requirements met?		

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

Design Point:							
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
4	0.07	0.07	1.00	0.95	217.26	0.90	bioretention
Enter Impervious Area Reduced by Disconnection of Rooftops			100%	0.95	217	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						*ft^3*	

Soil Information			
Soil Group	D		
Soil Infiltration Rate		*in/hour*	
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		217	*ft^3*	
Enter Depth of Soil Media	*df*	3	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.5	*ft*	*6 inches max.*
Enter Filter Time	*tf*	1	*days*	
Required Filter Area	***Af***	**372**	***ft^2***	

Determine Actual Bio-Retention Area			
Filter Width	30	*ft*	
Filter Length	100	*ft*	
Filter Area	3000	*ft^2*	
Actual Volume Provided	1750	*ft^3*	

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?			Select Practice	
RRv	700			
RRv applied	**217**	***ft^3***	***This is 40% of the storage provided or WQv whichever is less.***	
Volume Treated	0	*ft^3*	*This is the portion of the WQv that is not reduced in the practice.*	
Volume Directed	0	*ft^3*	This volume is directed another practice	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor & Schueler, 1996)

Design Point:

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
5	0.09	0.09	1.00	0.95	279.33	0.90	Bioretention
Enter Impervious Area Reduced by Disconnection of Rooftops			100%	0.95	279	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						*ft^3*	

Soil Information			
Soil Group	D		
Soil Infiltration Rate		*in/hour*	
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		279	*ft^3*	
Enter Depth of Soil Media	*df*	3	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.5	*ft*	*6 inches max.*
Enter Filter Time	*tf*	1	*days*	
Required Filter Area	***Af***	**479**	***ft^2***	

Determine Actual Bio-Retention Area			
Filter Width	30	*ft*	
Filter Length	100	*ft*	
Filter Area	3000	*ft^2*	
Actual Volume Provided	1750	*ft^3*	

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?			Select Practice	
RRv	700			
RRv applied	**279**	***ft^3***	***This is 40% of the storage provided or WQv whichever is less.***	
Volume Treated	0	*ft^3*	*This is the portion of the WQv that is not reduced in the practice.*	
Volume Directed	0	*ft^3*	This volume is directed another practice	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

Design Point:							
Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
Enter Impervious Area Reduced by Disconnection of Rooftops					<<WQv after adjusting for Disconnected Rooftops		
Enter the portion of the WQv that is not reduced for all practices routed to this practice.					*ft^3*		

Soil Information			
Soil Group			
Soil Infiltration Rate		*in/hour*	
Using Underdrains?			

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		0	*ft^3*	
Enter Depth of Soil Media	*df*		*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*		*ft/day*	
Enter Average Height of Ponding	*hf*		*ft*	*6 inches max.*
Enter Filter Time	*tf*		*days*	
Required Filter Area	***Af***	**0**	***ft^2***	

Determine Actual Bio-Retention Area			
Filter Width		*ft*	
Filter Length		*ft*	
Filter Area	0	*ft^2*	
Actual Volume Provided	0	*ft^3*	

Determine Runoff Reduction			
Is the Bioretention contributing flow to another practice?		Select Practice	
RRv	0		
RRv applied	**0**	***ft^3***	***This is 40% of the storage provided or WQv whichever is less.***
Volume Treated		*ft^3*	*This is the portion of the WQv that is not reduced in the practice.*
Volume Directed		*ft^3*	This volume is directed another practice
Sizing √	OK		*Check to be sure Area provided ≥ Af*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

Design Point:

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
Enter Impervious Area Reduced by Disconnection of Rooftops						<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						*ft^3*	

Soil Information			
Soil Group			
Soil Infiltration Rate		*in/hour*	
Using Underdrains?			

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		0	*ft^3*	
Enter Depth of Soil Media	*df*		*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*		*ft/day*	
Enter Average Height of Ponding	*hf*		*ft*	*6 inches max.*
Enter Filter Time	*tf*		*days*	
Required Filter Area	***Af***	**0**	***ft^2***	

Determine Actual Bio-Retention Area			
Filter Width		*ft*	
Filter Length		*ft*	
Filter Area	0	*ft^2*	
Actual Volume Provided	0	*ft^3*	

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?			Select Practice	
RRv	0			
RRv applied	**0**	***ft^3***	***This is 40% of the storage provided or WQv whichever is less.***	
Volume Treated		*ft^3*	*This is the portion of the WQv that is not reduced in the practice.*	
Volume Directed		*ft^3*	This volume is directed another practice	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Bioretention Worksheet

Total RRv Applied	496.58
Total Area	0.16
Total Impervious Area	0.16
Total Volume Treated	0.00
Rooftop Disconnect Impervious Area Total	0.00

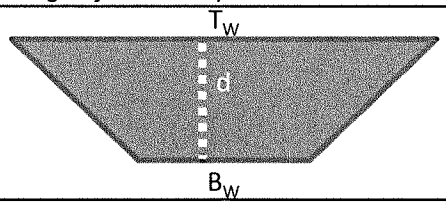
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Dry Swale Worksheet

Design Point:	

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
6	0.16	0.07	0.45	0.46	237.84	0.90	Dry Swale
Enter Impervious Area Reduced by Disconnection of Rooftops			45%	0.46	238	<<WQv after adjusting for Disconnected Rooftops	

Pretreatment Provided			Pretreatment Technique
Pretreatment (10% of WQv)	24	ft^3	

Calculate Available Storage Capacity			
Bottom Width	1	*ft*	Design with a bottom width no greater than eight feet to avoid potential gullying and channel braiding, but no less than two feet
Side Slope (X:1)	3	*Okay*	Channels shall be designed with moderate side slopes (flatter than 3:1) for most conditions. 2:1 is the absolute maximum side slope
Longitudinal Slope	1%	*Okay*	*Maximum longitudinal slope shall be 4%*
Flow Depth	2	*ft*	*Maximum ponding depth of one foot at the mid-point of the channel, and a maximum depth of 18" at the end point of the channel (for storage of the WQv)*
Top Width	13	*ft*	
Area	14.00	*sf*	
Minimum Length	15	*ft*	
Actual Length	130	*ft*	
End Point Depth check	1.50	*Okay*	*A maximum depth of 18" at the end point of the channel (for storage of the WQv)*
Storage Capacity	1,844	ft^3	
Soil Group (HSG)		D	

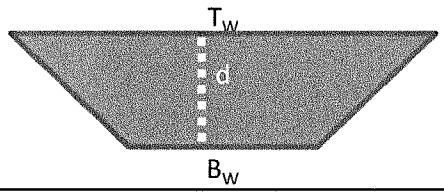
Runoff Reduction				
Is the Dry Swale contributing flow to another practice?		Yes	Select Practice	
RRv	**238**	**ft^3**	**Runnoff Reduction equals 40% in HSG A and B and 20% in HSG C and D up to the WQv**	
Volume Treated	0	ft^3	This is the difference between the WQv calculated and the runoff reduction achieved in the swale	
Volume Directed	0	ft^3	This volume is directed another practice	
Volume √	*Okay*		Check to be sure that channel is long enough to store WQv	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Dry Swale Worksheet

Design Point:	

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
7	0.11	0.06	0.55	0.54	194.39	0.90	Dry Swale
Enter Impervious Area Reduced by Disconnection of Rooftops			55%	0.54	194	<<WQv after adjusting for Disconnected Rooftops	
Pretreatment Provided					**Pretreatment Technique**		
Pretreatment (10% of WQv)			19	*ft^3*			

Calculate Available Storage Capacity			
Bottom Width	1	*ft*	Design with a bottom width no greater than eight feet to avoid potential gullying and channel braiding, but no less than two feet
Side Slope (X:1)	3	*Okay*	Channels shall be designed with moderate side slopes (flatter than 3:1) for most conditions. 2:1 is the absolute maximum side slope
Longitudinal Slope	1%	*Okay*	*Maximum longitudinal slope shall be 4%*
Flow Depth	2	*ft*	*Maximum ponding depth of one foot at the mid-point of the channel, and a maximum depth of 18" at the end point of the channel (for storage of the WQv)*
Top Width	13	*ft*	
Area	14.00	*sf*	
Minimum Length	12	*ft*	
Actual Length	110	*ft*	
End Point Depth check	1.50	*Okay*	*A maximum depth of 18" at the end point of the channel (for storage of the WQv)*
Storage Capacity	1,559	*ft^3*	
Soil Group (HSG)			D

Runoff Reduction					
Is the Dry Swale contributing flow to another practice?				Select Practice	
RRv	**194**	***ft^3***	**Runnoff Reduction equals 40% in HSG A and B and 20% in HSG C and D up to the WQv**		
Volume Treated	0	*ft^3*	This is the difference between the WQv calculated and the runoff reduction achieved in the swale		
Volume Directed	0	*ft^3*	This volume is directed another practice		
Volume √	*Okay*		Check to be sure that channel is long enough to store WQv		

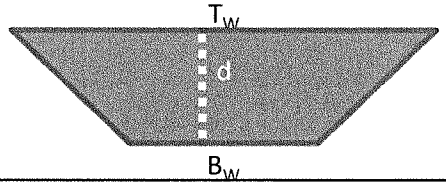
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Dry Swale Worksheet

Design Point:	

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
Enter Impervious Area Reduced by Disconnection of Rooftops						<<WQv after adjusting for Disconnected Rooftops	

Pretreatment Provided			Pretreatment Technique
Pretreatment (10% of WQv)		*ft^3*	

Calculate Available Storage Capacity			
Bottom Width		*ft*	Design with a bottom width no greater than eight feet to avoid potential gullying and channel braiding, but no less than two feet
Side Slope (X:1)			Channels shall be designed with moderate side slopes (flatter than 3:1) for most conditions. 2:1 is the absolute maximum side slope
Longitudinal Slope			*Maximum longitudinal slope shall be 4%*
Flow Depth		*ft*	*Maximum ponding depth of one foot at the mid-point of the channel, and a maximum depth of 18" at the end point of the channel (for storage of the WQv)*
Top Width	0	*ft*	
Area	0.00	*sf*	
Minimum Length		*ft*	
Actual Length		*ft*	
End Point Depth check			*A maximum depth of 18" at the end point of the channel (for storage of the WQv)*
Storage Capacity		*ft^3*	
Soil Group (HSG)			

Runoff Reduction				
Is the Dry Swale contributing flow to another practice?			Select Practice	
RRv		***ft^3***	**Runnoff Reduction equals 40% in HSG A and B and 20% in HSG C and D up to the WQv**	
Volume Treated		*ft^3*	This is the difference between the WQv calculated and the runoff reduction achieved in the swale	
Volume Directed		*ft^3*	This volume is directed another practice	
Volume √	*Okay*		Check to be sure that channel is long enough to store WQv	

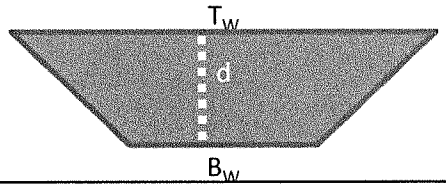
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Dry Swale Worksheet

Design Point:	

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
Enter Impervious Area Reduced by Disconnection of Rooftops						<<WQv after adjusting for Disconnected Rooftops	

Pretreatment Provided			Pretreatment Technique
Pretreatment (10% of WQv)		*ft^3*	

Calculate Available Storage Capacity			
Bottom Width		*ft*	Design with a bottom width no greater than eight feet to avoid potential gullying and channel braiding, but no less than two feet
Side Slope (X:1)			Channels shall be designed with moderate side slopes (flatter than 3:1) for most conditions. 2:1 is the absolute maximum side slope
Longitudinal Slope			*Maximum longitudinal slope shall be 4%*
Flow Depth		*ft*	*Maximum ponding depth of one foot at the mid-point of the channel, and a maximum depth of 18" at the end point of the channel (for storage of the WQv)*
Top Width	0	*ft*	
Area	0.00	*sf*	
Minimum Length		*ft*	
Actual Length		*ft*	
End Point Depth check			*A maximum depth of 18" at the end point of the channel (for storage of the WQv)*
Storage Capacity		*ft^3*	
Soil Group (HSG)			

Runoff Reduction			
Is the Dry Swale contributing flow to another practice?		Select Practice	
RRv		***ft^3***	**Runnoff Reduction equals 40% in HSG A and B and 20% in HSG C and D up to the WQv**
Volume Treated		*ft^3*	This is the difference between the WQv calculated and the runoff reduction achieved in the swale
Volume Directed		*ft^3*	This volume is directed another practice
Volume √	*Okay*		Check to be sure that channel is long enough to store WQv

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Dry Swale Worksheet

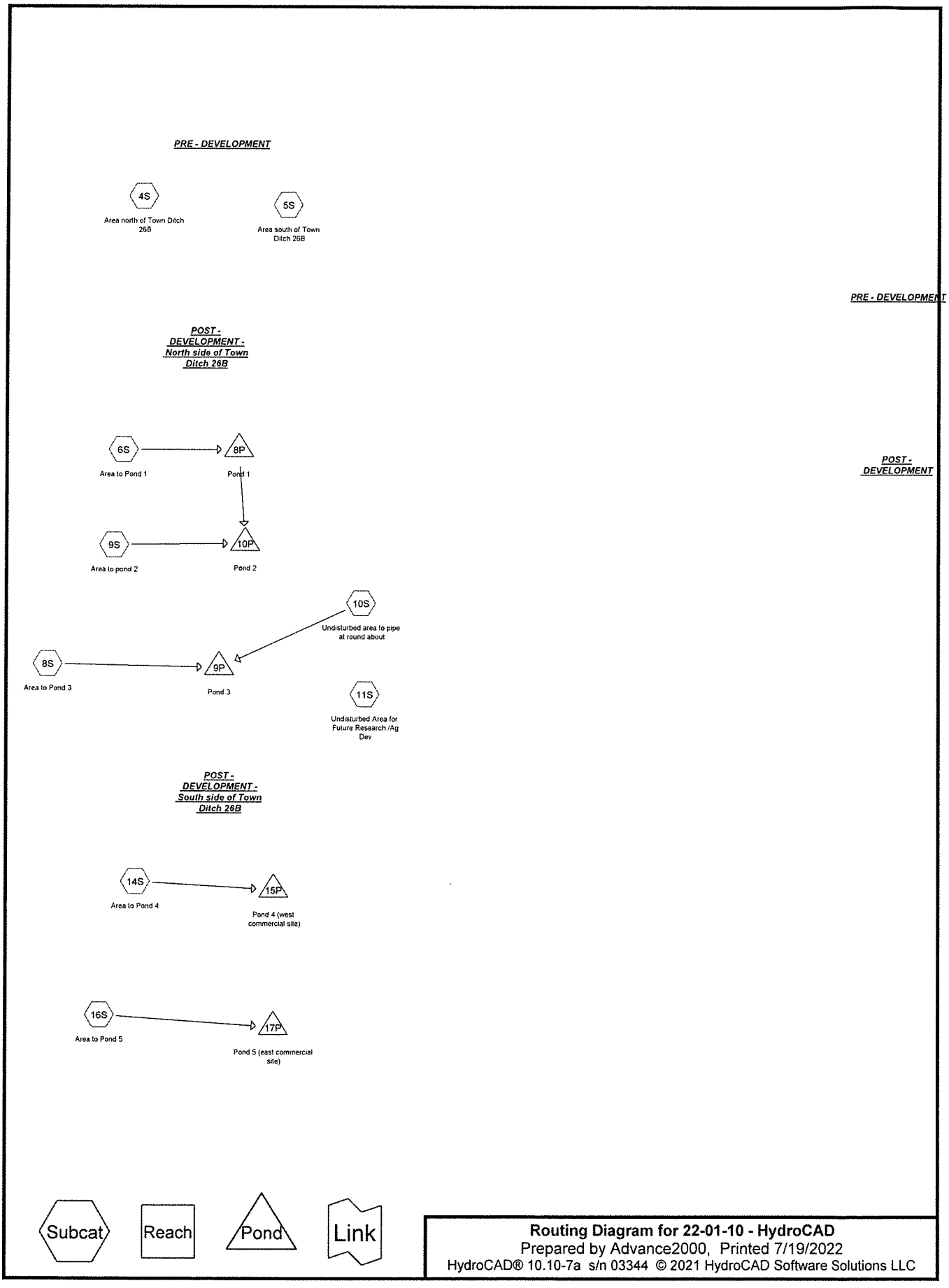
Total RRV	432.22
Total Area	0.27
Total Impervious Area	0.13
Total Volume Treated	0.00
Rooftop Disconnect Impervious Area Total	0.00

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX D

PRE–DEVELOPMENT HYDROGRAPHS
&
POST-DEVELOPMENT HYDROGRAPHS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



PRE - DEVELOPMENT
POST - DEVELOPMENT

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Existing Conditions

Project Notes

Rainfall events imported from "21158 Hydrocad Pond-adc.hcp"

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	Type II 24-hr		Default	24.00	1	1.83	2
2	10-Year	Type II 24-hr		Default	24.00	1	3.14	2
3	25-Year	Type II 24-hr		Default	24.00	1	3.84	2
4	90%	Type II 24-hr		Default	24.00	1	1.00	2
5	100-Year	Type II 24-hr		Default	24.00	1	5.22	2

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 4S: Area north of Town Ditch 26B

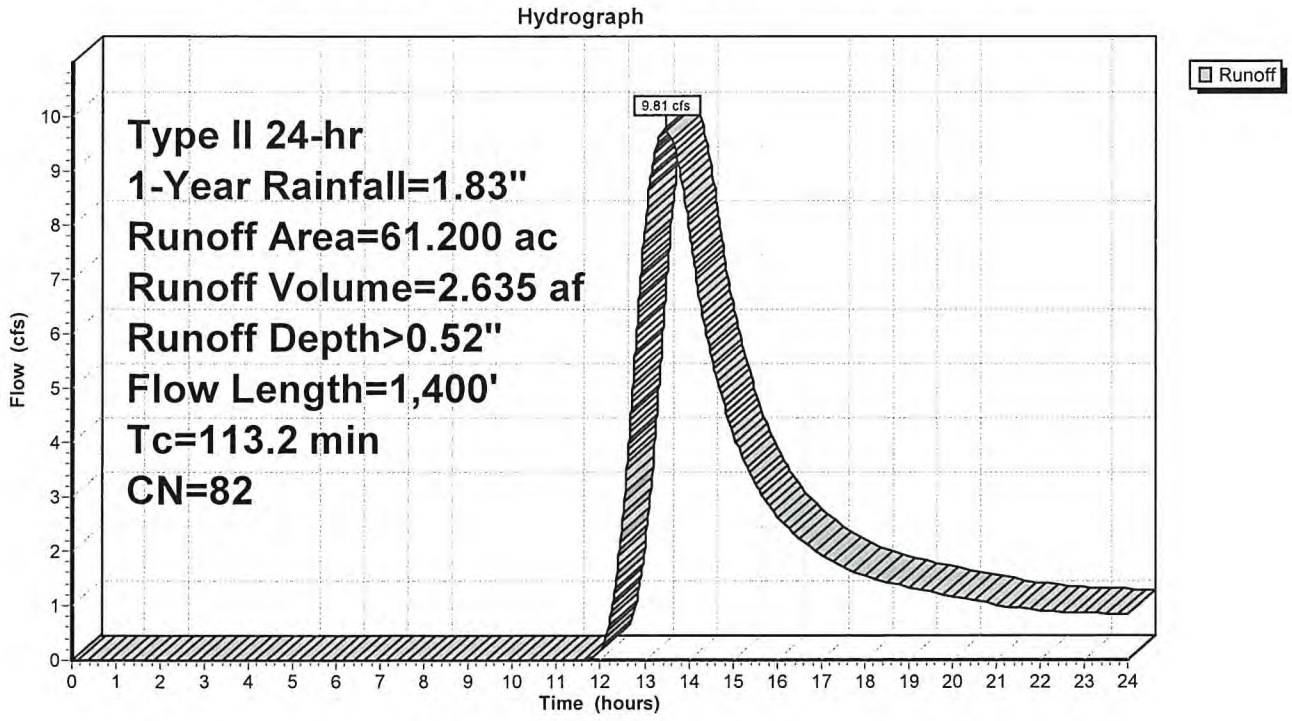
Runoff = 9.81 cfs @ 13.46 hrs, Volume= 2.635 af, Depth> 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.83"

Area (ac)	CN	Description
61.200	82	Woods/grass comb., Fair, HSG D
61.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
66.7	150	0.0036	0.04		**Sheet Flow, sheet** Woods: Light underbrush n= 0.400 P2= 2.50"
26.8	440	0.0030	0.27		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
17.6	600	0.0040	0.57		**Shallow Concentrated Flow, shallow ditch flow** Cultivated Straight Rows Kv= 9.0 fps
2.1	210	0.0120	1.64		**Shallow Concentrated Flow, shallow ditch flow** Grassed Waterway Kv= 15.0 fps
113.2	1,400	Total			

Subcatchment 4S: Area north of Town Ditch 26B



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 4S: Area north of Town Ditch 26B

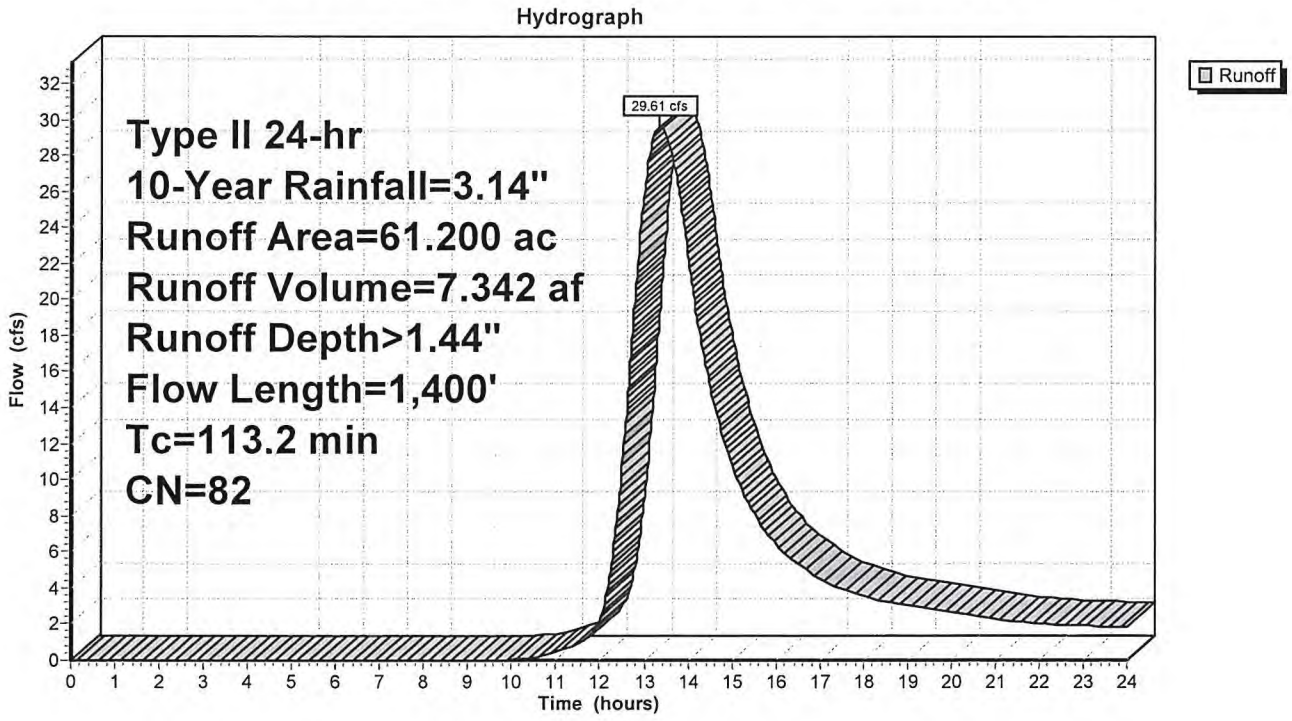
Runoff = 29.61 cfs @ 13.34 hrs, Volume= 7.342 af, Depth> 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (ac)	CN	Description
61.200	82	Woods/grass comb., Fair, HSG D
61.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
66.7	150	0.0036	0.04		**Sheet Flow, sheet** Woods: Light underbrush n= 0.400 P2= 2.50"
26.8	440	0.0030	0.27		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
17.6	600	0.0040	0.57		**Shallow Concentrated Flow, shallow ditch flow** Cultivated Straight Rows Kv= 9.0 fps
2.1	210	0.0120	1.64		**Shallow Concentrated Flow, shallow ditch flow** Grassed Waterway Kv= 15.0 fps
113.2	1,400	Total			

Subcatchment 4S: Area north of Town Ditch 26B



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 4S: Area north of Town Ditch 26B

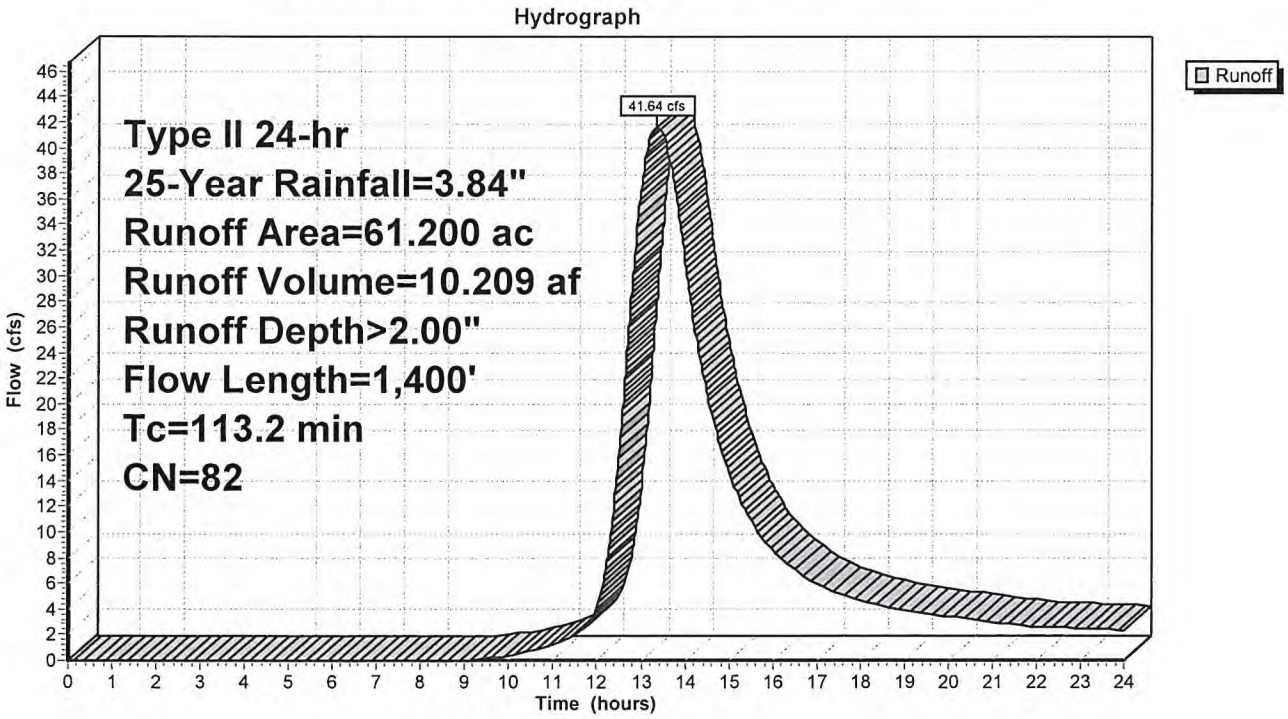
Runoff = 41.64 cfs @ 13.33 hrs, Volume= 10.209 af, Depth> 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (ac)	CN	Description
61.200	82	Woods/grass comb., Fair, HSG D
61.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
66.7	150	0.0036	0.04		**Sheet Flow, sheet** Woods: Light underbrush n= 0.400 P2= 2.50"
26.8	440	0.0030	0.27		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
17.6	600	0.0040	0.57		**Shallow Concentrated Flow, shallow ditch flow** Cultivated Straight Rows Kv= 9.0 fps
2.1	210	0.0120	1.64		**Shallow Concentrated Flow, shallow ditch flow** Grassed Waterway Kv= 15.0 fps
113.2	1,400	Total			

Subcatchment 4S: Area north of Town Ditch 26B



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 4S: Area north of Town Ditch 26B

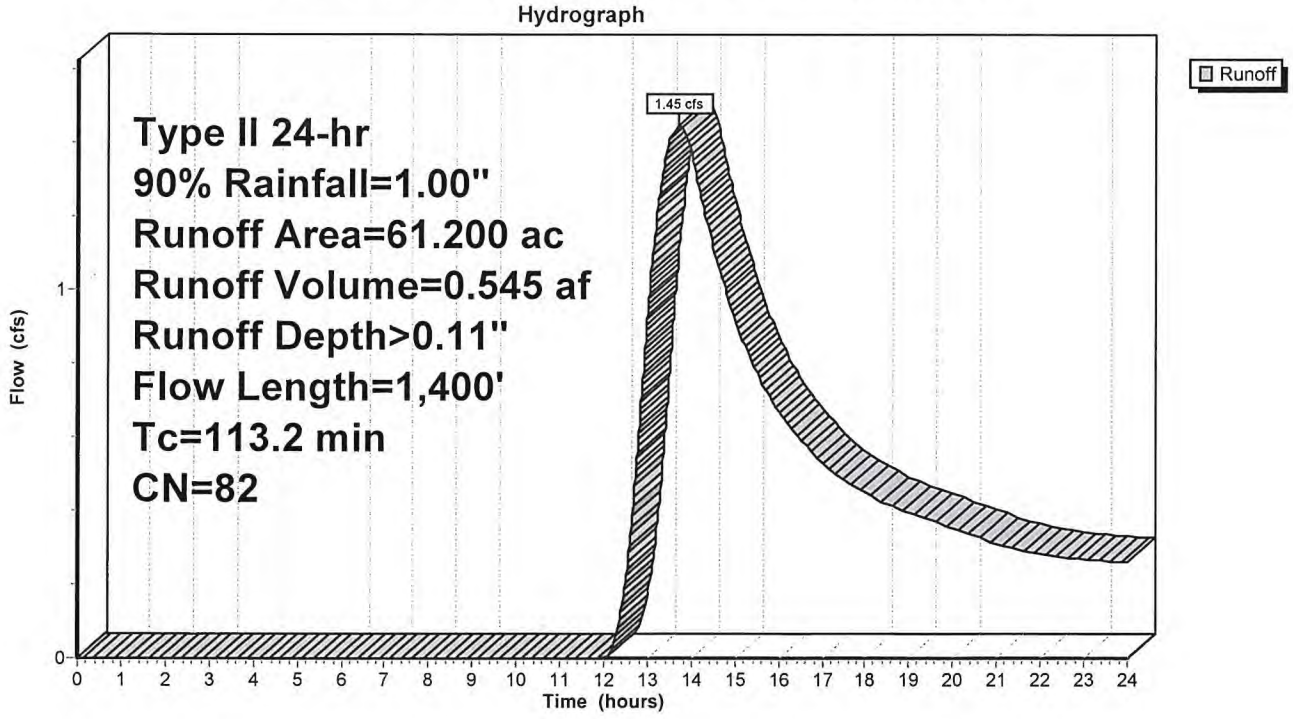
Runoff = 1.45 cfs @ 13.71 hrs, Volume= 0.545 af, Depth> 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 90% Rainfall=1.00"

Area (ac)	CN	Description
61.200	82	Woods/grass comb., Fair, HSG D
61.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
66.7	150	0.0036	0.04		**Sheet Flow, sheet** Woods: Light underbrush n= 0.400 P2= 2.50"
26.8	440	0.0030	0.27		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
17.6	600	0.0040	0.57		**Shallow Concentrated Flow, shallow ditch flow** Cultivated Straight Rows Kv= 9.0 fps
2.1	210	0.0120	1.64		**Shallow Concentrated Flow, shallow ditch flow** Grassed Waterway Kv= 15.0 fps
113.2	1,400	Total			

Subcatchment 4S: Area north of Town Ditch 26B



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 4S: Area north of Town Ditch 26B

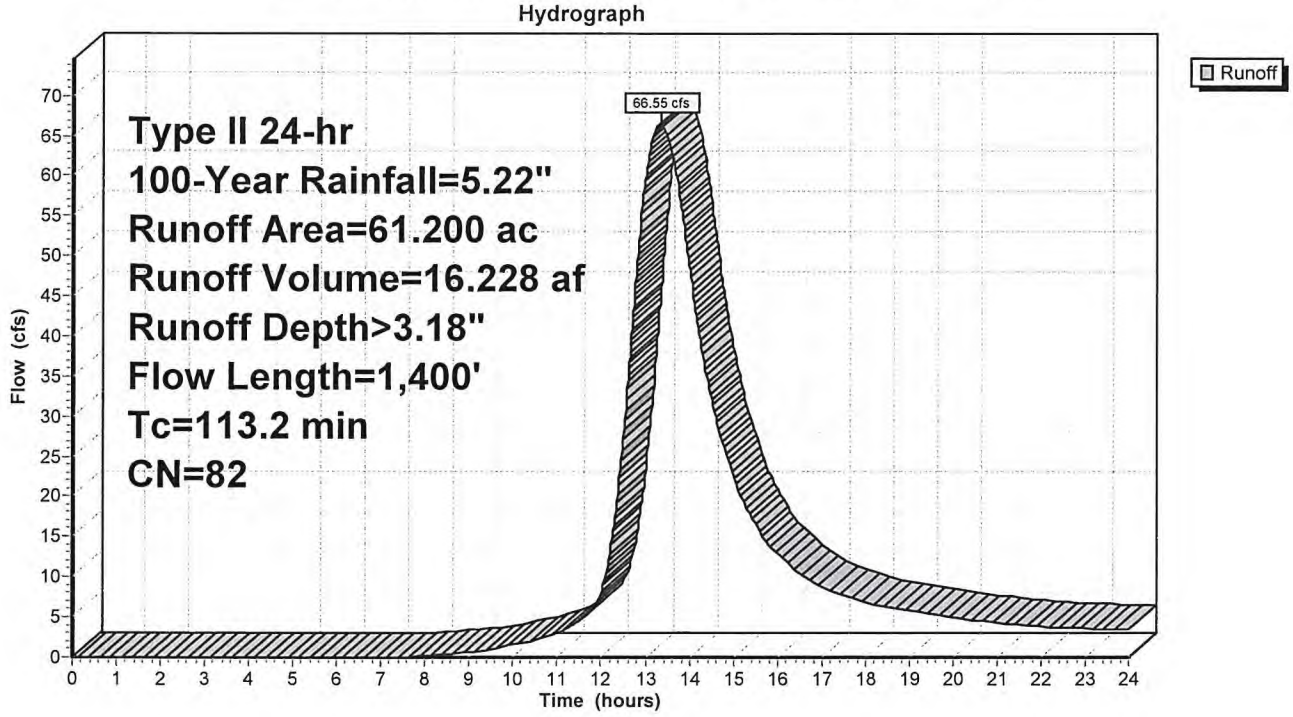
Runoff = 66.55 cfs @ 13.33 hrs, Volume= 16.228 af, Depth> 3.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.22"

Area (ac)	CN	Description
61.200	82	Woods/grass comb., Fair, HSG D
61.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
66.7	150	0.0036	0.04		**Sheet Flow, sheet** Woods: Light underbrush n= 0.400 P2= 2.50"
26.8	440	0.0030	0.27		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
17.6	600	0.0040	0.57		**Shallow Concentrated Flow, shallow ditch flow** Cultivated Straight Rows Kv= 9.0 fps
2.1	210	0.0120	1.64		**Shallow Concentrated Flow, shallow ditch flow** Grassed Waterway Kv= 15.0 fps
113.2	1,400	Total			

Subcatchment 4S: Area north of Town Ditch 26B



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 5S: Area south of Town Ditch 26B

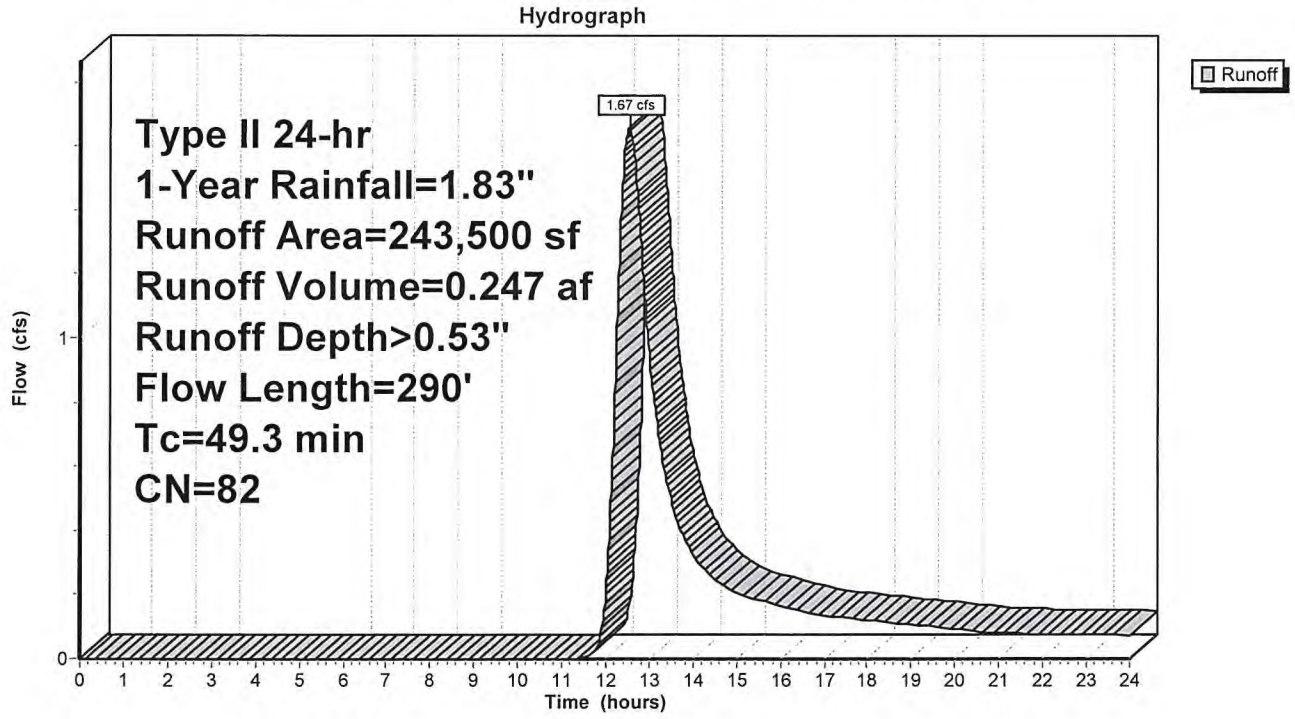
Runoff = 1.67 cfs @ 12.54 hrs, Volume= 0.247 af, Depth> 0.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.83"

Area (sf)	CN	Description
243,500	82	Woods/grass comb., Fair, HSG D
243,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.1	150	0.0096	0.06		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 2.50"
4.2	140	0.0125	0.56		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
49.3	290	Total			

Subcatchment 5S: Area south of Town Ditch 26B



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 5S: Area south of Town Ditch 26B

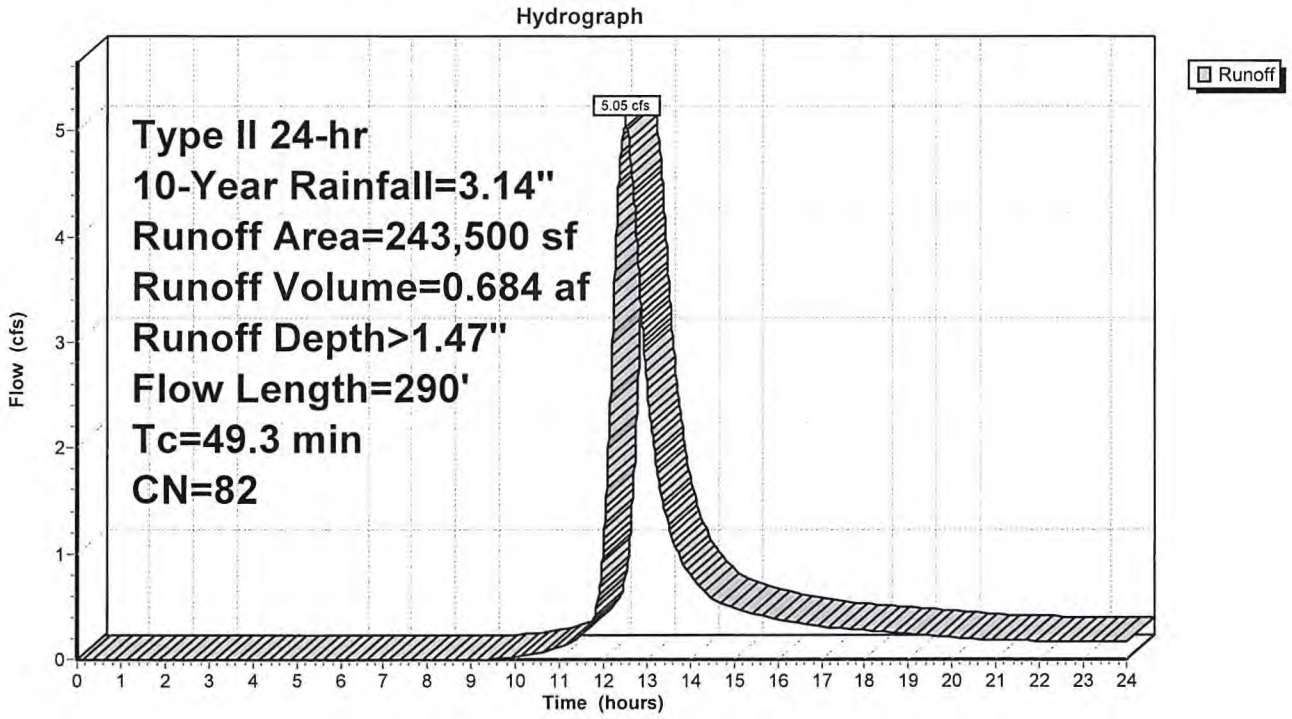
Runoff = 5.05 cfs @ 12.49 hrs, Volume= 0.684 af, Depth> 1.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (sf)	CN	Description
243,500	82	Woods/grass comb., Fair, HSG D
243,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.1	150	0.0096	0.06		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 2.50"
4.2	140	0.0125	0.56		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
49.3	290	Total			

Subcatchment 5S: Area south of Town Ditch 26B



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 5S: Area south of Town Ditch 26B

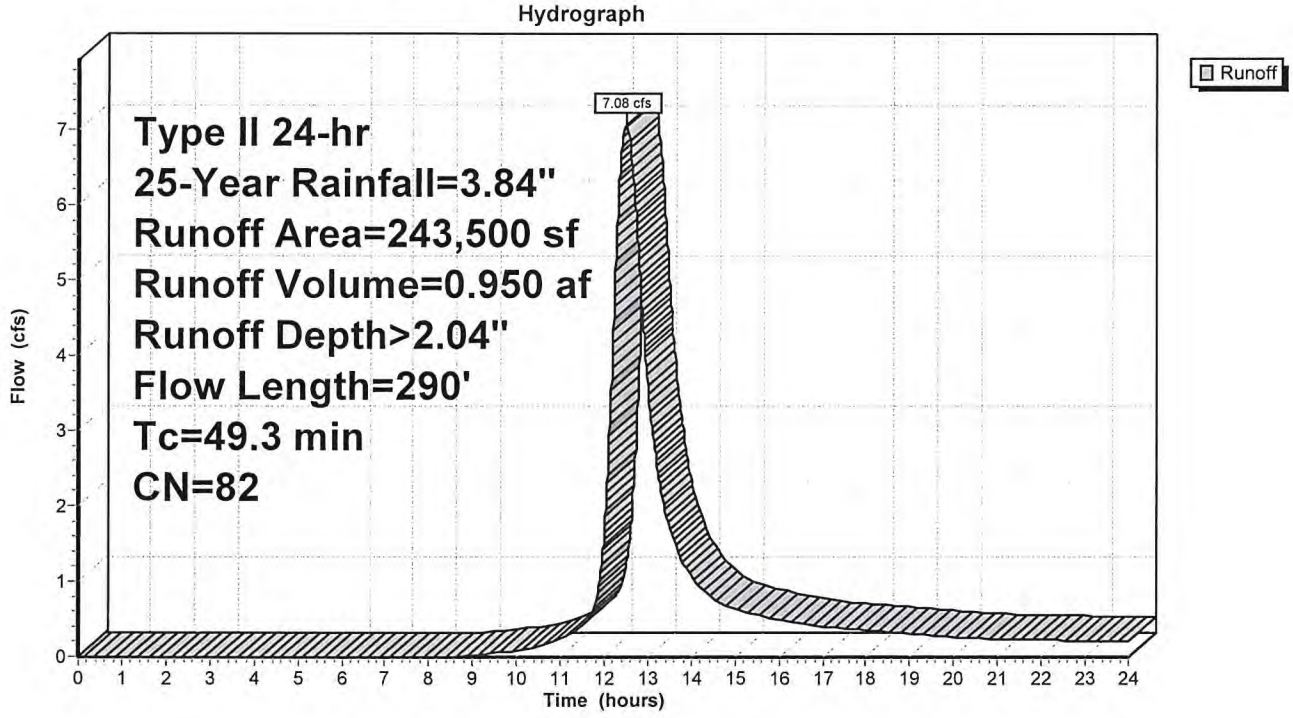
Runoff = 7.08 cfs @ 12.49 hrs, Volume= 0.950 af, Depth> 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (sf)	CN	Description
243,500	82	Woods/grass comb., Fair, HSG D
243,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.1	150	0.0096	0.06		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 2.50"
4.2	140	0.0125	0.56		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
49.3	290	Total			

Subcatchment 5S: Area south of Town Ditch 26B



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 5S: Area south of Town Ditch 26B

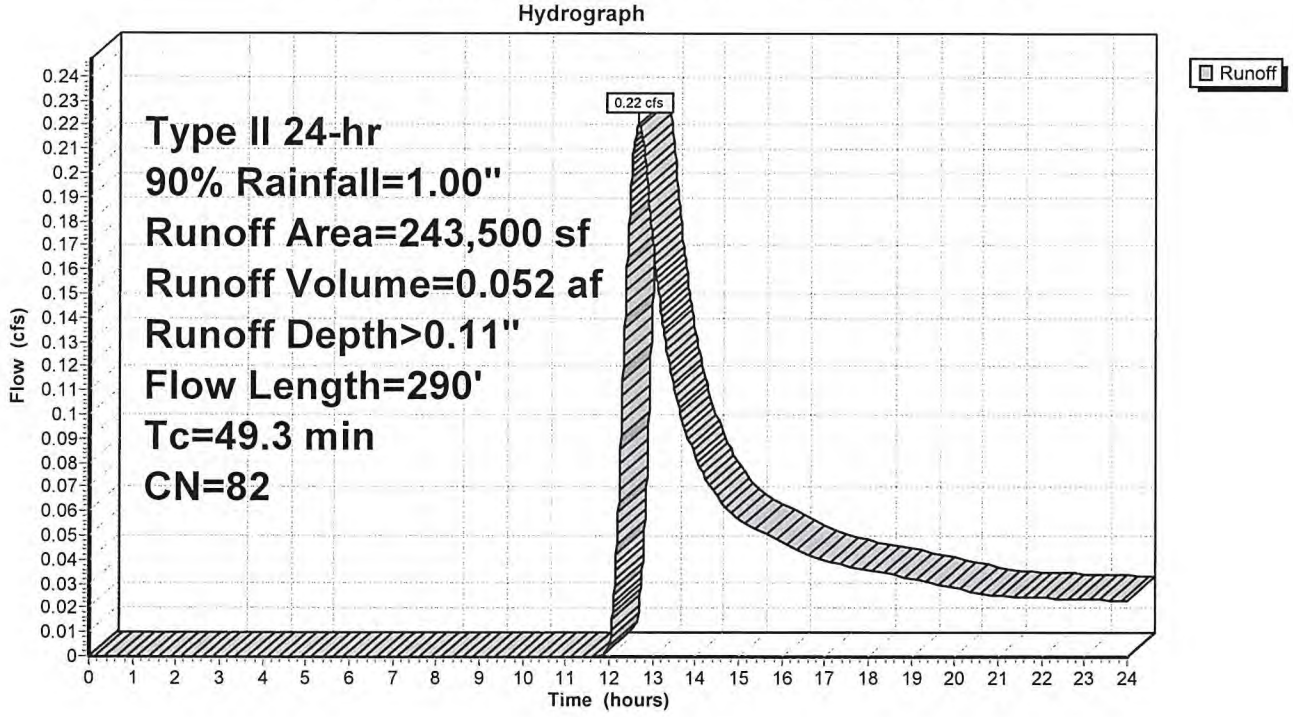
Runoff = 0.22 cfs @ 12.65 hrs, Volume= 0.052 af, Depth> 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 90% Rainfall=1.00"

Area (sf)	CN	Description
243,500	82	Woods/grass comb., Fair, HSG D
243,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.1	150	0.0096	0.06		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 2.50"
4.2	140	0.0125	0.56		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
49.3	290	Total			

Subcatchment 5S: Area south of Town Ditch 26B



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 5S: Area south of Town Ditch 26B

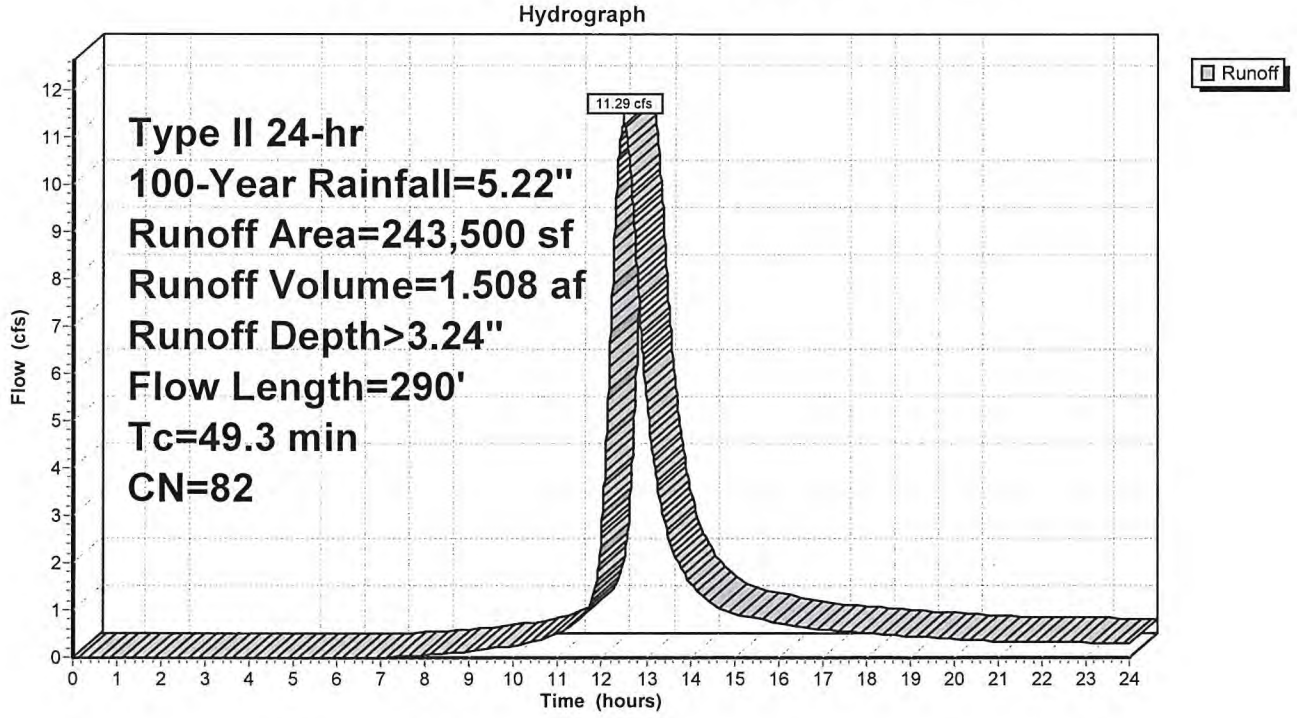
Runoff = 11.29 cfs @ 12.49 hrs, Volume= 1.508 af, Depth> 3.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.22"

Area (sf)	CN	Description
243,500	82	Woods/grass comb., Fair, HSG D
243,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
45.1	150	0.0096	0.06		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 2.50"
4.2	140	0.0125	0.56		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
49.3	290	Total			

Subcatchment 5S: Area south of Town Ditch 26B



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

PROPOSED CONDITIONS

AREA NORTH OF TOWN DITCH 26B

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	Type II 24-hr		Default	24.00	1	1.83	2
2	10-Year	Type II 24-hr		Default	24.00	1	3.14	2
3	25-Year	Type II 24-hr		Default	24.00	1	3.84	2
4	90%	Type II 24-hr		Default	24.00	1	1.00	2
5	100-Year	Type II 24-hr		Default	24.00	1	5.22	2

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 16P: Pond 1

Inflow Area = 1.933 ac, 58.87% Impervious, Inflow Depth > 1.01" for 1-Year event
Inflow = 2.42 cfs @ 12.08 hrs, Volume= 0.163 af
Outflow = 0.24 cfs @ 12.88 hrs, Volume= 0.139 af, Atten= 90%, Lag= 47.5 min
Primary = 0.24 cfs @ 12.88 hrs, Volume= 0.139 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 576.04' @ 12.88 hrs Surf.Area= 15,747 sf Storage= 3,698 cf

Plug-Flow detention time= 231.5 min calculated for 0.139 af (85% of inflow)
Center-of-Mass det. time= 164.5 min (993.7 - 829.2)

Volume	Invert	Avail.Storage	Storage Description
#1	575.60'	71,199 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

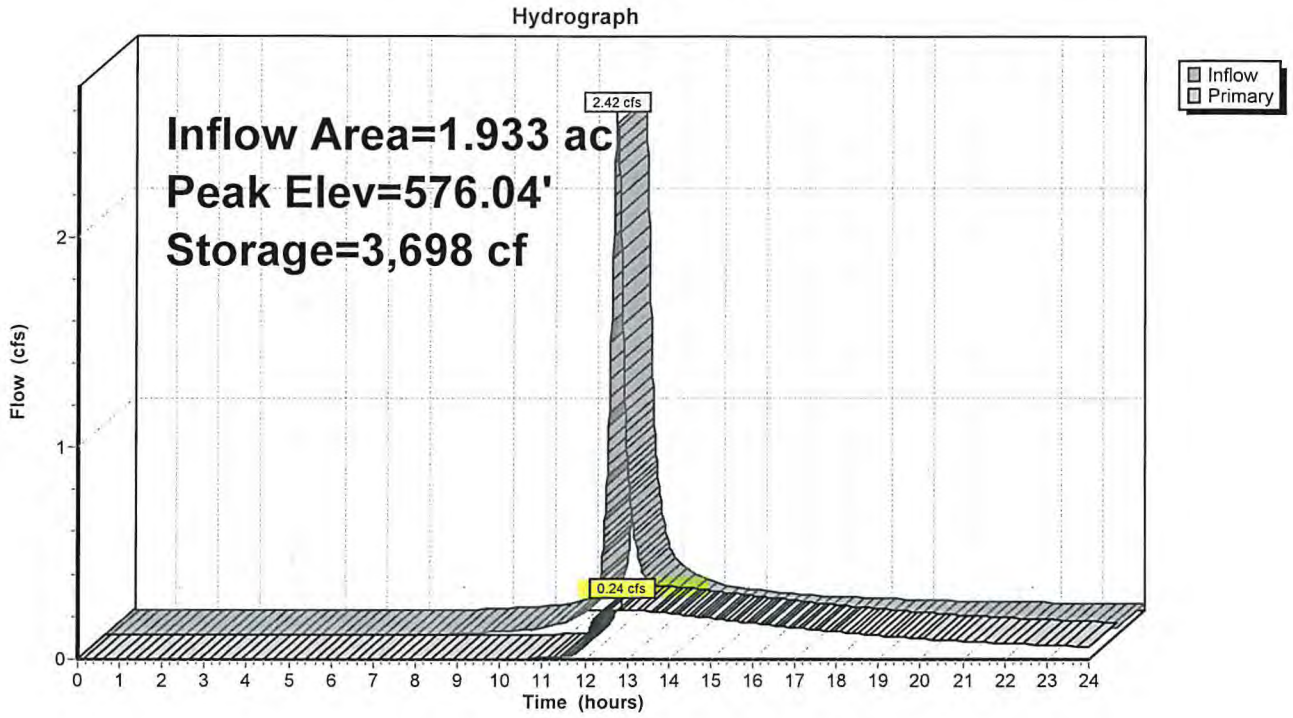
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.60	0	0	0
576.00	15,677	3,135	3,135
577.00	17,620	16,649	19,784
578.00	19,797	18,709	38,492
579.00	22,375	21,086	59,578
579.50	24,108	11,621	71,199

Device	Routing	Invert	Outlet Devices
#1	Primary	575.60'	**8.0" Round Culvert** L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 575.60' / 575.51' S= 0.0032 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	579.00'	**4.7" x 1.0" Horiz. Orifice/Grate X 4.00 columns** X 4 rows C= 0.600 in 24.0" x 24.0" Grate (13% open area) Limited to weir flow at low heads
#3	Device 1	575.65'	**6.0" Round Culvert** L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 575.65' / 575.61' S= 0.0040 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.24 cfs @ 12.88 hrs HW=576.04' (Free Discharge)
└**1=Culvert** (Passes 0.24 cfs of 0.35 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Culvert** (Barrel Controls 0.24 cfs @ 2.00 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 16P: Pond 1



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 16P: Pond 1

Inflow Area = 1.933 ac, 58.87% Impervious, Inflow Depth > 2.19" for 10-Year event
Inflow = 5.16 cfs @ 12.08 hrs, Volume= 0.353 af
Outflow = 0.49 cfs @ 12.82 hrs, Volume= 0.308 af, Atten= 90%, Lag= 44.3 min
Primary = 0.49 cfs @ 12.82 hrs, Volume= 0.308 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 576.33' @ 12.82 hrs Surf.Area= 16,309 sf Storage= 8,339 cf

Plug-Flow detention time= 235.9 min calculated for 0.308 af (87% of inflow)
Center-of-Mass det. time= 175.8 min (983.4 - 807.5)

Volume	Invert	Avail.Storage	Storage Description
#1	575.60'	71,199 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

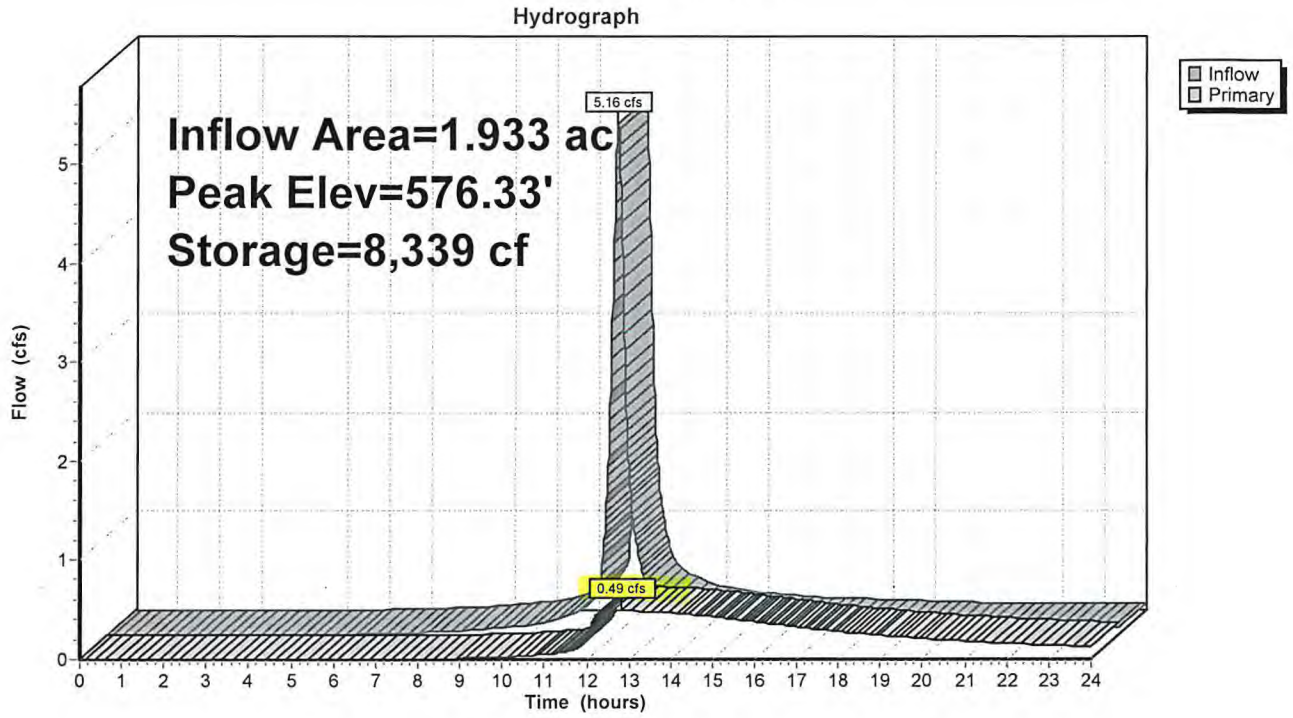
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.60	0	0	0
576.00	15,677	3,135	3,135
577.00	17,620	16,649	19,784
578.00	19,797	18,709	38,492
579.00	22,375	21,086	59,578
579.50	24,108	11,621	71,199

Device	Routing	Invert	Outlet Devices
#1	Primary	575.60'	**8.0" Round Culvert** L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 575.60' / 575.51' S= 0.0032 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	579.00'	**4.7" x 1.0" Horiz. Orifice/Grate X 4.00 columns** X 4 rows C= 0.600 in 24.0" x 24.0" Grate (13% open area) Limited to weir flow at low heads
#3	Device 1	575.65'	**6.0" Round Culvert** L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 575.65' / 575.61' S= 0.0040 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.48 cfs @ 12.82 hrs HW=576.33' (Free Discharge)
└**1=Culvert** (Passes 0.48 cfs of 0.78 cfs potential flow)
  └**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Culvert** (Barrel Controls 0.48 cfs @ 2.46 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 16P: Pond 1



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 16P: Pond 1

Inflow Area = 1.933 ac, 58.87% Impervious, Inflow Depth > 2.85" for 25-Year event
Inflow = 6.64 cfs @ 12.08 hrs, Volume= 0.460 af
Outflow = 0.64 cfs @ 12.80 hrs, Volume= 0.401 af, Atten= 90%, Lag= 43.0 min
Primary = 0.64 cfs @ 12.80 hrs, Volume= 0.401 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 576.48' @ 12.80 hrs Surf.Area= 16,616 sf Storage= 10,936 cf

Plug-Flow detention time= 241.4 min calculated for 0.401 af (87% of inflow)
Center-of-Mass det. time= 181.7 min (981.9 - 800.2)

Volume	Invert	Avail.Storage	Storage Description
#1	575.60'	71,199 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

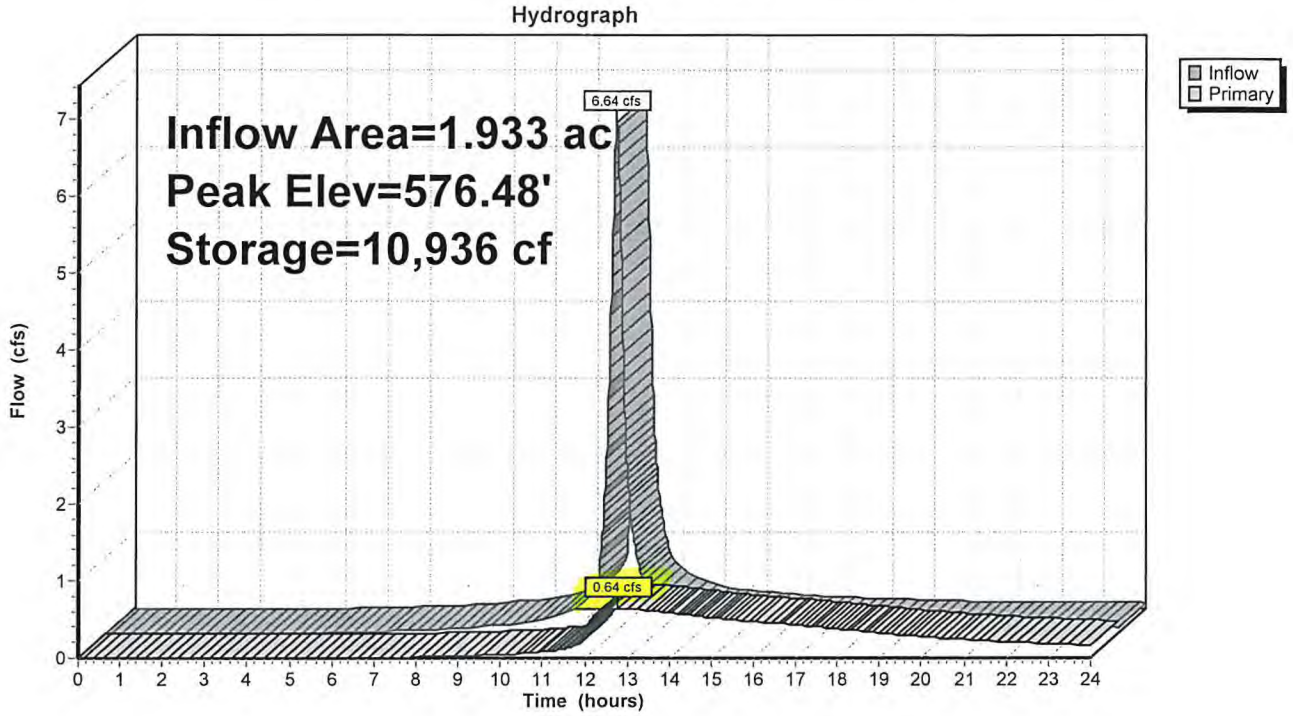
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.60	0	0	0
576.00	15,677	3,135	3,135
577.00	17,620	16,649	19,784
578.00	19,797	18,709	38,492
579.00	22,375	21,086	59,578
579.50	24,108	11,621	71,199

Device	Routing	Invert	Outlet Devices
#1	Primary	575.60'	**8.0" Round Culvert** L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 575.60' / 575.51' S= 0.0032 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	579.00'	**4.7" x 1.0" Horiz. Orifice/Grate X 4.00 columns** X 4 rows C= 0.600 in 24.0" x 24.0" Grate (13% open area) Limited to weir flow at low heads
#3	Device 1	575.65'	**6.0" Round Culvert** L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 575.65' / 575.61' S= 0.0040 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.64 cfs @ 12.80 hrs HW=576.48' (Free Discharge)
└─**1=Culvert** (Passes 0.64 cfs of 0.91 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  └─**3=Culvert** (Barrel Controls 0.64 cfs @ 3.24 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 16P: Pond 1



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 16P: Pond 1

Inflow Area = 1.933 ac, 58.87% Impervious, Inflow Depth > 0.36" for 90% event
Inflow = 0.83 cfs @ 12.10 hrs, Volume= 0.058 af
Outflow = 0.07 cfs @ 13.32 hrs, Volume= 0.045 af, Atten= 92%, Lag= 73.1 min
Primary = 0.07 cfs @ 13.32 hrs, Volume= 0.045 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 575.85' @ 13.32 hrs Surf.Area= 9,723 sf Storage= 1,206 cf

Plug-Flow detention time= 245.8 min calculated for 0.045 af (79% of inflow)
Center-of-Mass det. time= 157.6 min (1,016.6 - 859.0)

Volume	Invert	Avail.Storage	Storage Description
#1	575.60'	71,199 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

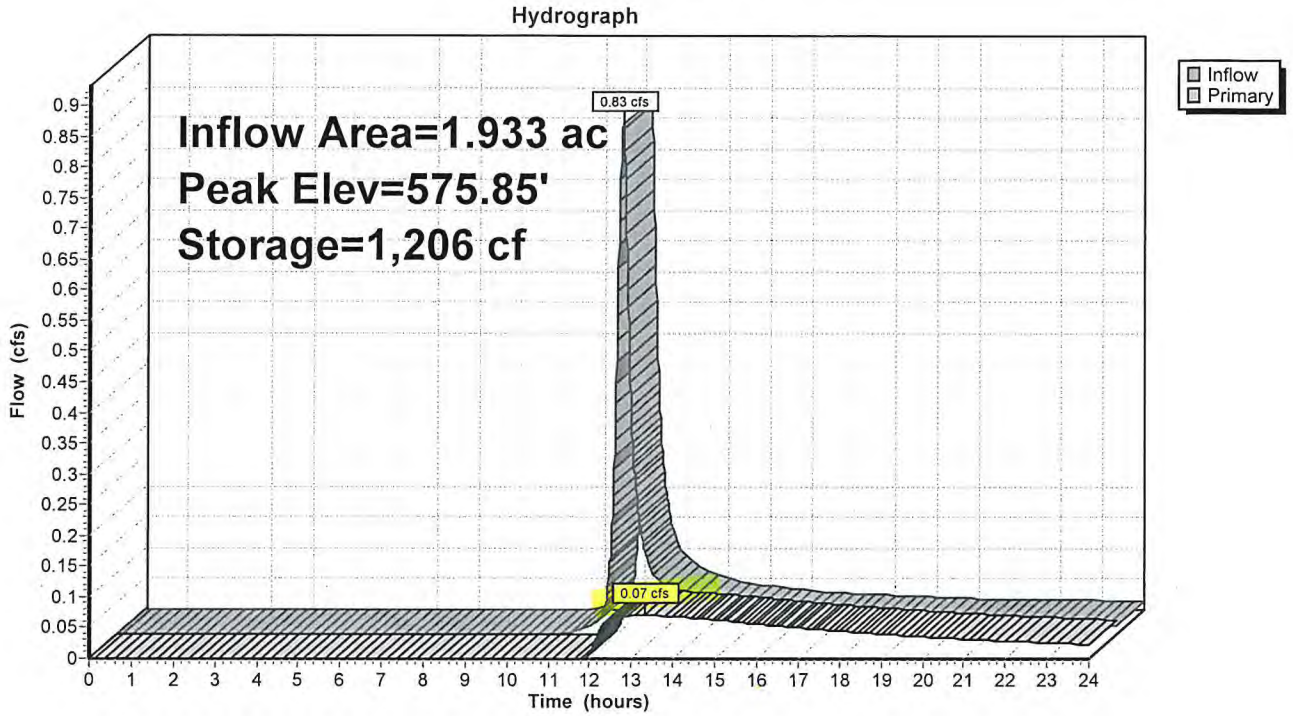
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.60	0	0	0
576.00	15,677	3,135	3,135
577.00	17,620	16,649	19,784
578.00	19,797	18,709	38,492
579.00	22,375	21,086	59,578
579.50	24,108	11,621	71,199

Device	Routing	Invert	Outlet Devices
#1	Primary	575.60'	**8.0" Round Culvert** L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 575.60' / 575.51' S= 0.0032 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	579.00'	**4.7" x 1.0" Horiz. Orifice/Grate X 4.00 columns** X 4 rows C= 0.600 in 24.0" x 24.0" Grate (13% open area) Limited to weir flow at low heads
#3	Device 1	575.65'	**6.0" Round Culvert** L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 575.65' / 575.61' S= 0.0040 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.07 cfs @ 13.32 hrs HW=575.85' (Free Discharge)
└**1=Culvert** (Passes 0.07 cfs of 0.12 cfs potential flow)
  └**2=Orifice/Grate** (Controls 0.00 cfs)
  └**3=Culvert** (Barrel Controls 0.07 cfs @ 1.43 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 16P: Pond 1



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 16P: Pond 1

Inflow Area = 1.933 ac, 58.87% Impervious, Inflow Depth > 4.18" for 100-Year event
Inflow = 9.54 cfs @ 12.08 hrs, Volume= 0.674 af
Outflow = 0.86 cfs @ 12.83 hrs, Volume= 0.586 af, Atten= 91%, Lag= 44.7 min
Primary = 0.86 cfs @ 12.83 hrs, Volume= 0.586 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 576.79' @ 12.83 hrs Surf.Area= 17,221 sf Storage= 16,207 cf

Plug-Flow detention time= 251.4 min calculated for 0.586 af (87% of inflow)
Center-of-Mass det. time= 191.1 min (980.8 - 789.7)

Volume	Invert	Avail.Storage	Storage Description
#1	575.60'	71,199 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

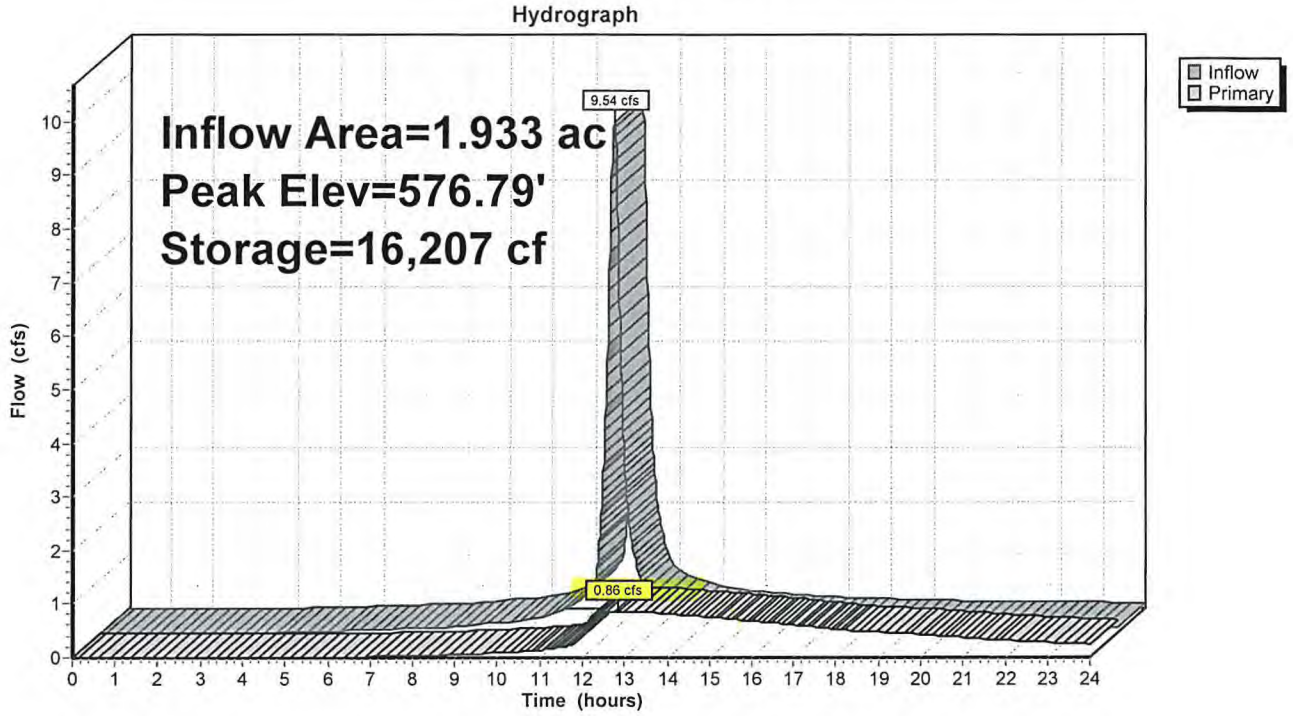
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.60	0	0	0
576.00	15,677	3,135	3,135
577.00	17,620	16,649	19,784
578.00	19,797	18,709	38,492
579.00	22,375	21,086	59,578
579.50	24,108	11,621	71,199

Device	Routing	Invert	Outlet Devices
#1	Primary	575.60'	**8.0" Round Culvert** L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 575.60' / 575.51' S= 0.0032 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	579.00'	**4.7" x 1.0" Horiz. Orifice/Grate X 4.00 columns** X 4 rows C= 0.600 in 24.0" x 24.0" Grate (13% open area) Limited to weir flow at low heads
#3	Device 1	575.65'	**6.0" Round Culvert** L= 10.0' Ke= 0.500 Inlet / Outlet Invert= 575.65' / 575.61' S= 0.0040 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.86 cfs @ 12.83 hrs HW=576.79' (Free Discharge)
└─**1=Culvert** (Passes 0.86 cfs of 1.27 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  └─**3=Culvert** (Barrel Controls 0.86 cfs @ 4.39 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 16P: Pond 1



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	Type II 24-hr		Default	24.00	1	1.83	2
2	10-Year	Type II 24-hr		Default	24.00	1	3.14	2
3	25-Year	Type II 24-hr		Default	24.00	1	3.84	2
4	90%	Type II 24-hr		Default	24.00	1	1.00	2
5	100-Year	Type II 24-hr		Default	24.00	1	5.22	2

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 18P: pond 2/3

Inflow Area = 44.293 ac, 6.80% Impervious, Inflow Depth > 0.56" for 1-Year event
Inflow = 7.57 cfs @ 13.46 hrs, Volume= 2.055 af
Outflow = 5.15 cfs @ 14.29 hrs, Volume= 1.958 af, Atten= 32%, Lag= 49.8 min
Primary = 5.15 cfs @ 14.29 hrs, Volume= 1.958 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 574.47' @ 14.29 hrs Surf.Area= 31,237 sf Storage= 21,819 cf

Plug-Flow detention time= 80.3 min calculated for 1.958 af (95% of inflow)
Center-of-Mass det. time= 58.1 min (997.4 - 939.2)

Volume	Invert	Avail.Storage	Storage Description
#1	573.50'	134,440 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

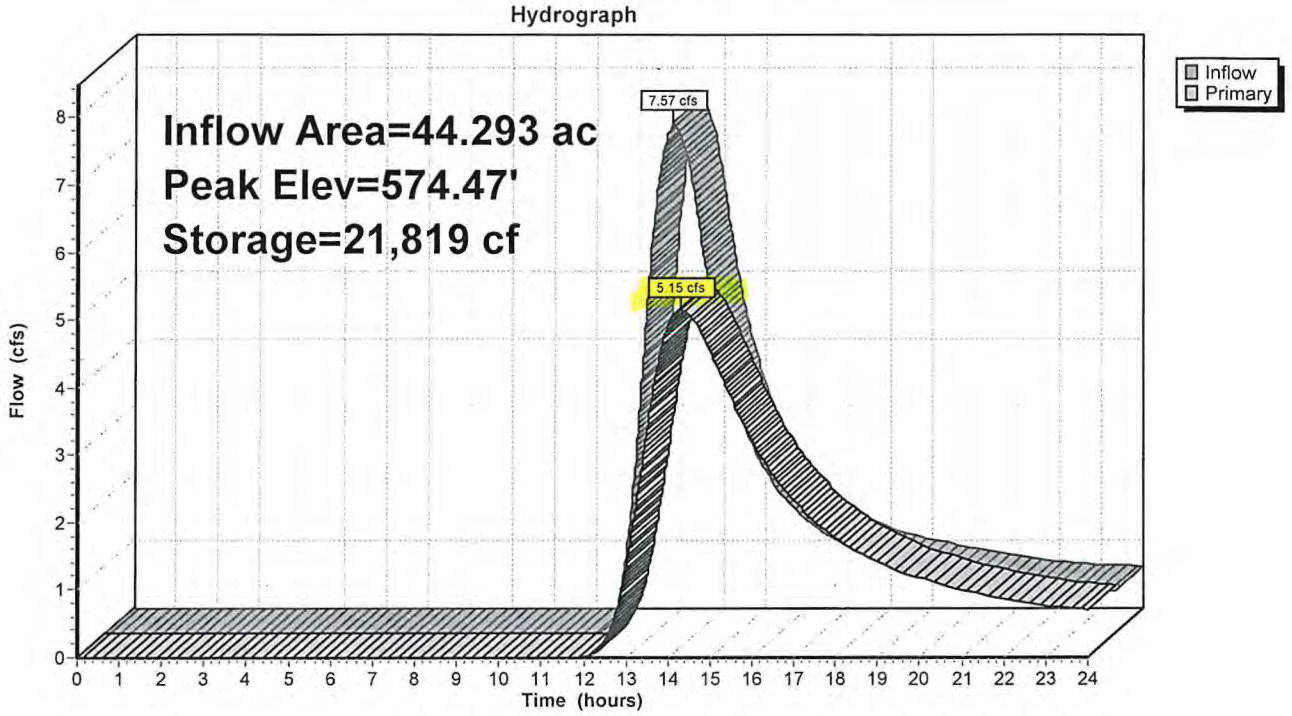
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
573.50	0	0	0
574.00	29,746	7,437	7,437
575.00	32,907	31,327	38,763
576.00	36,182	34,545	73,308
577.00	42,588	39,385	112,693
577.50	44,400	21,747	134,440

Device	Routing	Invert	Outlet Devices
#1	Primary	572.30'	**36.0" Round Culvert** L= 339.0' Ke= 0.500 Inlet / Outlet Invert= 572.30' / 572.20' S= 0.0003 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	576.30'	**4.7" x 1.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 in 36.0" x 36.0" Grate (13% open area) Limited to weir flow at low heads
#3	Device 1	573.50'	**18.0" Round Culvert** L= 70.0' Ke= 0.500 Inlet / Outlet Invert= 573.50' / 573.36' S= 0.0020 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#4	Device 1	573.80'	**15.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 573.80' / 573.36' S= 0.0293 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#5	Device 1	573.50'	**6.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 573.50' / 573.36' S= 0.0093 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf

Primary OutFlow Max=5.15 cfs @ 14.29 hrs HW=574.47' (Free Discharge)
└**1=Culvert** (Passes 5.15 cfs of 12.94 cfs potential flow)
  ├**2=Orifice/Grate** (Controls 0.00 cfs)
  ├**3=Culvert** (Barrel Controls 2.52 cfs @ 2.96 fps)
  ├**4=Culvert** (Inlet Controls 1.87 cfs @ 2.79 fps)
  └**5=Culvert** (Barrel Controls 0.75 cfs @ 3.83 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 18P: pond 2/3



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 18P: pond 2/3

Inflow Area = 44.293 ac, 6.80% Impervious, Inflow Depth > 1.51" for 10-Year event
Inflow = 22.01 cfs @ 13.46 hrs, Volume= 5.561 af
Outflow = 14.83 cfs @ 14.20 hrs, Volume= 5.370 af, Atten= 33%, Lag= 44.4 min
Primary = 14.83 cfs @ 14.20 hrs, Volume= 5.370 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 575.58' @ 14.20 hrs Surf.Area= 34,808 sf Storage= 58,418 cf

Plug-Flow detention time= 67.6 min calculated for 5.370 af (97% of inflow)
Center-of-Mass det. time= 50.7 min (964.5 - 913.8)

Volume	Invert	Avail.Storage	Storage Description
#1	573.50'	134,440 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

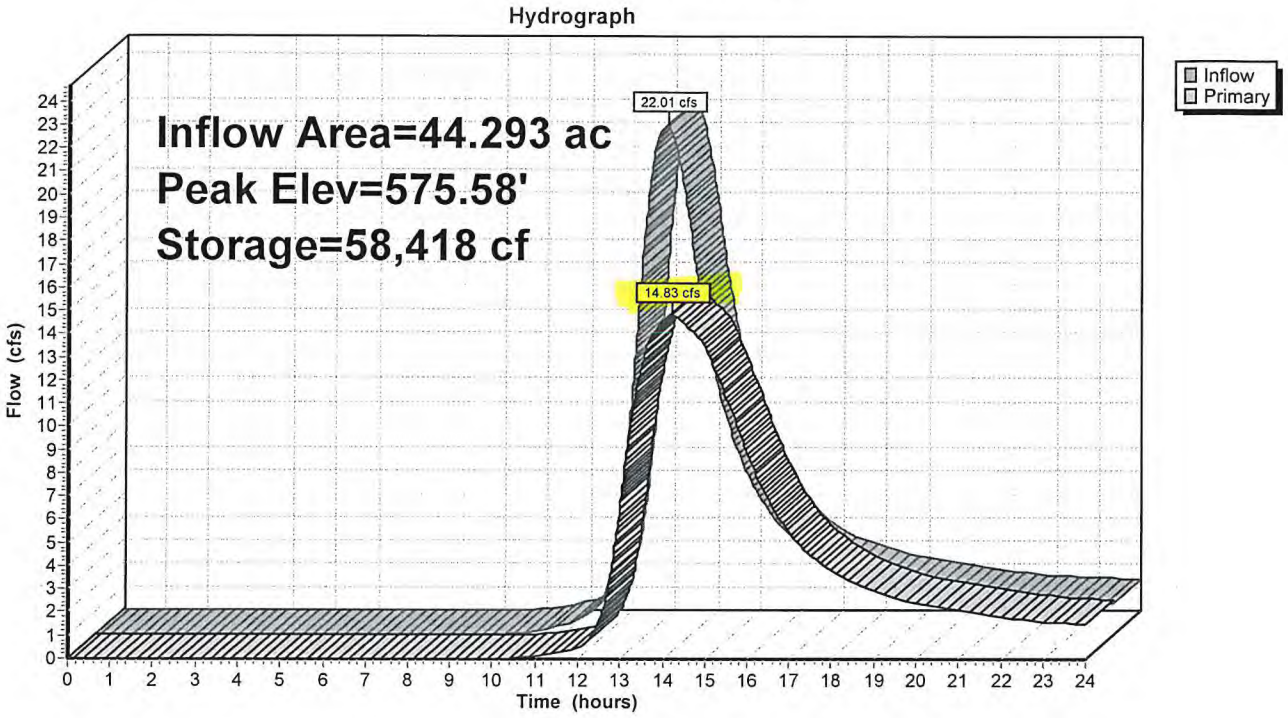
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
573.50	0	0	0
574.00	29,746	7,437	7,437
575.00	32,907	31,327	38,763
576.00	36,182	34,545	73,308
577.00	42,588	39,385	112,693
577.50	44,400	21,747	134,440

Device	Routing	Invert	Outlet Devices
#1	Primary	572.30'	**36.0" Round Culvert** L= 339.0' Ke= 0.500 Inlet / Outlet Invert= 572.30' / 572.20' S= 0.0003 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	576.30'	**4.7" x 1.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 in 36.0" x 36.0" Grate (13% open area) Limited to weir flow at low heads
#3	Device 1	573.50'	**18.0" Round Culvert** L= 70.0' Ke= 0.500 Inlet / Outlet Invert= 573.50' / 573.36' S= 0.0020 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#4	Device 1	573.80'	**15.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 573.80' / 573.36' S= 0.0293 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#5	Device 1	573.50'	**6.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 573.50' / 573.36' S= 0.0093 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf

Primary OutFlow Max=14.83 cfs @ 14.20 hrs HW=575.58' (Free Discharge)
└─**1=Culvert** (Passes 14.83 cfs of 25.92 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Culvert** (Barrel Controls 7.22 cfs @ 4.09 fps)
  ├─**4=Culvert** (Inlet Controls 6.35 cfs @ 5.18 fps)
  └─**5=Culvert** (Barrel Controls 1.26 cfs @ 6.42 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 18P: pond 2/3



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 18P: pond 2/3

Inflow Area = 44.293 ac, 6.80% Impervious, Inflow Depth > 2.08" for 25-Year event
Inflow = 30.59 cfs @ 13.45 hrs, Volume= 7.673 af
Outflow = 19.86 cfs @ 14.22 hrs, Volume= 7.438 af, Atten= 35%, Lag= 46.1 min
Primary = 19.86 cfs @ 14.22 hrs, Volume= 7.438 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 576.30' @ 14.22 hrs Surf.Area= 38,134 sf Storage= 84,628 cf

Plug-Flow detention time= 68.5 min calculated for 7.435 af (97% of inflow)
Center-of-Mass det. time= 53.1 min (958.8 - 905.7)

Volume	Invert	Avail.Storage	Storage Description
#1	573.50'	134,440 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

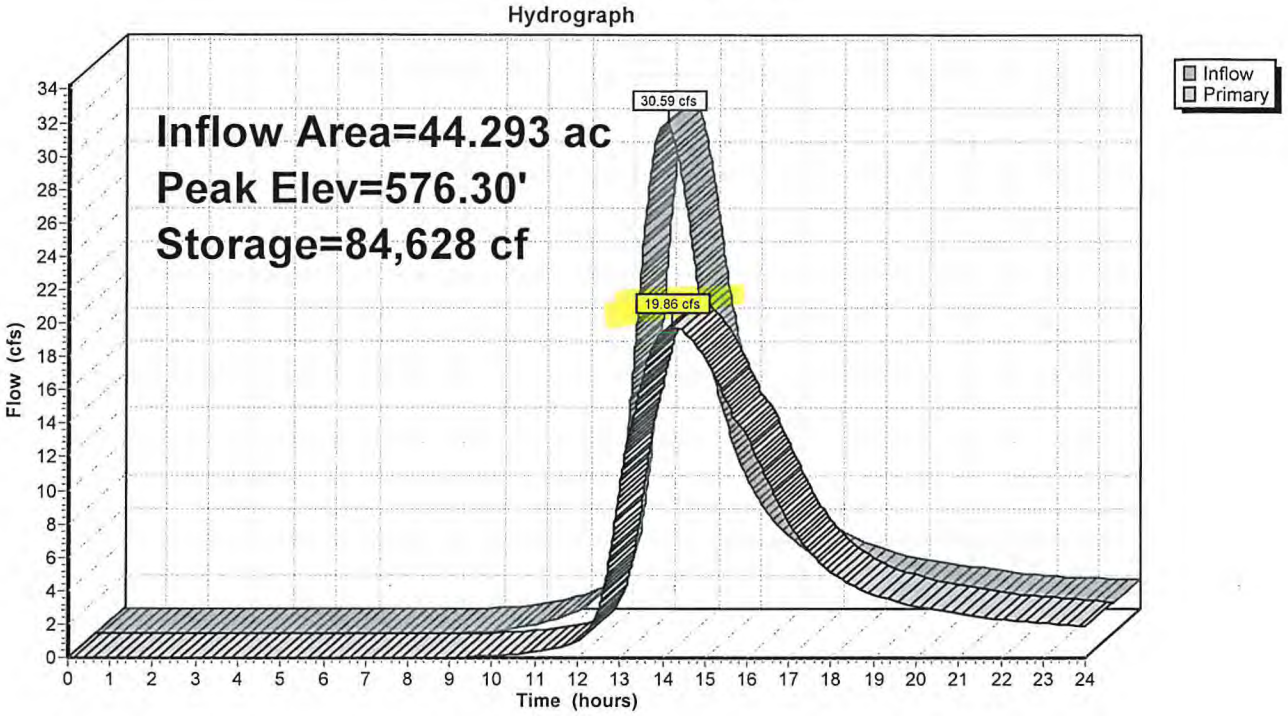
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
573.50	0	0	0
574.00	29,746	7,437	7,437
575.00	32,907	31,327	38,763
576.00	36,182	34,545	73,308
577.00	42,588	39,385	112,693
577.50	44,400	21,747	134,440

Device	Routing	Invert	Outlet Devices
#1	Primary	572.30'	**36.0" Round Culvert** L= 339.0' Ke= 0.500 Inlet / Outlet Invert= 572.30' / 572.20' S= 0.0003 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	576.30'	**4.7" x 1.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 in 36.0" x 36.0" Grate (13% open area) Limited to weir flow at low heads
#3	Device 1	573.50'	**18.0" Round Culvert** L= 70.0' Ke= 0.500 Inlet / Outlet Invert= 573.50' / 573.36' S= 0.0020 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#4	Device 1	573.80'	**15.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 573.80' / 573.36' S= 0.0293 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#5	Device 1	573.50'	**6.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 573.50' / 573.36' S= 0.0093 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf

Primary OutFlow Max=19.84 cfs @ 14.22 hrs HW=576.30' (Free Discharge)
└─**1=Culvert** (Passes 19.84 cfs of 29.96 cfs potential flow)
  ├─**2=Orifice/Grate** (Weir Controls 0.01 cfs @ 0.22 fps)
  ├─**3=Culvert** (Barrel Controls 10.22 cfs @ 5.78 fps)
  ├─**4=Culvert** (Inlet Controls 8.10 cfs @ 6.60 fps)
  └─**5=Culvert** (Barrel Controls 1.50 cfs @ 7.66 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 18P: pond 2/3



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 18P: pond 2/3

Inflow Area = 44.293 ac, 6.80% Impervious, Inflow Depth > 0.12" for 90% event
Inflow = 1.25 cfs @ 13.72 hrs, Volume= 0.457 af
Outflow = 0.77 cfs @ 15.05 hrs, Volume= 0.425 af, Atten= 39%, Lag= 79.6 min
Primary = 0.77 cfs @ 15.05 hrs, Volume= 0.425 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 573.89' @ 15.05 hrs Surf.Area= 23,327 sf Storage= 4,573 cf

Plug-Flow detention time= 96.6 min calculated for 0.425 af (93% of inflow)
Center-of-Mass det. time= 66.2 min (1,054.1 - 987.9)

Volume	Invert	Avail.Storage	Storage Description
#1	573.50'	134,440 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

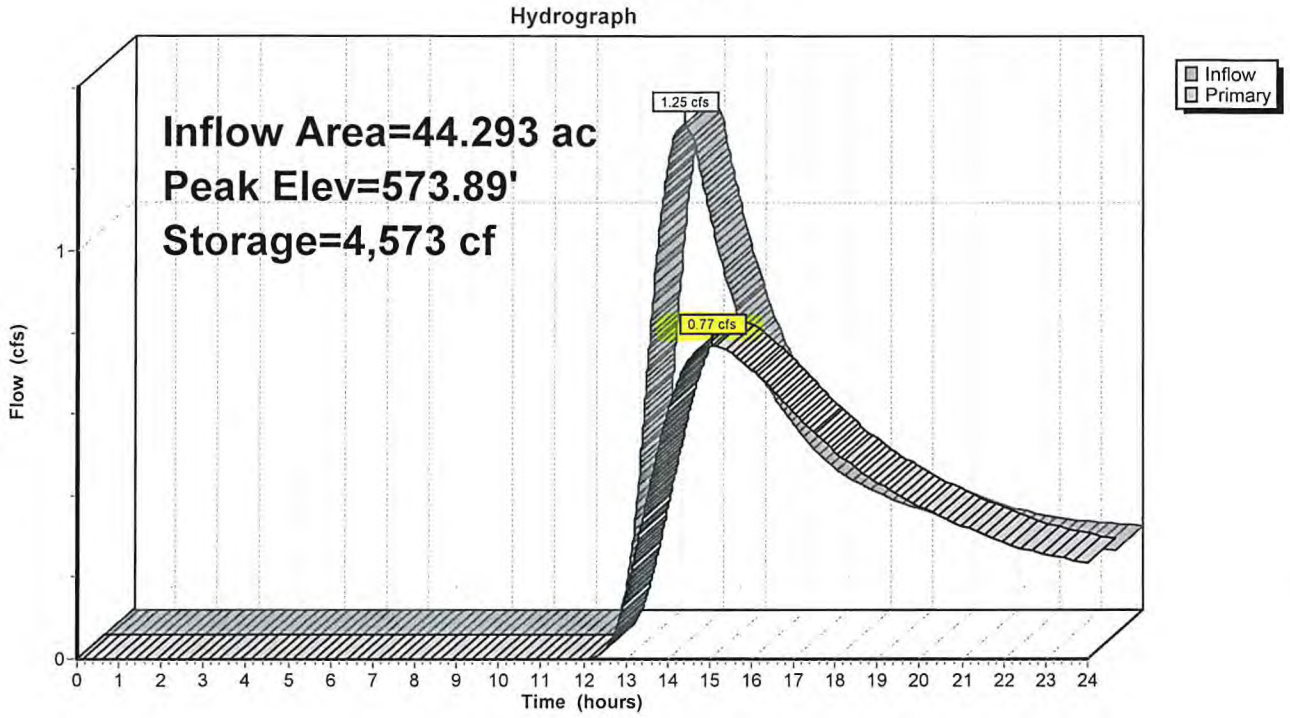
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
573.50	0	0	0
574.00	29,746	7,437	7,437
575.00	32,907	31,327	38,763
576.00	36,182	34,545	73,308
577.00	42,588	39,385	112,693
577.50	44,400	21,747	134,440

Device	Routing	Invert	Outlet Devices
#1	Primary	572.30'	**36.0" Round Culvert** L= 339.0' Ke= 0.500 Inlet / Outlet Invert= 572.30' / 572.20' S= 0.0003 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	576.30'	**4.7" x 1.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 in 36.0" x 36.0" Grate (13% open area) Limited to weir flow at low heads
#3	Device 1	573.50'	**18.0" Round Culvert** L= 70.0' Ke= 0.500 Inlet / Outlet Invert= 573.50' / 573.36' S= 0.0020 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#4	Device 1	573.80'	**15.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 573.80' / 573.36' S= 0.0293 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#5	Device 1	573.50'	**6.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 573.50' / 573.36' S= 0.0093 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf

Primary OutFlow Max=0.77 cfs @ 15.05 hrs HW=573.89' (Free Discharge)
└─**1=Culvert** (Passes 0.77 cfs of 6.97 cfs potential flow)
  ├─**2=Orifice/Grate** (Controls 0.00 cfs)
  ├─**3=Culvert** (Barrel Controls 0.43 cfs @ 1.76 fps)
  ├─**4=Culvert** (Inlet Controls 0.04 cfs @ 1.03 fps)
  └─**5=Culvert** (Barrel Controls 0.29 cfs @ 2.45 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 18P: pond 2/3



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 18P: pond 2/3

Inflow Area = 44.293 ac, 6.80% Impervious, Inflow Depth > 3.27" for 100-Year event
Inflow = 48.24 cfs @ 13.34 hrs, Volume= 12.086 af
Outflow = 32.03 cfs @ 14.17 hrs, Volume= 11.773 af, Atten= 34%, Lag= 49.9 min
Primary = 32.03 cfs @ 14.17 hrs, Volume= 11.773 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 577.48' @ 14.17 hrs Surf.Area= 44,312 sf Storage= 133,358 cf

Plug-Flow detention time= 67.3 min calculated for 11.768 af (97% of inflow)
Center-of-Mass det. time= 54.0 min (948.1 - 894.1)

Volume	Invert	Avail.Storage	Storage Description
#1	573.50'	134,440 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

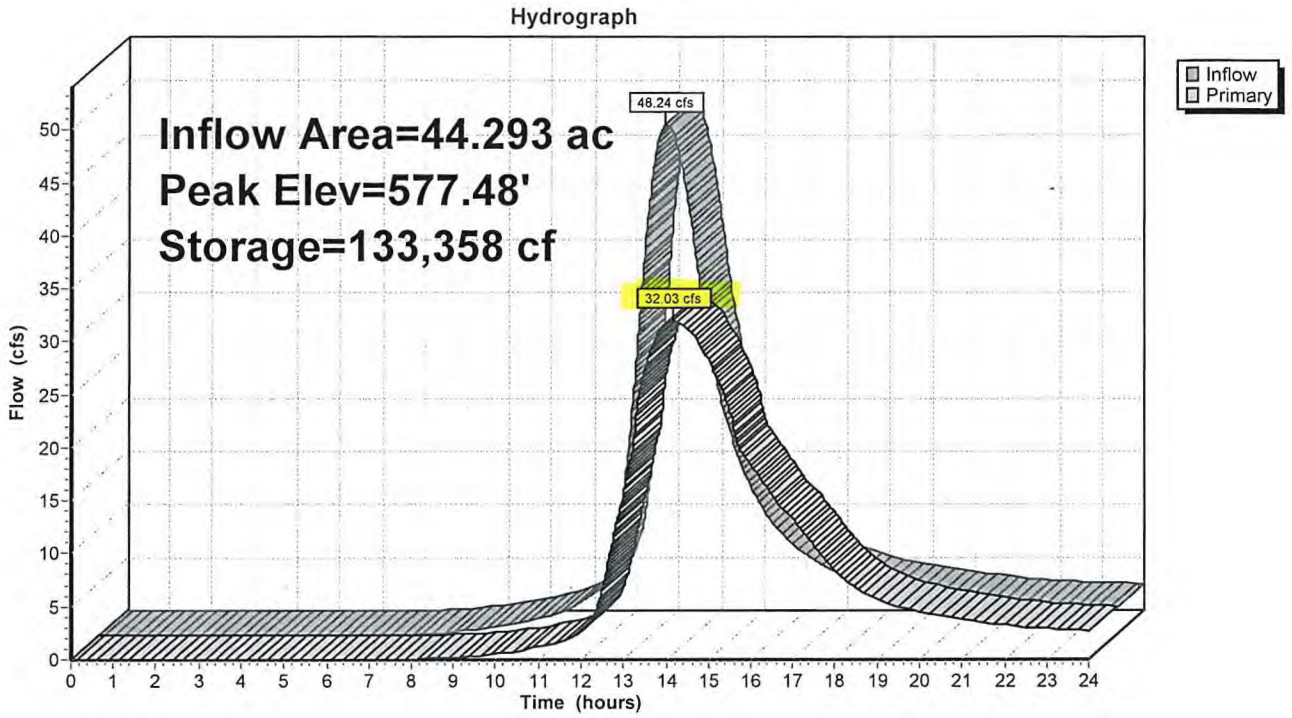
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
573.50	0	0	0
574.00	29,746	7,437	7,437
575.00	32,907	31,327	38,763
576.00	36,182	34,545	73,308
577.00	42,588	39,385	112,693
577.50	44,400	21,747	134,440

Device	Routing	Invert	Outlet Devices
#1	Primary	572.30'	**36.0" Round Culvert** L= 339.0' Ke= 0.500 Inlet / Outlet Invert= 572.30' / 572.20' S= 0.0003 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	576.30'	**4.7" x 1.0" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 in 36.0" x 36.0" Grate (13% open area) Limited to weir flow at low heads
#3	Device 1	573.50'	**18.0" Round Culvert** L= 70.0' Ke= 0.500 Inlet / Outlet Invert= 573.50' / 573.36' S= 0.0020 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#4	Device 1	573.80'	**15.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 573.80' / 573.36' S= 0.0293 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#5	Device 1	573.50'	**6.0" Round Culvert** L= 15.0' Ke= 0.500 Inlet / Outlet Invert= 573.50' / 573.36' S= 0.0093 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf

Primary OutFlow Max=32.03 cfs @ 14.17 hrs HW=577.48' (Free Discharge)
└**1=Culvert** (Passes 32.03 cfs of 43.00 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 6.13 cfs @ 5.22 fps)
  ├**3=Culvert** (Barrel Controls 13.76 cfs @ 7.78 fps)
  ├**4=Culvert** (Inlet Controls 10.32 cfs @ 8.41 fps)
  └**5=Culvert** (Inlet Controls 1.82 cfs @ 9.29 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 18P: pond 2/3



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 19P: Pond 4

Inflow Area = 4.668 ac, 58.46% Impervious, Inflow Depth > 1.01" for 1-Year event
Inflow = 3.94 cfs @ 12.27 hrs, Volume= 0.392 af
Outflow = 0.31 cfs @ 14.16 hrs, Volume= 0.302 af, Atten= 92%, Lag= 113.3 min
Primary = 0.31 cfs @ 14.16 hrs, Volume= 0.302 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 573.81' @ 14.16 hrs Surf.Area= 23,701 sf Storage= 9,608 cf

Plug-Flow detention time= 314.5 min calculated for 0.302 af (77% of inflow)
Center-of-Mass det. time= 228.0 min (1,069.0 - 841.1)

Volume	Invert	Avail.Storage	Storage Description
#1	573.00'	113,051 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

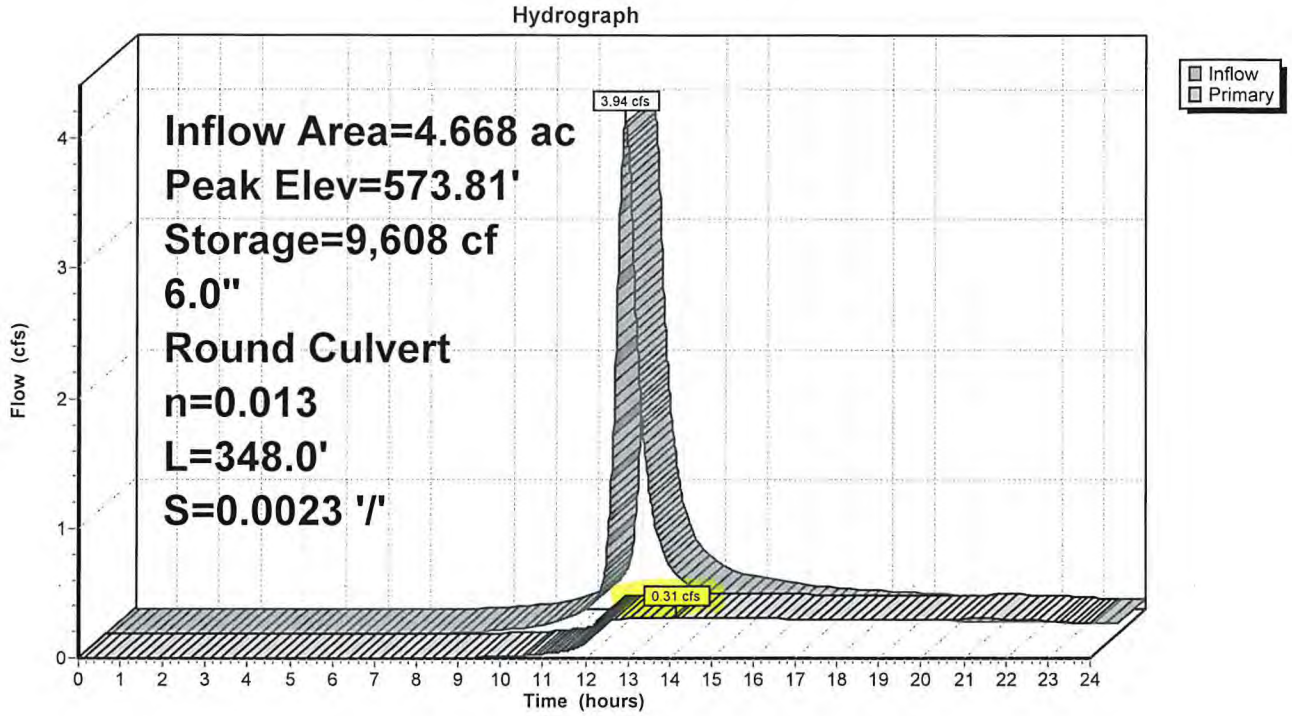
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
573.00	0	0	0
574.00	29,233	14,617	14,617
575.00	31,587	30,410	45,027
576.00	33,998	32,793	77,819
577.00	36,465	35,232	113,051

Device	Routing	Invert	Outlet Devices
#1	Primary	573.00'	**6.0" Round Culvert** L= 348.0' Ke= 0.500 Inlet / Outlet Invert= 573.00' / 572.20' S= 0.0023 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf

Primary OutFlow Max=0.31 cfs @ 14.16 hrs HW=573.81' (Free Discharge)
↳**1=Culvert** (Barrel Controls 0.31 cfs @ 1.57 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 19P: Pond 4



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 19P: Pond 4

Inflow Area = 4.668 ac, 58.46% Impervious, Inflow Depth > 2.19" for 10-Year event
Inflow = 8.47 cfs @ 12.26 hrs, Volume= 0.850 af
Outflow = 0.37 cfs @ 15.87 hrs, Volume= 0.395 af, Atten= 96%, Lag= 216.7 min
Primary = 0.37 cfs @ 15.87 hrs, Volume= 0.395 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 574.32' @ 15.87 hrs Surf.Area= 29,988 sf Storage= 24,117 cf

Plug-Flow detention time= 338.0 min calculated for 0.395 af (46% of inflow)
Center-of-Mass det. time= 223.4 min (1,043.0 - 819.6)

Volume	Invert	Avail.Storage	Storage Description
#1	573.00'	113,051 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

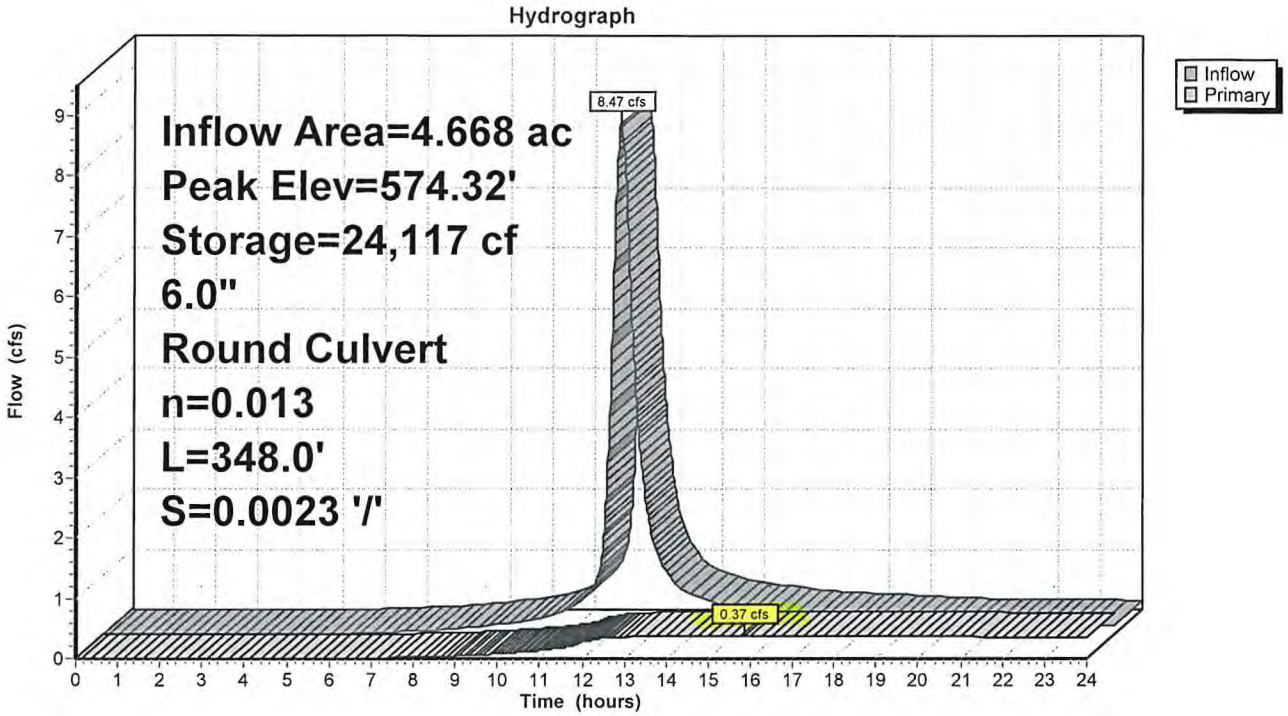
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
573.00	0	0	0
574.00	29,233	14,617	14,617
575.00	31,587	30,410	45,027
576.00	33,998	32,793	77,819
577.00	36,465	35,232	113,051

Device	Routing	Invert	Outlet Devices
#1	Primary	573.00'	**6.0" Round Culvert** L= 348.0' Ke= 0.500 Inlet / Outlet Invert= 573.00' / 572.20' S= 0.0023 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf

Primary OutFlow Max=0.37 cfs @ 15.87 hrs HW=574.32' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.37 cfs @ 1.90 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 19P: Pond 4



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 19P: Pond 4

Inflow Area = 4.668 ac, 58.46% Impervious, Inflow Depth > 2.84" for 25-Year event
Inflow = 10.93 cfs @ 12.26 hrs, Volume= 1.106 af
Outflow = 0.40 cfs @ 16.45 hrs, Volume= 0.442 af, Atten= 96%, Lag= 251.2 min
Primary = 0.40 cfs @ 16.45 hrs, Volume= 0.442 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 574.60' @ 16.45 hrs Surf.Area= 30,648 sf Storage= 32,613 cf

Plug-Flow detention time= 339.5 min calculated for 0.442 af (40% of inflow)
Center-of-Mass det. time= 217.1 min (1,029.4 - 812.3)

Volume	Invert	Avail.Storage	Storage Description
#1	573.00'	113,051 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

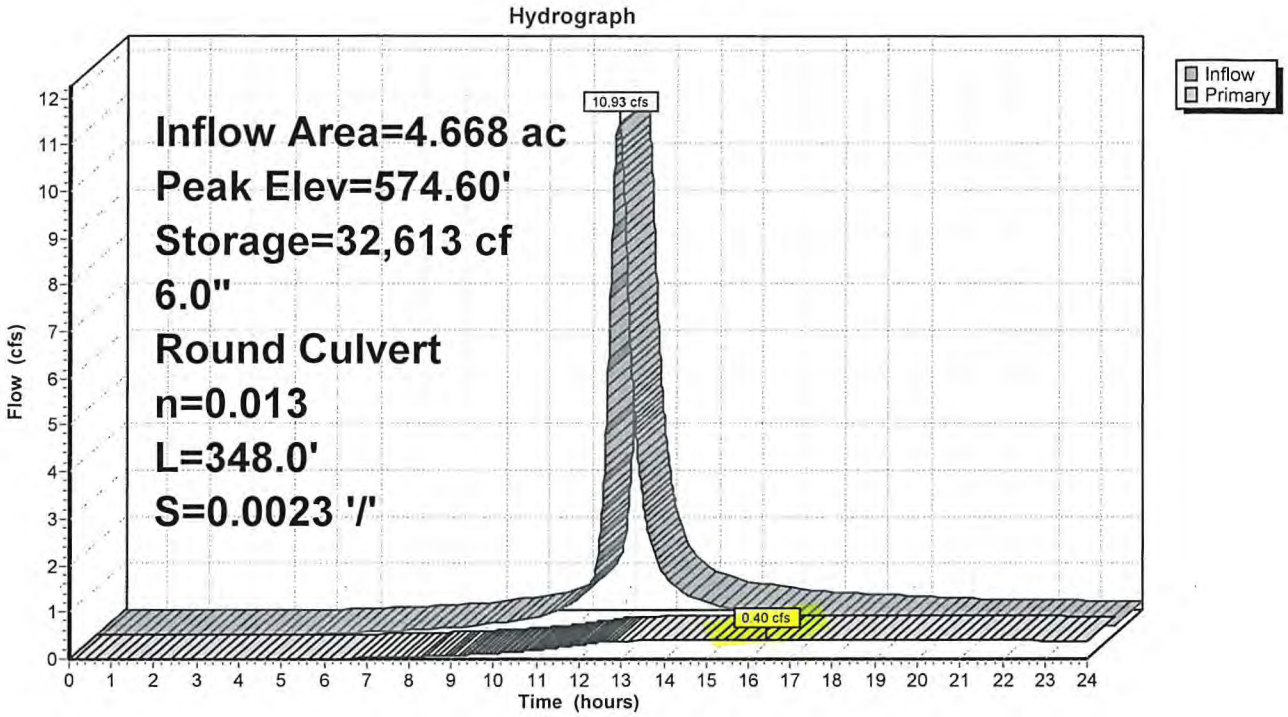
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
573.00	0	0	0
574.00	29,233	14,617	14,617
575.00	31,587	30,410	45,027
576.00	33,998	32,793	77,819
577.00	36,465	35,232	113,051

Device	Routing	Invert	Outlet Devices
#1	Primary	573.00'	**6.0" Round Culvert** L= 348.0' Ke= 0.500 Inlet / Outlet Invert= 573.00' / 572.20' S= 0.0023 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf

Primary OutFlow Max=0.40 cfs @ 16.45 hrs HW=574.60' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.40 cfs @ 2.05 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 19P: Pond 4



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 19P: Pond 4

Inflow Area = 4.668 ac, 58.46% Impervious, Inflow Depth > 0.36" for 90% event
Inflow = 1.32 cfs @ 12.30 hrs, Volume= 0.138 af
Outflow = 0.21 cfs @ 13.37 hrs, Volume= 0.124 af, Atten= 84%, Lag= 64.6 min
Primary = 0.21 cfs @ 13.37 hrs, Volume= 0.124 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 573.43' @ 13.37 hrs Surf.Area= 12,511 sf Storage= 2,677 cf

Plug-Flow detention time= 186.5 min calculated for 0.124 af (90% of inflow)
Center-of-Mass det. time= 137.6 min (1,007.9 - 870.3)

Volume	Invert	Avail.Storage	Storage Description
#1	573.00'	113,051 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

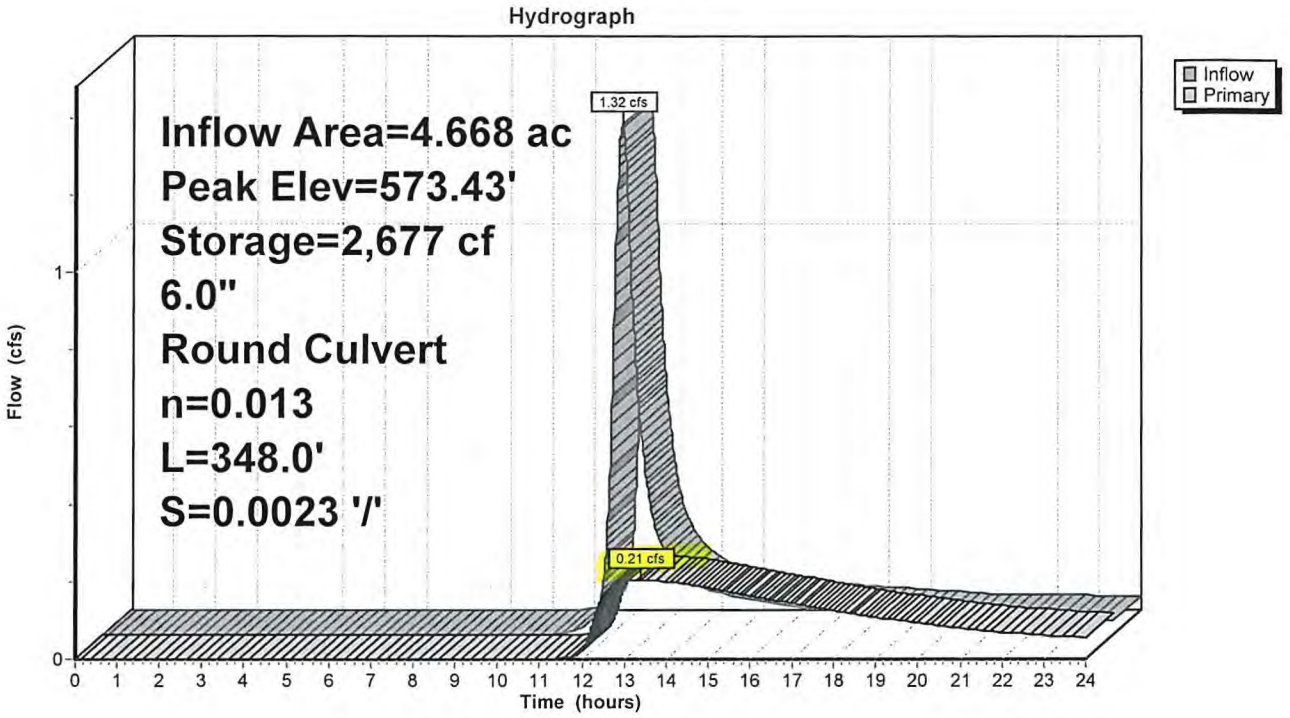
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
573.00	0	0	0
574.00	29,233	14,617	14,617
575.00	31,587	30,410	45,027
576.00	33,998	32,793	77,819
577.00	36,465	35,232	113,051

Device	Routing	Invert	Outlet Devices
#1	Primary	573.00'	**6.0" Round Culvert** L= 348.0' Ke= 0.500 Inlet / Outlet Invert= 573.00' / 572.20' S= 0.0023 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf

Primary OutFlow Max=0.21 cfs @ 13.37 hrs HW=573.43' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.21 cfs @ 1.55 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 19P: Pond 4



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 19P: Pond 4

Inflow Area = 4.668 ac, 58.46% Impervious, Inflow Depth > 4.17" for 100-Year event
Inflow = 15.79 cfs @ 12.24 hrs, Volume= 1.621 af
Outflow = 0.46 cfs @ 17.97 hrs, Volume= 0.530 af, Atten= 97%, Lag= 343.6 min
Primary = 0.46 cfs @ 17.97 hrs, Volume= 0.530 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 575.17' @ 17.97 hrs Surf.Area= 31,988 sf Storage= 50,310 cf

Plug-Flow detention time= 344.5 min calculated for 0.530 af (33% of inflow)
Center-of-Mass det. time= 205.0 min (1,007.0 - 802.0)

Volume	Invert	Avail.Storage	Storage Description
#1	573.00'	113,051 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

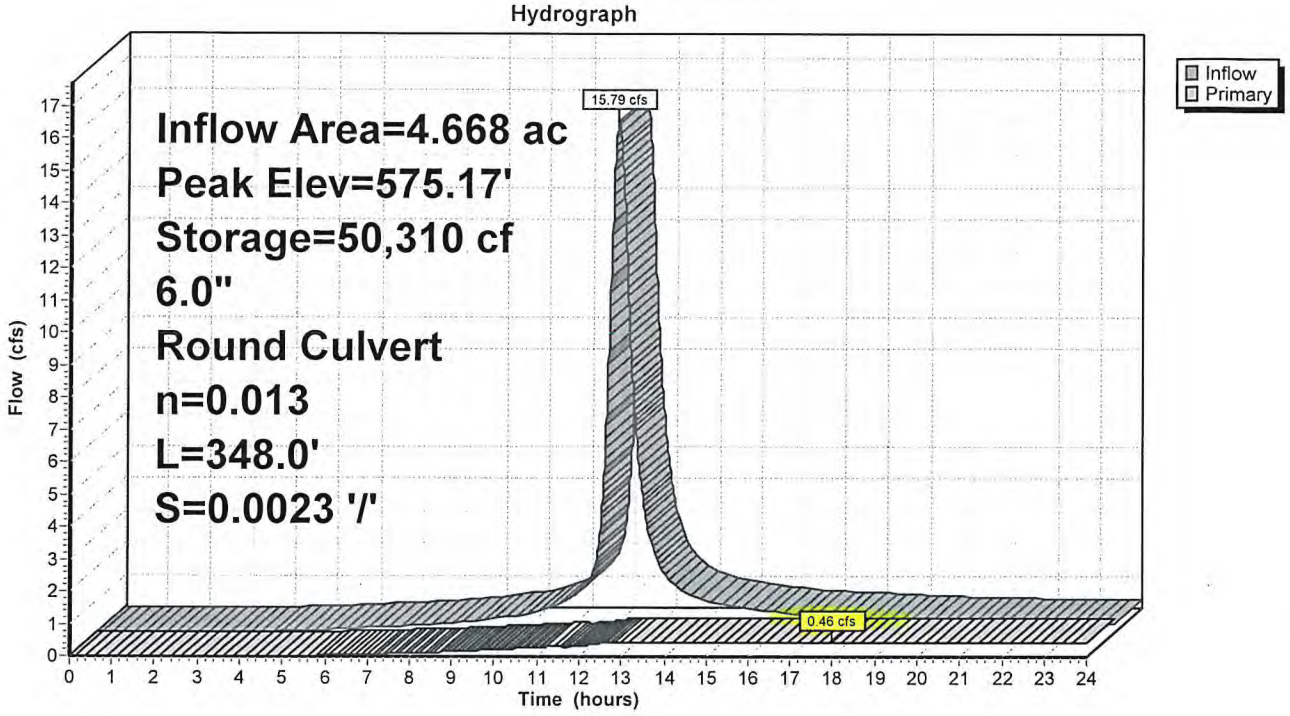
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
573.00	0	0	0
574.00	29,233	14,617	14,617
575.00	31,587	30,410	45,027
576.00	33,998	32,793	77,819
577.00	36,465	35,232	113,051

Device	Routing	Invert	Outlet Devices
#1	Primary	573.00'	**6.0" Round Culvert** L= 348.0' Ke= 0.500 Inlet / Outlet Invert= 573.00' / 572.20' S= 0.0023 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf

Primary OutFlow Max=0.46 cfs @ 17.97 hrs HW=575.17' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.46 cfs @ 2.34 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 19P: Pond 4



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	Type II 24-hr		Default	24.00	1	1.83	2
2	10-Year	Type II 24-hr		Default	24.00	1	3.14	2
3	25-Year	Type II 24-hr		Default	24.00	1	3.84	2
4	90%	Type II 24-hr		Default	24.00	1	1.00	2
5	100-Year	Type II 24-hr		Default	24.00	1	5.22	2

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 12S: Culvert to Ditch

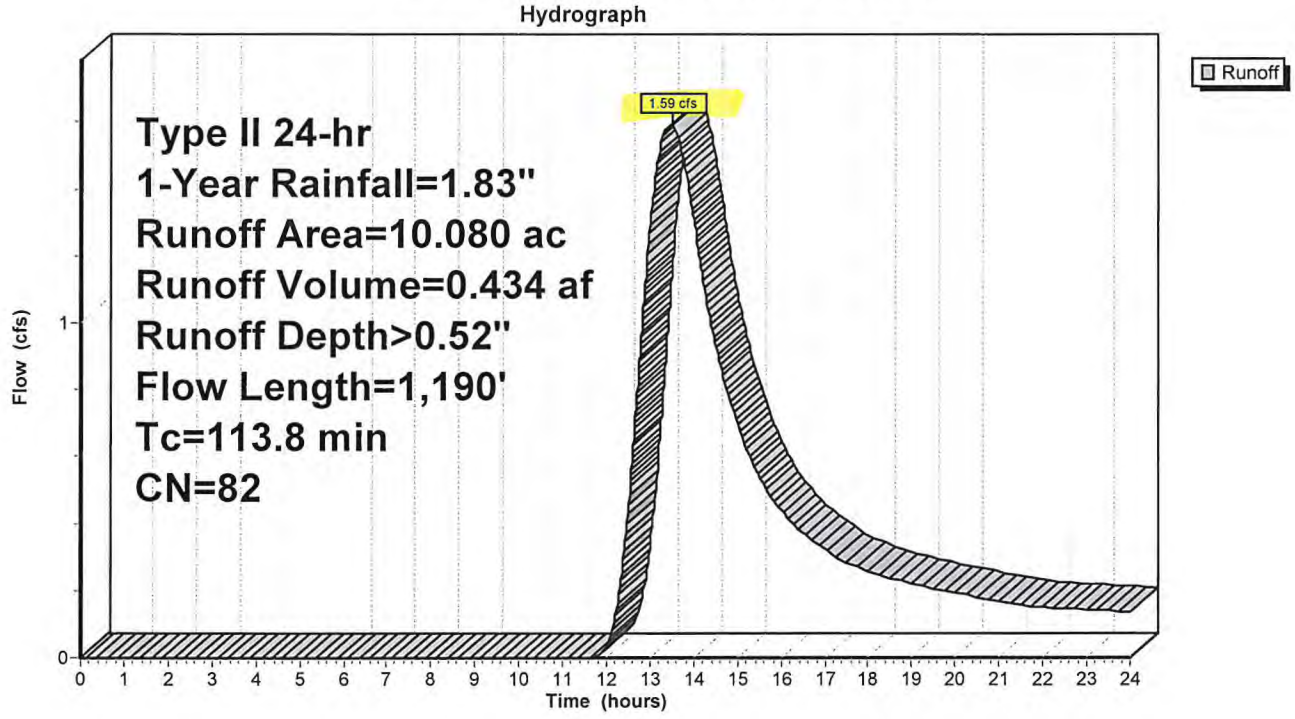
Runoff = 1.59 cfs @ 13.52 hrs, Volume= 0.434 af, Depth> 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.83"

Area (ac)	CN	Description
10.080	82	Woods/grass comb., Fair, HSG D
10.080		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
66.7	150	0.0036	0.04		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 2.50"
26.8	440	0.0030	0.27		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
20.3	600	0.0030	0.49		**Shallow Concentrated Flow, shallow conc flow** Cultivated Straight Rows Kv= 9.0 fps
113.8	1,190	Total			

Subcatchment 12S: Culvert to Ditch



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 12S: Culvert to Ditch

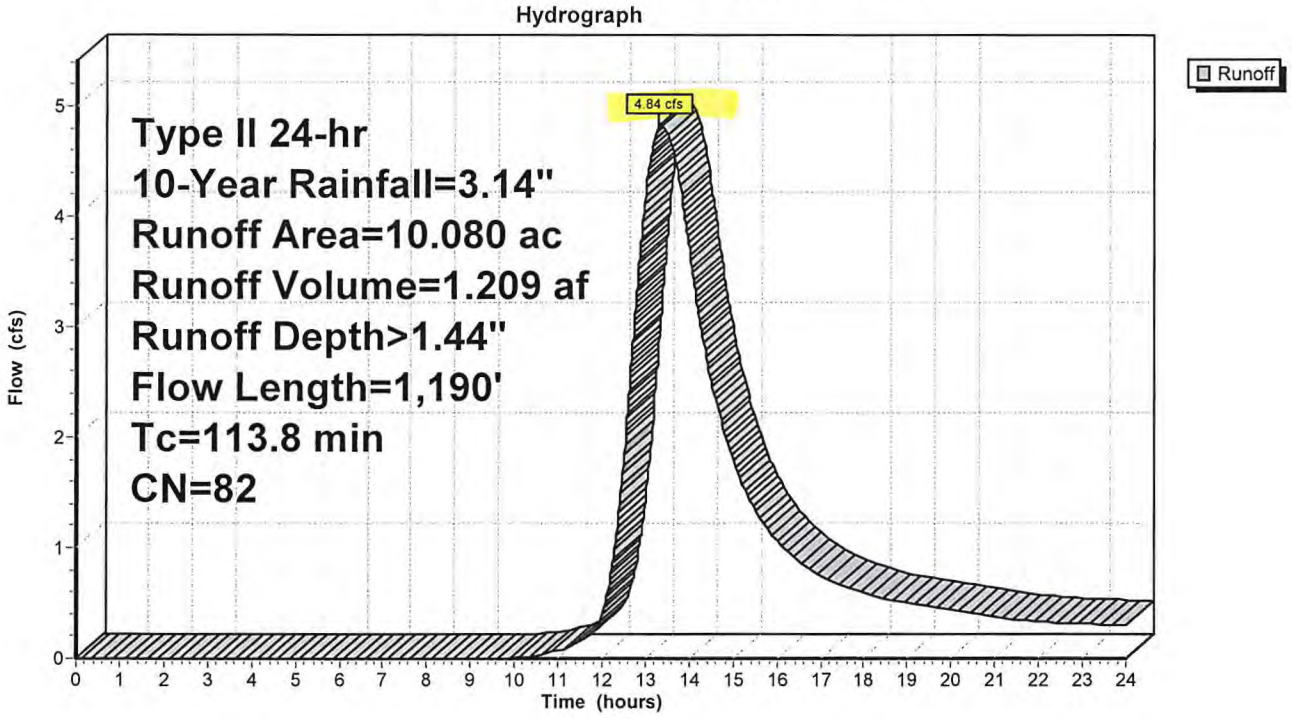
Runoff = 4.84 cfs @ 13.28 hrs, Volume= 1.209 af, Depth> 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (ac)	CN	Description
10.080	82	Woods/grass comb., Fair, HSG D
10.080		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
66.7	150	0.0036	0.04		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 2.50"
26.8	440	0.0030	0.27		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
20.3	600	0.0030	0.49		**Shallow Concentrated Flow, shallow conc flow** Cultivated Straight Rows Kv= 9.0 fps
113.8	1,190	Total			

Subcatchment 12S: Culvert to Ditch



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 12S: Culvert to Ditch

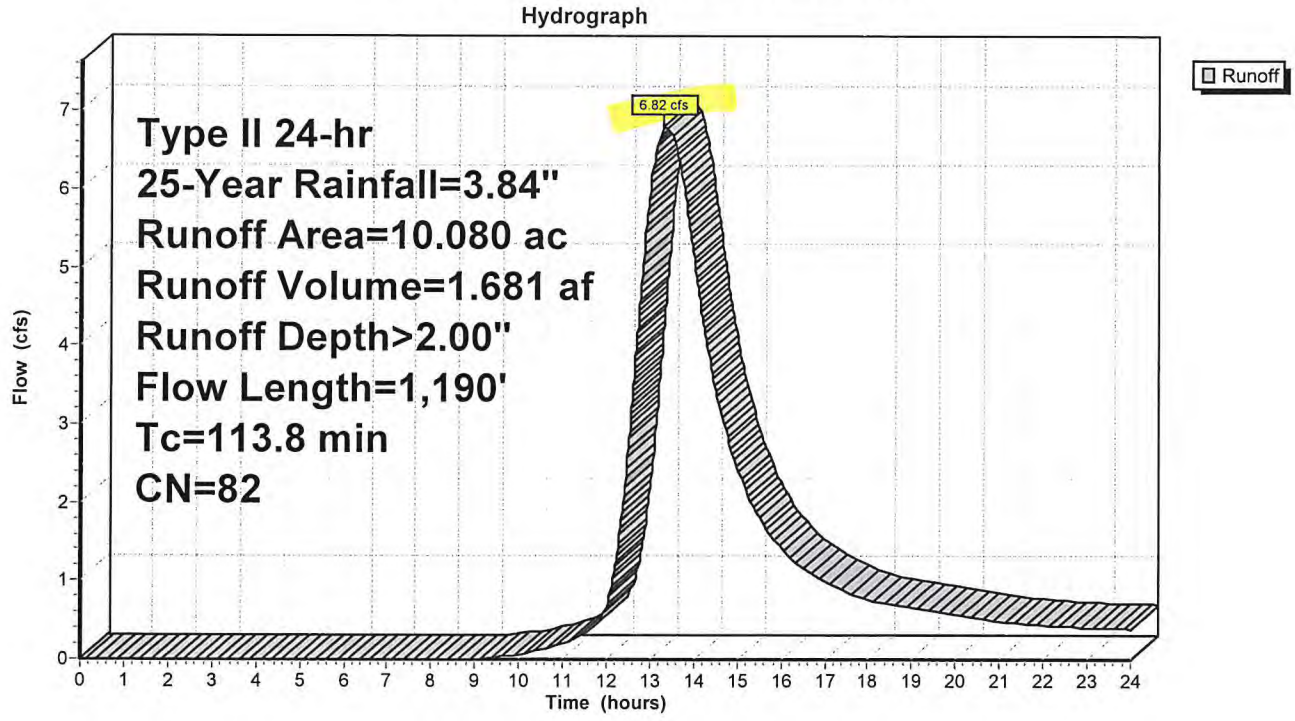
Runoff = 6.82 cfs @ 13.28 hrs, Volume= 1.681 af, Depth> 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (ac)	CN	Description
10.080	82	Woods/grass comb., Fair, HSG D
10.080		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
66.7	150	0.0036	0.04		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 2.50"
26.8	440	0.0030	0.27		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
20.3	600	0.0030	0.49		**Shallow Concentrated Flow, shallow conc flow** Cultivated Straight Rows Kv= 9.0 fps
113.8	1,190	Total			

Subcatchment 12S: Culvert to Ditch



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 12S: Culvert to Ditch

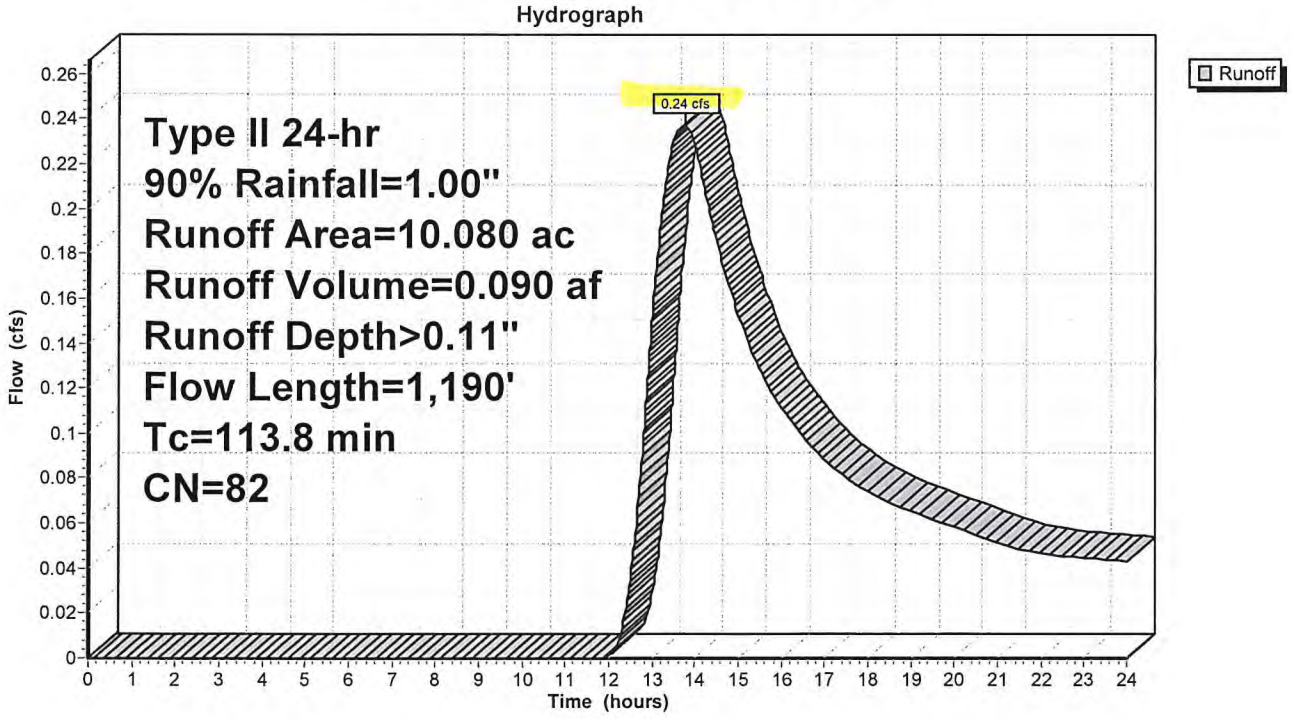
Runoff = 0.24 cfs @ 13.77 hrs, Volume= 0.090 af, Depth> 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 90% Rainfall=1.00"

Area (ac)	CN	Description
10.080	82	Woods/grass comb., Fair, HSG D
10.080		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
66.7	150	0.0036	0.04		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 2.50"
26.8	440	0.0030	0.27		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
20.3	600	0.0030	0.49		**Shallow Concentrated Flow, shallow conc flow** Cultivated Straight Rows Kv= 9.0 fps
113.8	1,190	Total			

Subcatchment 12S: Culvert to Ditch



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 12S: Culvert to Ditch

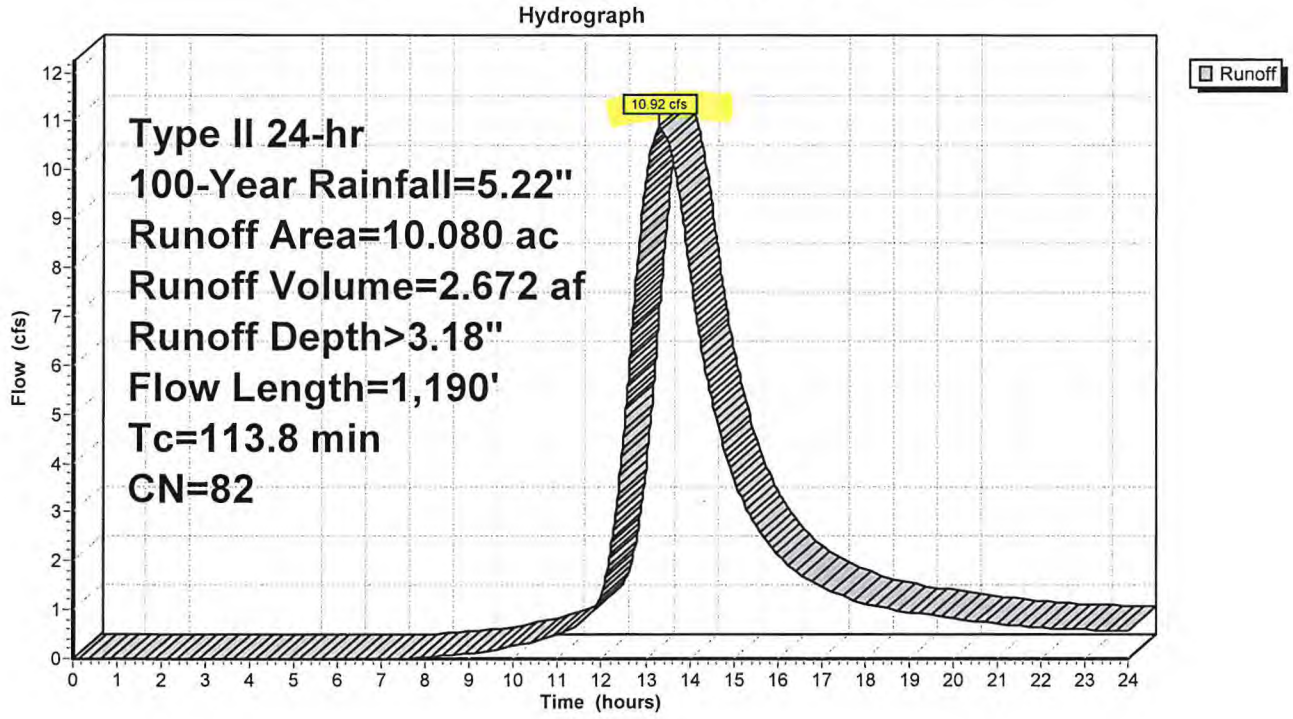
Runoff = 10.92 cfs @ 13.28 hrs, Volume= 2.672 af, Depth> 3.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.22"

Area (ac)	CN	Description
10.080	82	Woods/grass comb., Fair, HSG D
10.080		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
66.7	150	0.0036	0.04		**Sheet Flow, sheet flow** Woods: Light underbrush n= 0.400 P2= 2.50"
26.8	440	0.0030	0.27		**Shallow Concentrated Flow, shallow conc flow** Woodland Kv= 5.0 fps
20.3	600	0.0030	0.49		**Shallow Concentrated Flow, shallow conc flow** Cultivated Straight Rows Kv= 9.0 fps
113.8	1,190	Total			

Subcatchment 12S: Culvert to Ditch



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	Type II 24-hr		Default	24.00	1	1.83	2
2	10-Year	Type II 24-hr		Default	24.00	1	3.14	2
3	25-Year	Type II 24-hr		Default	24.00	1	3.84	2
4	90%	Type II 24-hr		Default	24.00	1	1.00	2
5	100-Year	Type II 24-hr		Default	24.00	1	5.22	2

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	N N
1	13S	0.00	0.00	62.0	0.0020	0.012	0.0	15.0	0.0	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 13S: New Rd Bypass to Ditch

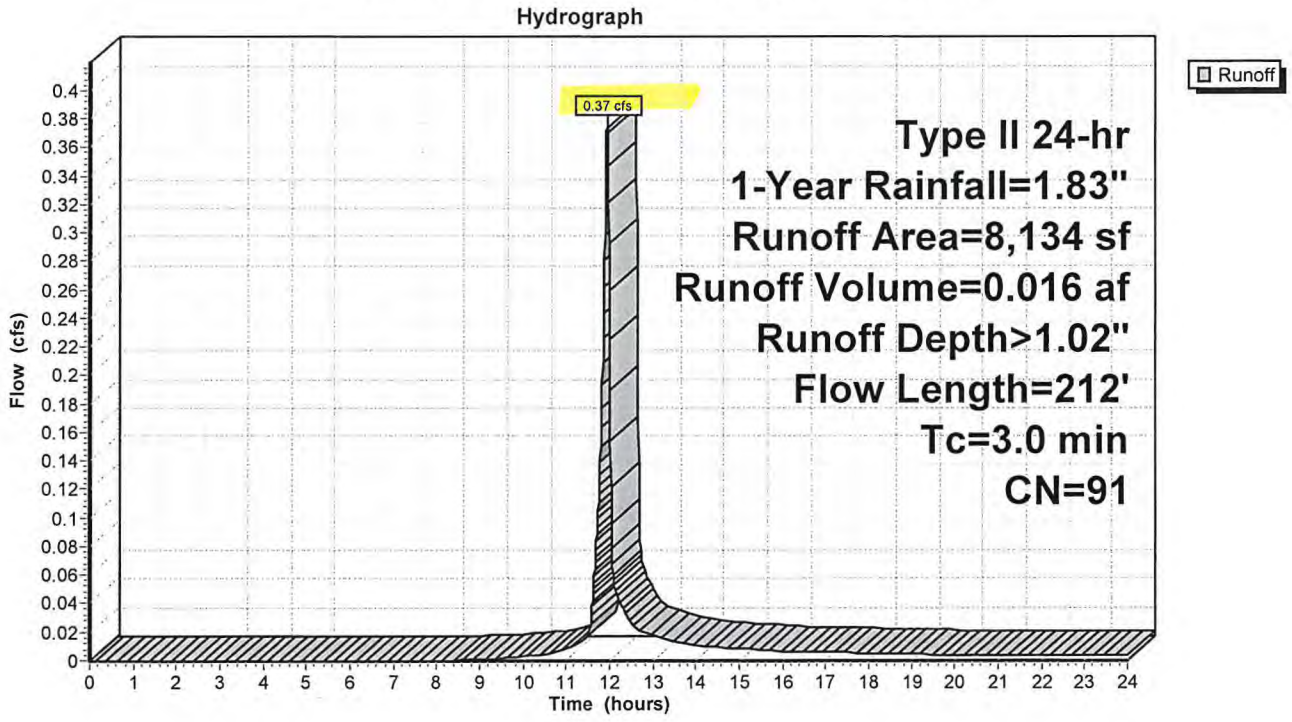
Runoff = 0.37 cfs @ 11.94 hrs, Volume= 0.016 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.83"

Area (sf)	CN	Description
5,070	98	Paved roads w/curbs & sewers, HSG D
3,064	80	>75% Grass cover, Good, HSG D
8,134	91	Weighted Average
3,064		37.67% Pervious Area
5,070		62.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	10	0.0200	0.09		**Sheet Flow, sheet flow** Grass: Short n= 0.150 P2= 2.50"
0.8	140	0.0210	2.94		**Shallow Concentrated Flow, paved** Paved Kv= 20.3 fps
0.4	62	0.0020	2.55	3.13	**Pipe Channel, pipe flow** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Corrugated PP, smooth interior
3.0	212	Total			

Subcatchment 13S: New Rd Bypass to Ditch



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 13S: New Rd Bypass to Ditch

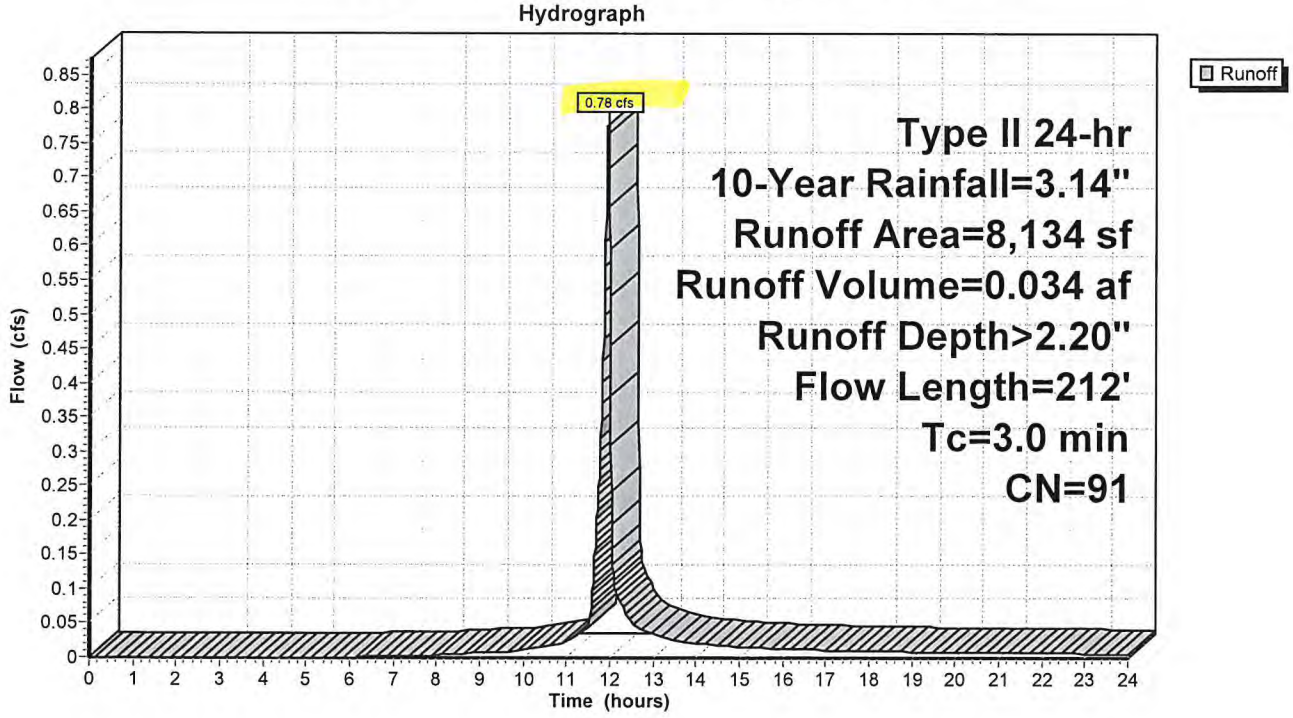
Runoff = 0.78 cfs @ 11.94 hrs, Volume= 0.034 af, Depth> 2.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (sf)	CN	Description
5,070	98	Paved roads w/curbs & sewers, HSG D
3,064	80	>75% Grass cover, Good, HSG D
8,134	91	Weighted Average
3,064		37.67% Pervious Area
5,070		62.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	10	0.0200	0.09		**Sheet Flow, sheet flow** Grass: Short n= 0.150 P2= 2.50"
0.8	140	0.0210	2.94		**Shallow Concentrated Flow, paved** Paved Kv= 20.3 fps
0.4	62	0.0020	2.55	3.13	**Pipe Channel, pipe flow** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Corrugated PP, smooth interior
3.0	212	Total			

Subcatchment 13S: New Rd Bypass to Ditch



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 13S: New Rd Bypass to Ditch

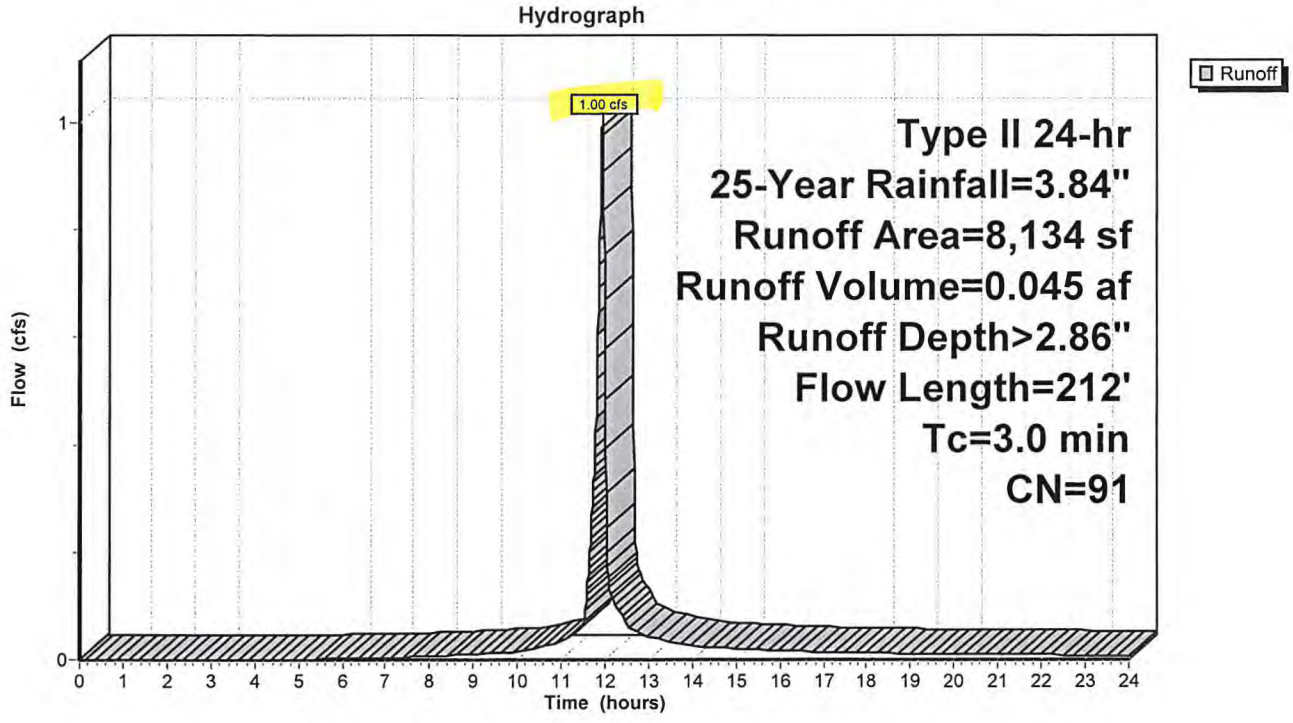
Runoff = 1.00 cfs @ 11.94 hrs, Volume= 0.045 af, Depth> 2.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (sf)	CN	Description
5,070	98	Paved roads w/curbs & sewers, HSG D
3,064	80	>75% Grass cover, Good, HSG D
8,134	91	Weighted Average
3,064		37.67% Pervious Area
5,070		62.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	10	0.0200	0.09		**Sheet Flow, sheet flow** Grass: Short n= 0.150 P2= 2.50"
0.8	140	0.0210	2.94		**Shallow Concentrated Flow, paved** Paved Kv= 20.3 fps
0.4	62	0.0020	2.55	3.13	**Pipe Channel, pipe flow** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Corrugated PP, smooth interior
3.0	212	Total			

Subcatchment 13S: New Rd Bypass to Ditch



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 13S: New Rd Bypass to Ditch

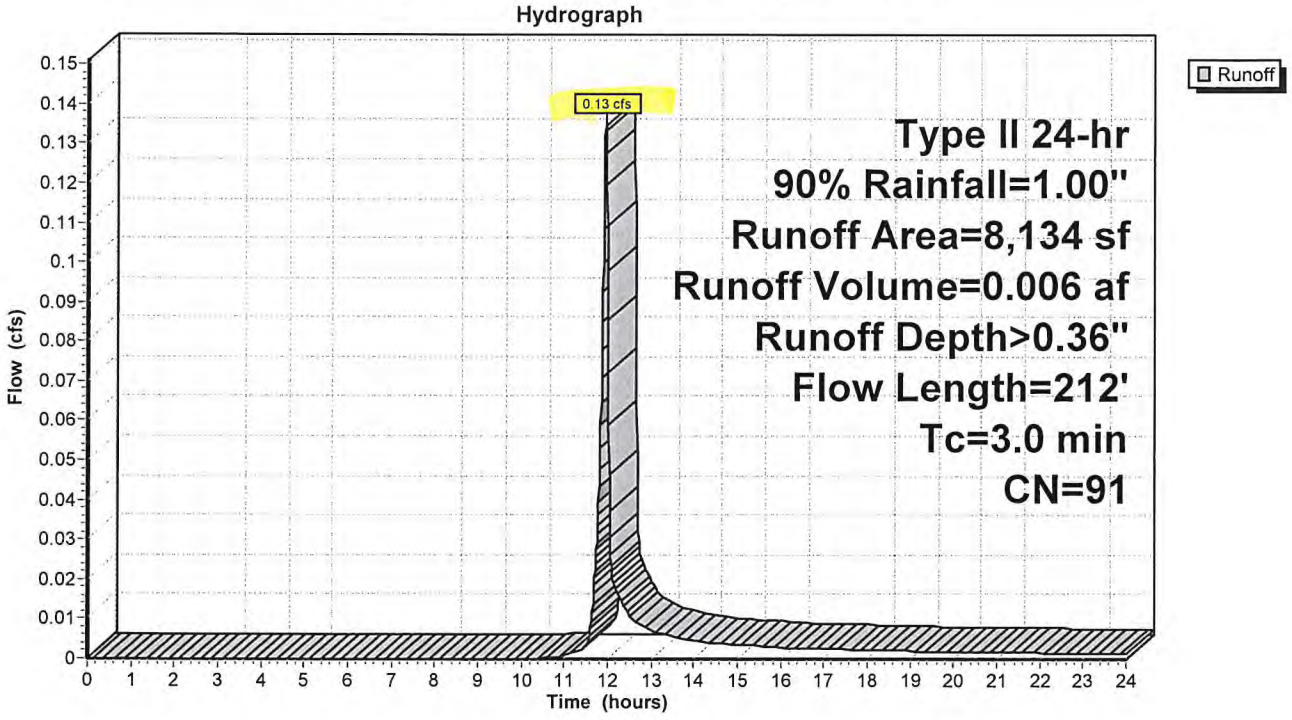
Runoff = 0.13 cfs @ 11.94 hrs, Volume= 0.006 af, Depth> 0.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 90% Rainfall=1.00"

Area (sf)	CN	Description
5,070	98	Paved roads w/curbs & sewers, HSG D
3,064	80	>75% Grass cover, Good, HSG D
8,134	91	Weighted Average
3,064		37.67% Pervious Area
5,070		62.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	10	0.0200	0.09		**Sheet Flow, sheet flow** Grass: Short n= 0.150 P2= 2.50"
0.8	140	0.0210	2.94		**Shallow Concentrated Flow, paved** Paved Kv= 20.3 fps
0.4	62	0.0020	2.55	3.13	**Pipe Channel, pipe flow** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Corrugated PP, smooth interior
3.0	212	Total			

Subcatchment 13S: New Rd Bypass to Ditch



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 13S: New Rd Bypass to Ditch

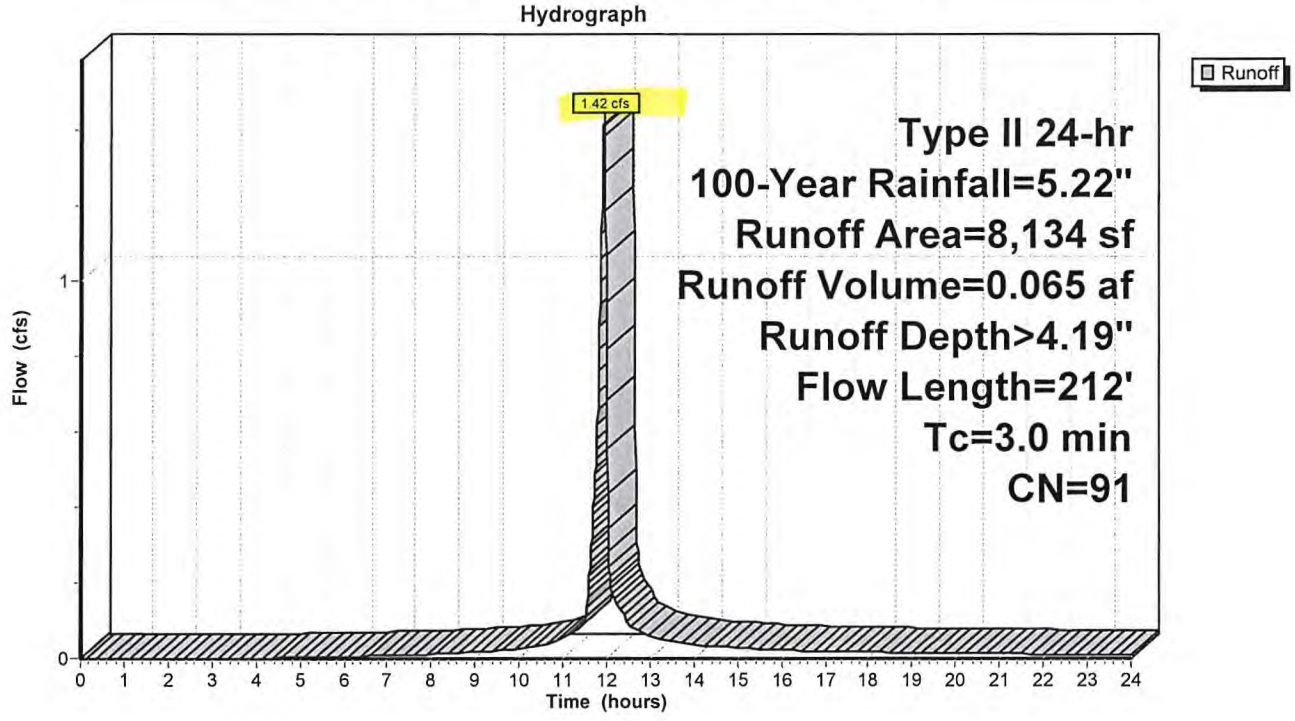
Runoff = 1.42 cfs @ 11.93 hrs, Volume= 0.065 af, Depth> 4.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.22"

Area (sf)	CN	Description
5,070	98	Paved roads w/curbs & sewers, HSG D
3,064	80	>75% Grass cover, Good, HSG D
8,134	91	Weighted Average
3,064		37.67% Pervious Area
5,070		62.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	10	0.0200	0.09		**Sheet Flow, sheet flow** Grass: Short n= 0.150 P2= 2.50"
0.8	140	0.0210	2.94		**Shallow Concentrated Flow, paved** Paved Kv= 20.3 fps
0.4	62	0.0020	2.55	3.13	**Pipe Channel, pipe flow** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012 Corrugated PP, smooth interior
3.0	212	Total			

Subcatchment 13S: New Rd Bypass to Ditch



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

PROPOSED CONDITIONS

AREA SOUTH OF TOWN DITCH 26B

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 14S: Area to Pond 4

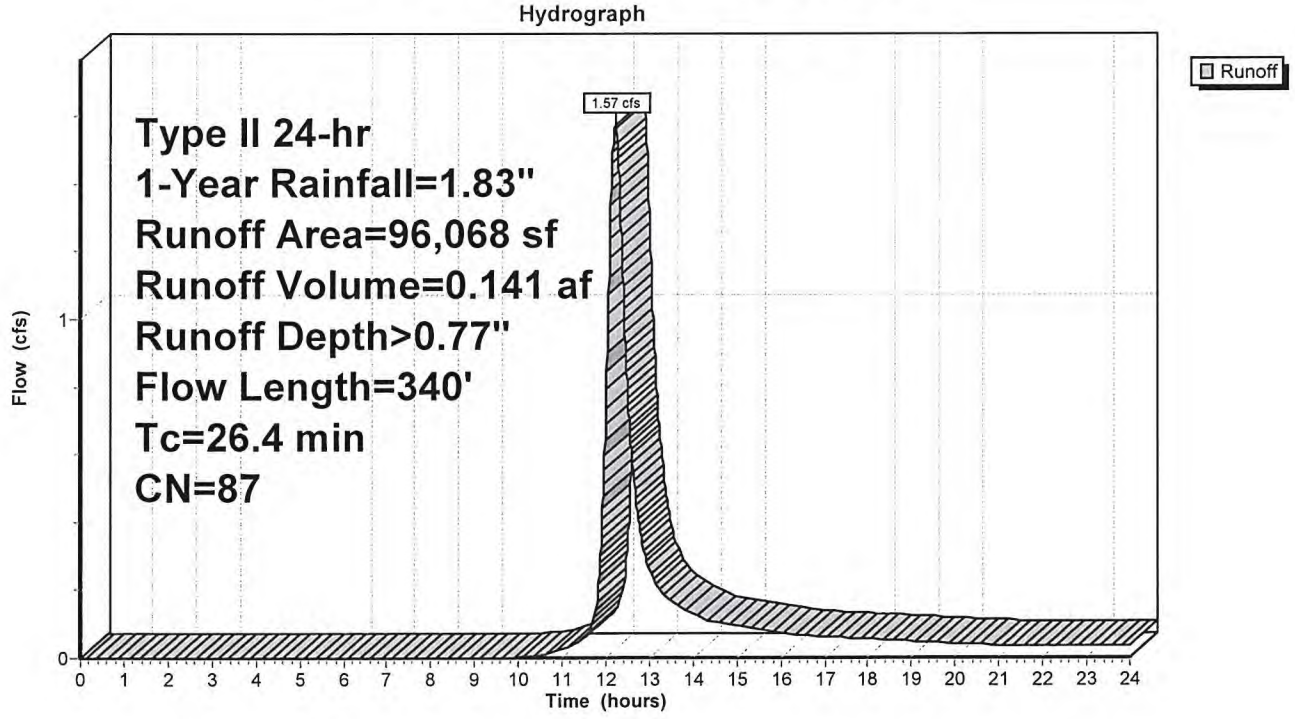
Runoff = 1.57 cfs @ 12.21 hrs, Volume= 0.141 af, Depth> 0.77"
Routed to Pond 15P : Pond 4 (west commercial site)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.83"

	Area (sf)	CN	Description
*	37,939	98	Roofs/roads/sidwalk
	58,129	80	>75% Grass cover, Good, HSG D
	96,068	87	Weighted Average
	58,129		60.51% Pervious Area
	37,939		39.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.6	70	0.0100	0.05		**Sheet Flow, over grass** Grass: Bermuda n= 0.410 P2= 2.50"
0.7	100	0.0120	2.22		**Shallow Concentrated Flow, shallow conc flow** Paved Kv= 20.3 fps
1.1	170	0.0030	2.48	1.95	**Pipe Channel, pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
26.4	340	Total			

Subcatchment 14S: Area to Pond 4



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 15P: Pond 4 (west commercial site)

Inflow Area = 2.205 ac, 39.49% Impervious, Inflow Depth > 0.77" for 1-Year event
Inflow = 1.57 cfs @ 12.21 hrs, Volume= 0.141 af
Outflow = 0.44 cfs @ 12.71 hrs, Volume= 0.137 af, Atten= 72%, Lag= 30.1 min
Primary = 0.44 cfs @ 12.71 hrs, Volume= 0.137 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 576.01' @ 12.71 hrs Surf.Area= 8,562 sf Storage= 2,215 cf

Plug-Flow detention time= 76.9 min calculated for 0.137 af (97% of inflow)
Center-of-Mass det. time= 61.8 min (917.7 - 855.9)

Volume	Invert	Avail.Storage	Storage Description
#1	575.50'	45,353 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

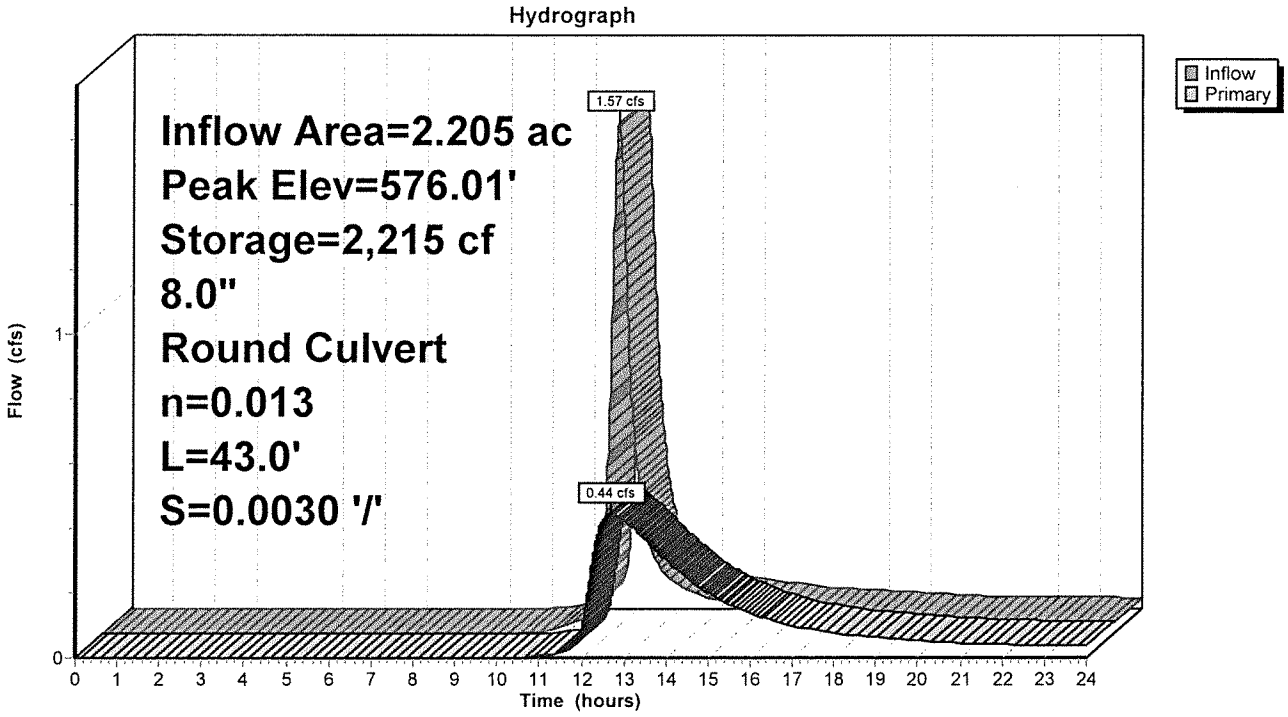
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.50	0	0	0
576.00	8,552	2,138	2,138
577.00	9,712	9,132	11,270
578.00	10,927	10,320	21,590
579.00	12,200	11,564	33,153
580.00	12,200	12,200	45,353

Device	Routing	Invert	Outlet Devices
#1	Primary	575.50'	**8.0" Round Culvert** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 575.50' / 575.37' S= 0.0030 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.44 cfs @ 12.71 hrs HW=576.01' TW=573.68' (TW follows 2.33' below HW)
↑—**1=Culvert** (Barrel Controls 0.44 cfs @ 2.15 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 15P: Pond 4 (west commercial site)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 16S: Area to Pond 5

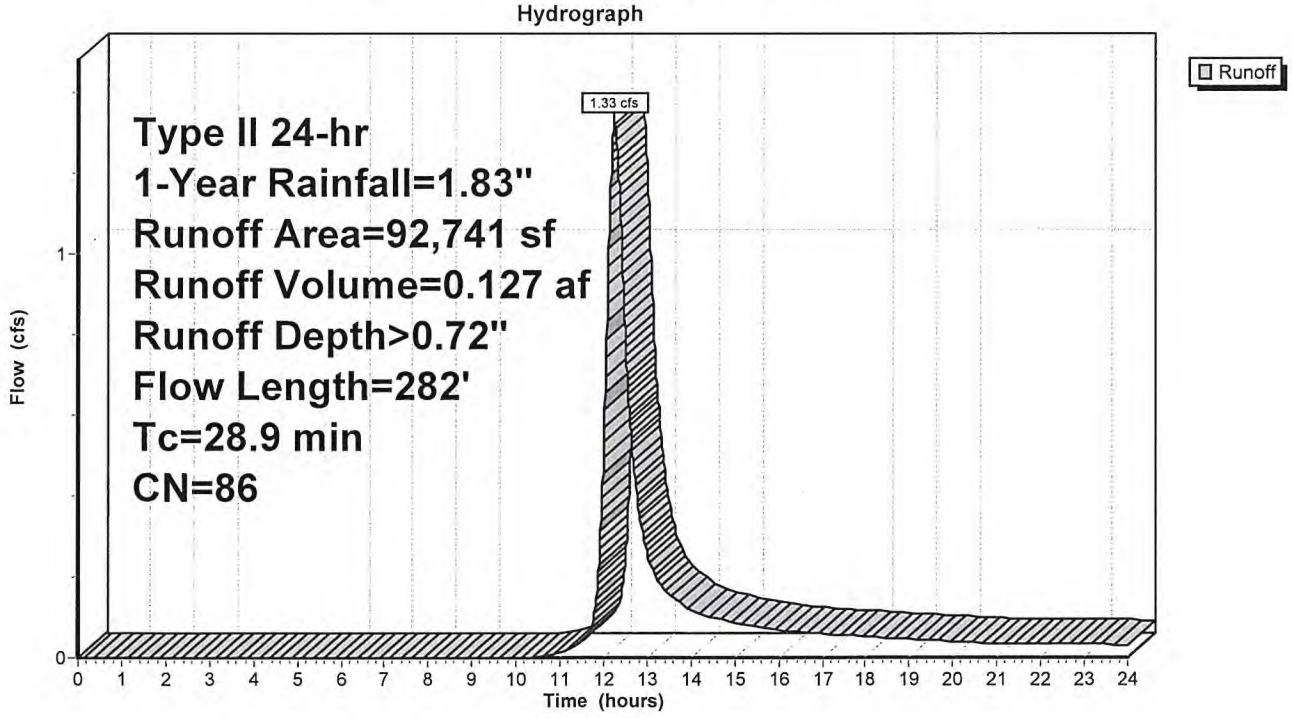
Runoff = 1.33 cfs @ 12.24 hrs, Volume= 0.127 af, Depth> 0.72"
Routed to Pond 17P : Pond 5 (east commercial site)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.83"

	Area (sf)	CN	Description
*	32,952	98	roofs/roads/sidewalk
	59,789	80	>75% Grass cover, Good, HSG D
	92,741	86	Weighted Average
	59,789		64.47% Pervious Area
	32,952		35.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	80	0.0100	0.05		**Sheet Flow, sheet flow** Grass: Bermuda n= 0.410 P2= 2.50"
0.7	85	0.0100	2.03		**Shallow Concentrated Flow, shallow conc flow** Paved Kv= 20.3 fps
0.8	117	0.0030	2.48	1.95	**Pipe Channel, pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
28.9	282	Total			

Subcatchment 16S: Area to Pond 5



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 17P: Pond 5 (east commercial site)

Inflow Area = 2.129 ac, 35.53% Impervious, Inflow Depth > 0.72" for 1-Year event
Inflow = 1.33 cfs @ 12.24 hrs, Volume= 0.127 af
Outflow = 0.80 cfs @ 12.49 hrs, Volume= 0.126 af, Atten= 40%, Lag= 15.0 min
Primary = 0.80 cfs @ 12.49 hrs, Volume= 0.126 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 575.76' @ 12.49 hrs Surf.Area= 3,769 sf Storage= 1,059 cf

Plug-Flow detention time= 18.4 min calculated for 0.126 af (99% of inflow)
Center-of-Mass det. time= 15.2 min (877.4 - 862.2)

Volume	Invert	Avail.Storage	Storage Description
#1	575.20'	31,708 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

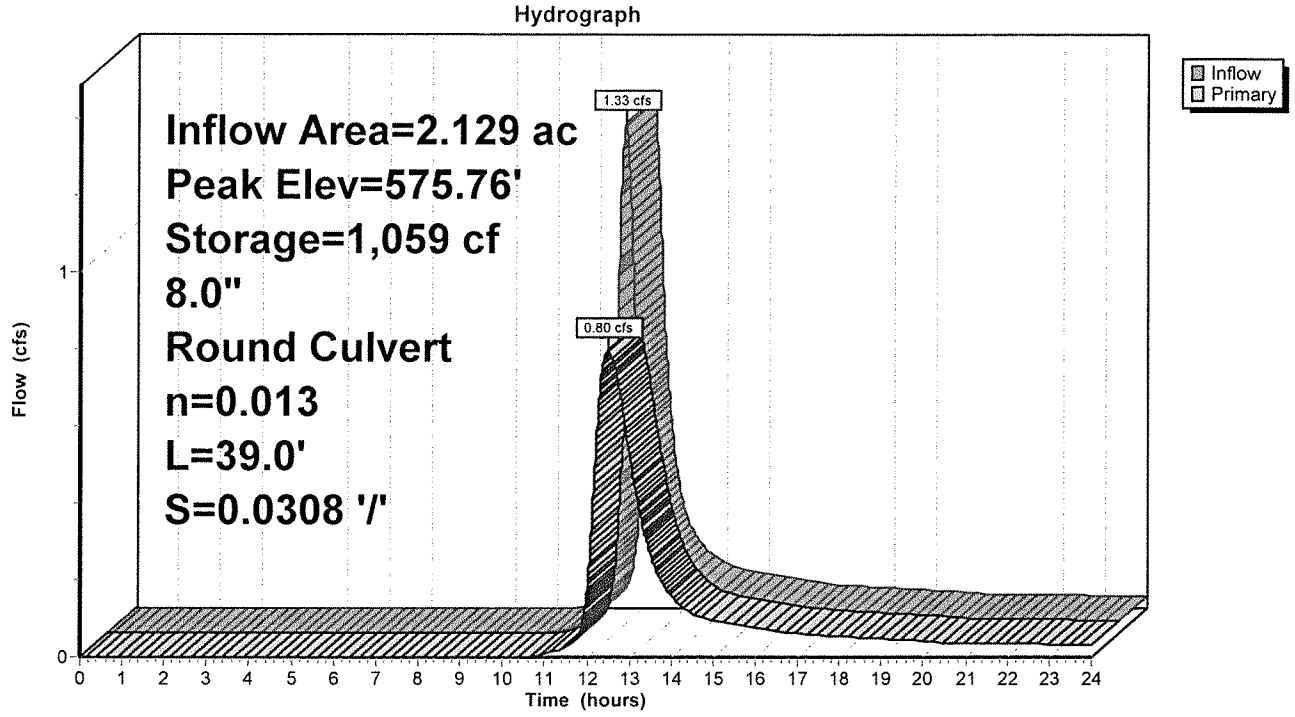
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.20	0	0	0
576.00	5,367	2,147	2,147
577.00	6,376	5,872	8,018
578.00	7,440	6,908	14,926
579.00	8,562	8,001	22,927
580.00	9,000	8,781	31,708

Device	Routing	Invert	Outlet Devices
#1	Primary	575.20'	**8.0" Round Culvert** L= 39.0' Ke= 0.500 Inlet / Outlet Invert= 575.20' / 574.00' S= 0.0308 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.80 cfs @ 12.49 hrs HW=575.76' TW=573.43' (TW follows 2.33' below HW)
↑—**1=Culvert** (Inlet Controls 0.80 cfs @ 2.55 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 17P: Pond 5 (east commercial site)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 14S: Area to Pond 4

[47] Hint: Peak is 198% of capacity of segment #3

Runoff = 3.87 cfs @ 12.20 hrs, Volume= 0.340 af, Depth> 1.85"
Routed to Pond 15P : Pond 4 (west commercial site)

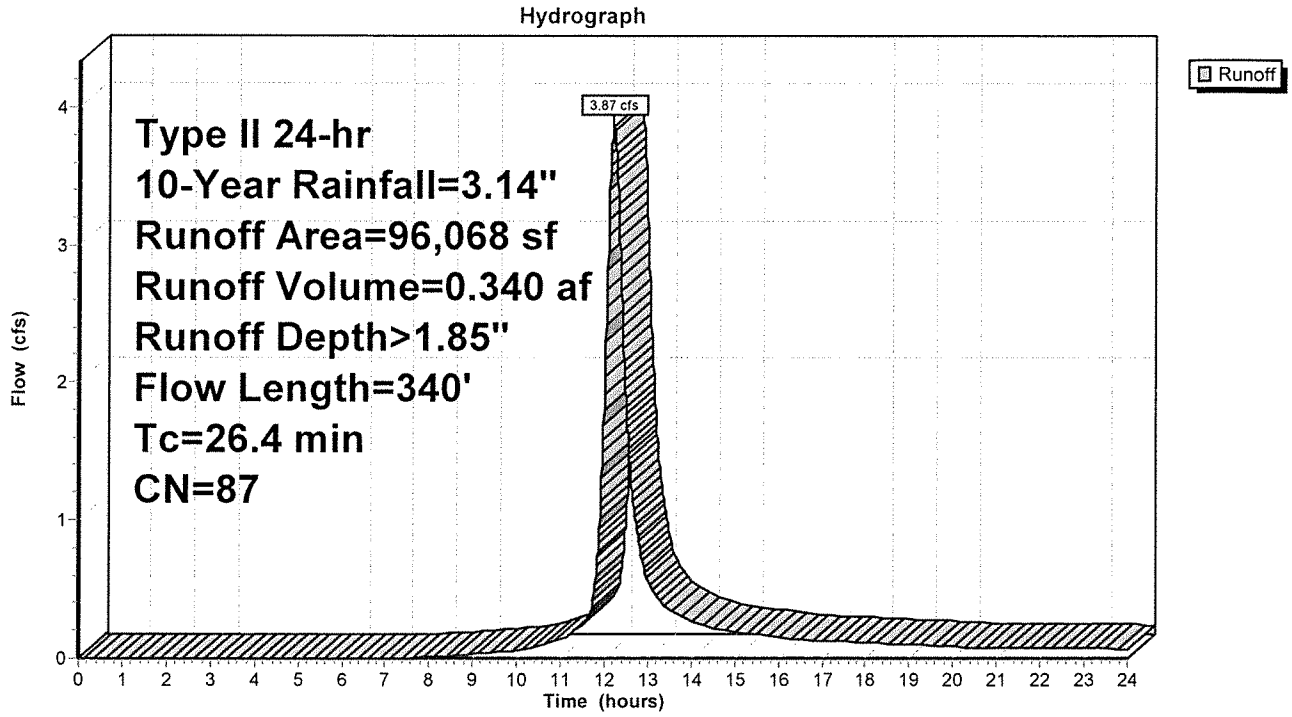
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

	Area (sf)	CN	Description
*	37,939	98	Roofs/roads/sidwalk
	58,129	80	>75% Grass cover, Good, HSG D
	96,068	87	Weighted Average
	58,129		60.51% Pervious Area
	37,939		39.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.6	70	0.0100	0.05		**Sheet Flow, over grass** Grass: Bermuda n= 0.410 P2= 2.50"
0.7	100	0.0120	2.22		**Shallow Concentrated Flow, shallow conc flow** Paved Kv= 20.3 fps
1.1	170	0.0030	2.48	1.95	**Pipe Channel, pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
26.4	340	Total			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Subcatchment 14S: Area to Pond 4



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 15P: Pond 4 (west commercial site)

Inflow Area = 2.205 ac, 39.49% Impervious, Inflow Depth > 1.85" for 10-Year event
Inflow = 3.87 cfs @ 12.20 hrs, Volume= 0.340 af
Outflow = 0.90 cfs @ 12.75 hrs, Volume= 0.332 af, Atten= 77%, Lag= 33.0 min
Primary = 0.90 cfs @ 12.75 hrs, Volume= 0.332 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 576.44' @ 12.75 hrs Surf.Area= 9,057 sf Storage= 5,970 cf

Plug-Flow detention time= 87.7 min calculated for 0.332 af (98% of inflow)
Center-of-Mass det. time= 74.7 min (906.1 - 831.3)

Volume	Invert	Avail.Storage	Storage Description
#1	575.50'	45,353 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

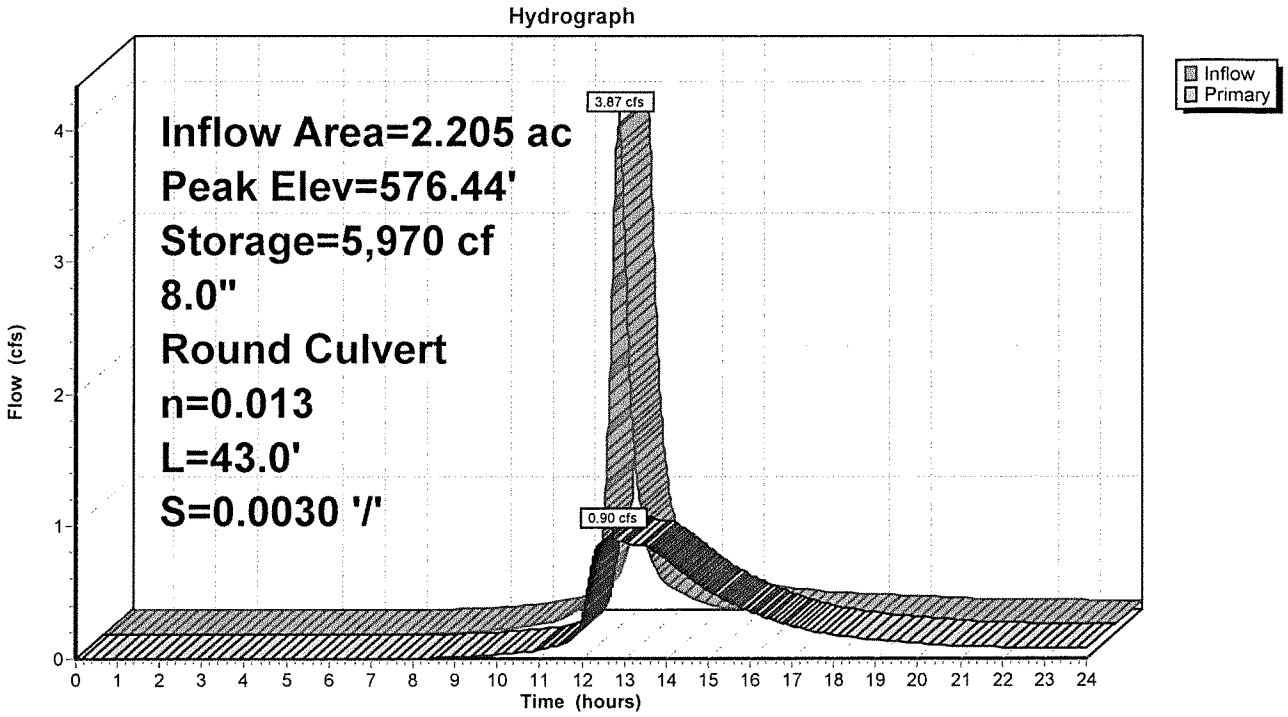
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.50	0	0	0
576.00	8,552	2,138	2,138
577.00	9,712	9,132	11,270
578.00	10,927	10,320	21,590
579.00	12,200	11,564	33,153
580.00	12,200	12,200	45,353

Device	Routing	Invert	Outlet Devices
#1	Primary	575.50'	**8.0" Round Culvert** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 575.50' / 575.37' S= 0.0030 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.91 cfs @ 12.75 hrs HW=576.44' TW=574.11' (TW follows 2.33' below HW)
↑—**1=Culvert** (Barrel Controls 0.91 cfs @ 2.59 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 15P: Pond 4 (west commercial site)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 16S: Area to Pond 5

[47] Hint: Peak is 173% of capacity of segment #3

Runoff = 3.38 cfs @ 12.23 hrs, Volume= 0.314 af, Depth> 1.77"
Routed to Pond 17P : Pond 5 (east commercial site)

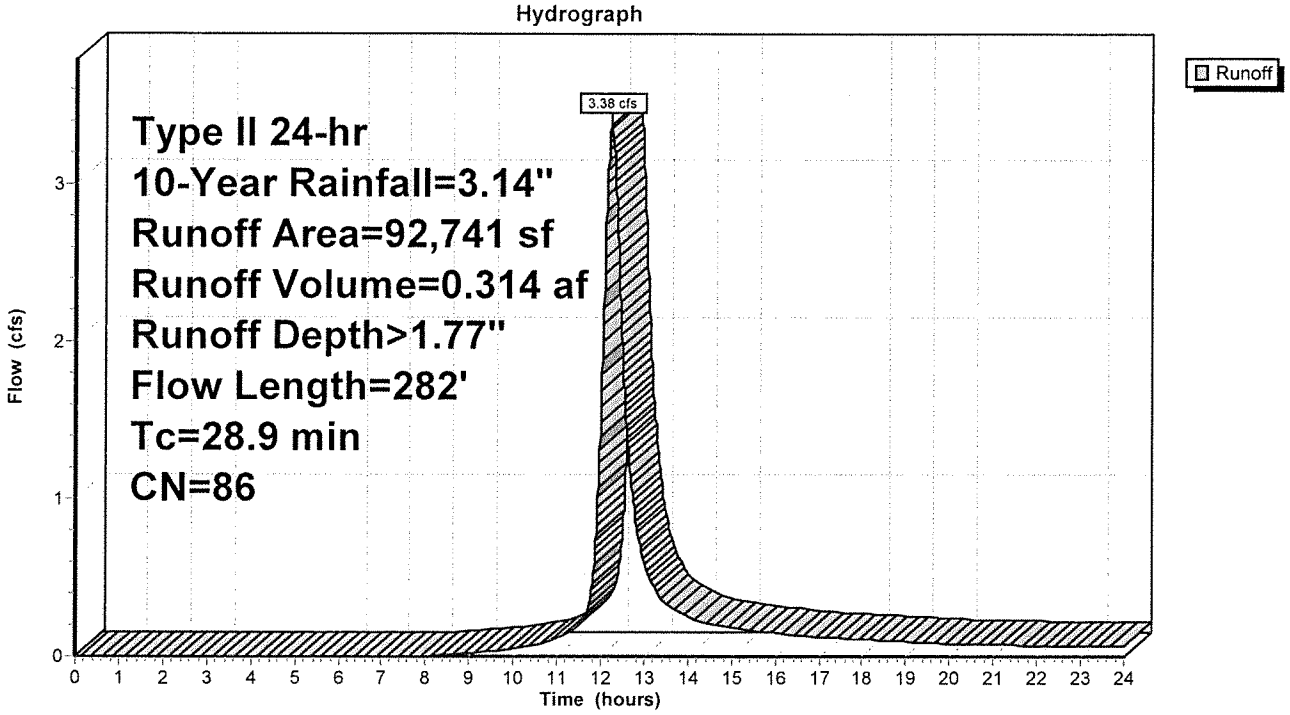
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

	Area (sf)	CN	Description
*	32,952	98	roofs/roads/sidewalk
	59,789	80	>75% Grass cover, Good, HSG D
	92,741	86	Weighted Average
	59,789		64.47% Pervious Area
	32,952		35.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	80	0.0100	0.05		**Sheet Flow, sheet flow** Grass: Bermuda n= 0.410 P2= 2.50"
0.7	85	0.0100	2.03		**Shallow Concentrated Flow, shallow conc flow** Paved Kv= 20.3 fps
0.8	117	0.0030	2.48	1.95	**Pipe Channel, pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
28.9	282	Total			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Subcatchment 16S: Area to Pond 5



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 17P: Pond 5 (east commercial site)

Inflow Area = 2.129 ac, 35.53% Impervious, Inflow Depth > 1.77" for 10-Year event
Inflow = 3.38 cfs @ 12.23 hrs, Volume= 0.314 af
Outflow = 1.43 cfs @ 12.59 hrs, Volume= 0.313 af, Atten= 58%, Lag= 21.4 min
Primary = 1.43 cfs @ 12.59 hrs, Volume= 0.313 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 576.26' @ 12.59 hrs Surf.Area= 5,630 sf Storage= 3,581 cf

Plug-Flow detention time= 26.5 min calculated for 0.313 af (100% of inflow)
Center-of-Mass det. time= 23.7 min (860.5 - 836.9)

Volume	Invert	Avail.Storage	Storage Description
#1	575.20'	31,708 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

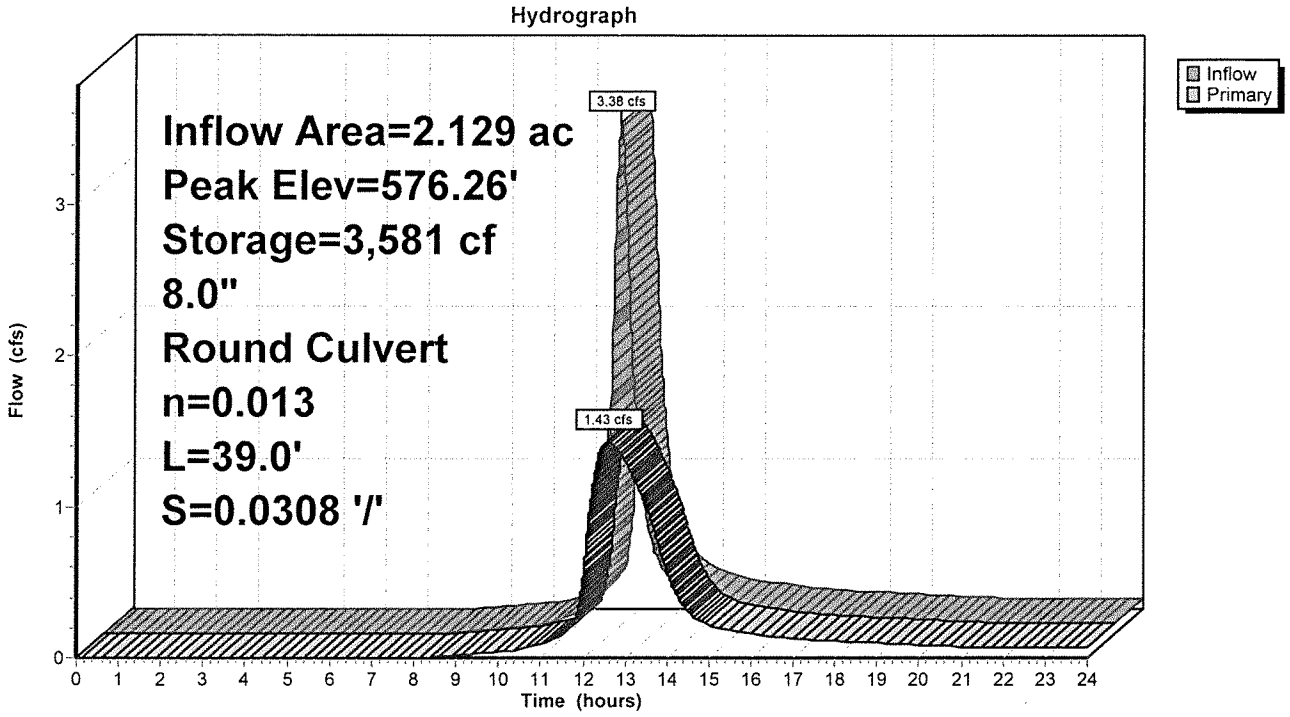
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.20	0	0	0
576.00	5,367	2,147	2,147
577.00	6,376	5,872	8,018
578.00	7,440	6,908	14,926
579.00	8,562	8,001	22,927
580.00	9,000	8,781	31,708

Device	Routing	Invert	Outlet Devices
#1	Primary	575.20'	**8.0" Round Culvert** L= 39.0' Ke= 0.500 Inlet / Outlet Invert= 575.20' / 574.00' S= 0.0308 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=1.43 cfs @ 12.59 hrs HW=576.26' TW=573.93' (TW follows 2.33' below HW)
↑**1=Culvert** (Inlet Controls 1.43 cfs @ 4.11 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 17P: Pond 5 (east commercial site)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 14S: Area to Pond 4

[47] Hint: Peak is 264% of capacity of segment #3

Runoff = 5.16 cfs @ 12.20 hrs, Volume= 0.455 af, Depth> 2.47"
Routed to Pond 15P : Pond 4 (west commercial site)

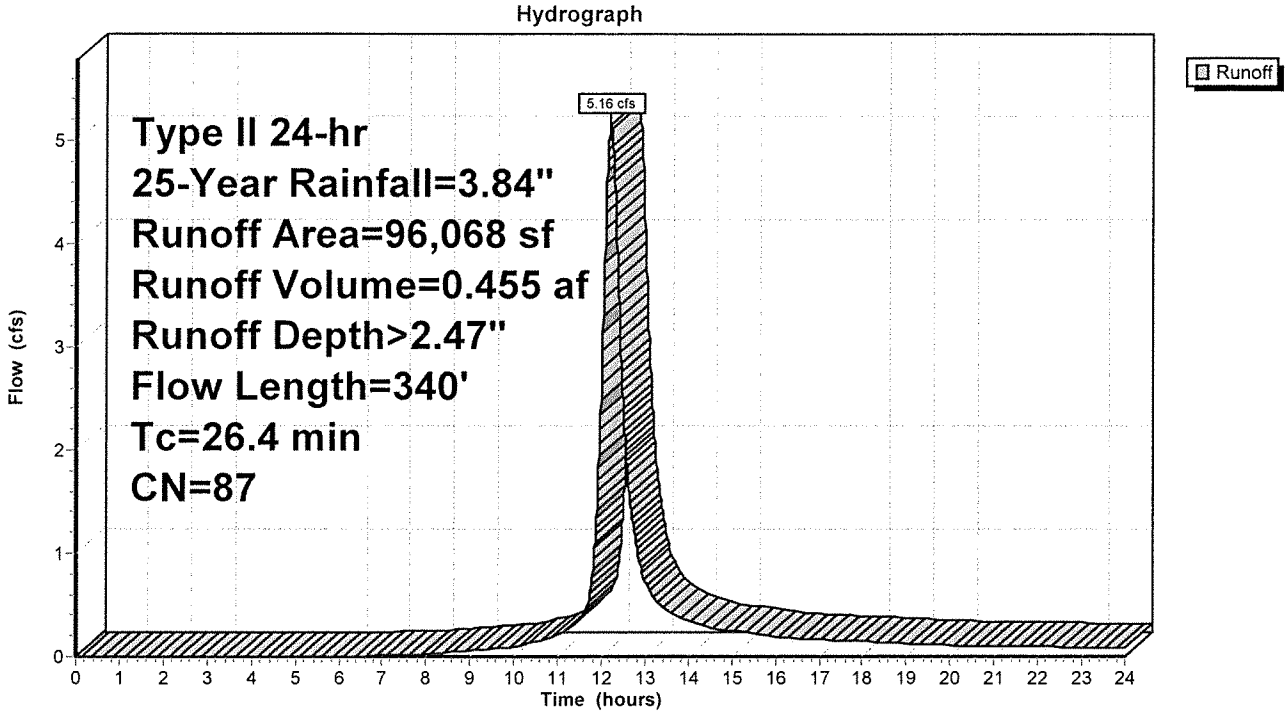
Runoff by SCS TR-20 method; UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

	Area (sf)	CN	Description
*	37,939	98	Roofs/roads/sidwalk
	58,129	80	>75% Grass cover, Good, HSG D
	96,068	87	Weighted Average
	58,129		60.51% Pervious Area
	37,939		39.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.6	70	0.0100	0.05		**Sheet Flow, over grass** Grass: Bermuda n= 0.410 P2= 2.50"
0.7	100	0.0120	2.22		**Shallow Concentrated Flow, shallow conc flow** Paved Kv= 20.3 fps
1.1	170	0.0030	2.48	1.95	**Pipe Channel, pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
26.4	340	Total			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Subcatchment 14S: Area to Pond 4



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 15P: Pond 4 (west commercial site)

Inflow Area = 2.205 ac, 39.49% Impervious, Inflow Depth > 2.47" for 25-Year event
Inflow = 5.16 cfs @ 12.20 hrs, Volume= 0.455 af
Outflow = 1.15 cfs @ 12.76 hrs, Volume= 0.445 af, Atten= 78%, Lag= 33.7 min
Primary = 1.15 cfs @ 12.76 hrs, Volume= 0.445 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 576.68' @ 12.76 hrs Surf.Area= 9,344 sf Storage= 8,250 cf

Plug-Flow detention time= 94.8 min calculated for 0.445 af (98% of inflow)
Center-of-Mass det. time= 82.3 min (905.5 - 823.2)

Volume	Invert	Avail.Storage	Storage Description
#1	575.50'	45,353 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

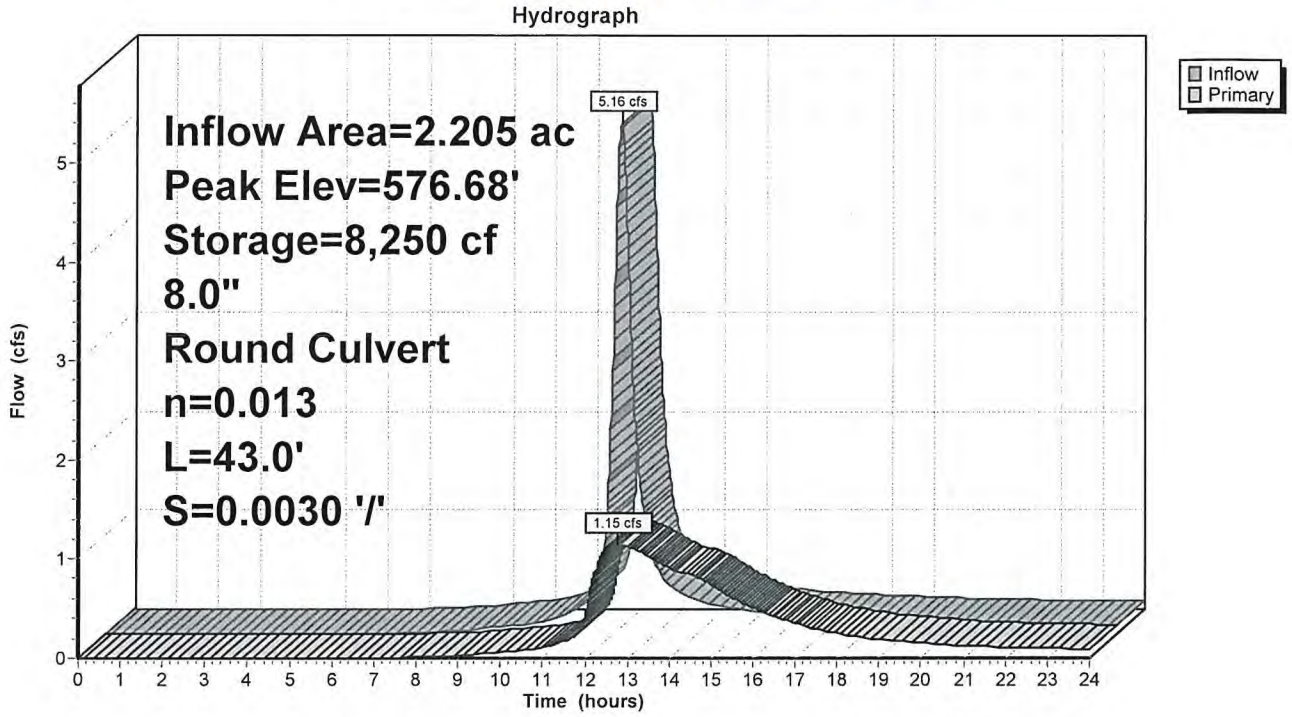
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.50	0	0	0
576.00	8,552	2,138	2,138
577.00	9,712	9,132	11,270
578.00	10,927	10,320	21,590
579.00	12,200	11,564	33,153
580.00	12,200	12,200	45,353

Device	Routing	Invert	Outlet Devices
#1	Primary	575.50'	**8.0" Round Culvert** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 575.50' / 575.37' S= 0.0030 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=1.15 cfs @ 12.76 hrs HW=576.68' TW=574.35' (TW follows 2.33' below HW)
↑—**1=Culvert** (Barrel Controls 1.15 cfs @ 3.30 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 15P: Pond 4 (west commercial site)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 16S: Area to Pond 5

[47] Hint: Peak is 233% of capacity of segment #3

Runoff = 4.55 cfs @ 12.23 hrs, Volume= 0.423 af, Depth> 2.38"
Routed to Pond 17P : Pond 5 (east commercial site)

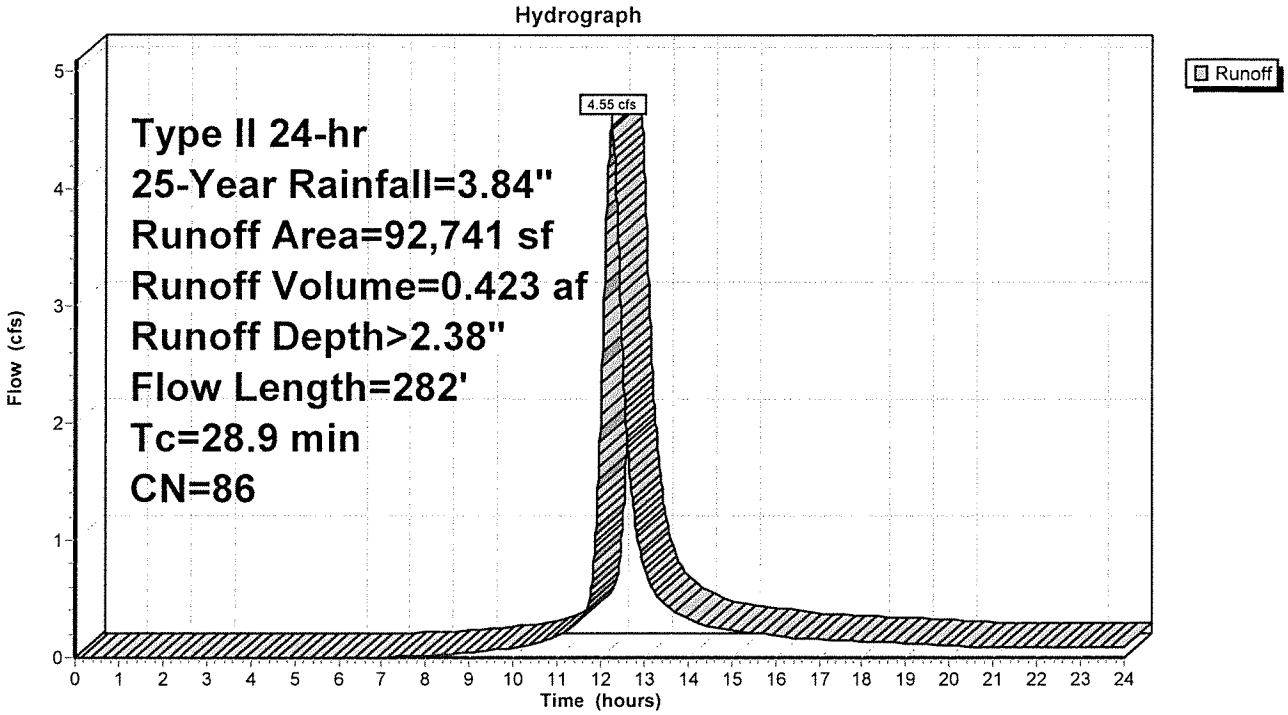
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

	Area (sf)	CN	Description
*	32,952	98	roofs/roads/sidewalk
	59,789	80	>75% Grass cover, Good, HSG D
	92,741	86	Weighted Average
	59,789		64.47% Pervious Area
	32,952		35.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	80	0.0100	0.05		**Sheet Flow, sheet flow** Grass: Bermuda n= 0.410 P2= 2.50"
0.7	85	0.0100	2.03		**Shallow Concentrated Flow, shallow conc flow** Paved Kv= 20.3 fps
0.8	117	0.0030	2.48	1.95	**Pipe Channel, pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
28.9	282	Total			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Subcatchment 16S: Area to Pond 5



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 17P: Pond 5 (east commercial site)

Inflow Area = 2.129 ac, 35.53% Impervious, Inflow Depth > 2.38" for 25-Year event
Inflow = 4.55 cfs @ 12.23 hrs, Volume= 0.423 af
Outflow = 1.70 cfs @ 12.63 hrs, Volume= 0.421 af, Atten= 63%, Lag= 23.9 min
Primary = 1.70 cfs @ 12.63 hrs, Volume= 0.421 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 576.56' @ 12.63 hrs Surf.Area= 5,930 sf Storage= 5,301 cf

Plug-Flow detention time= 31.5 min calculated for 0.421 af (100% of inflow)
Center-of-Mass det. time= 28.8 min (857.3 - 828.6)

Volume	Invert	Avail.Storage	Storage Description
#1	575.20'	31,708 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

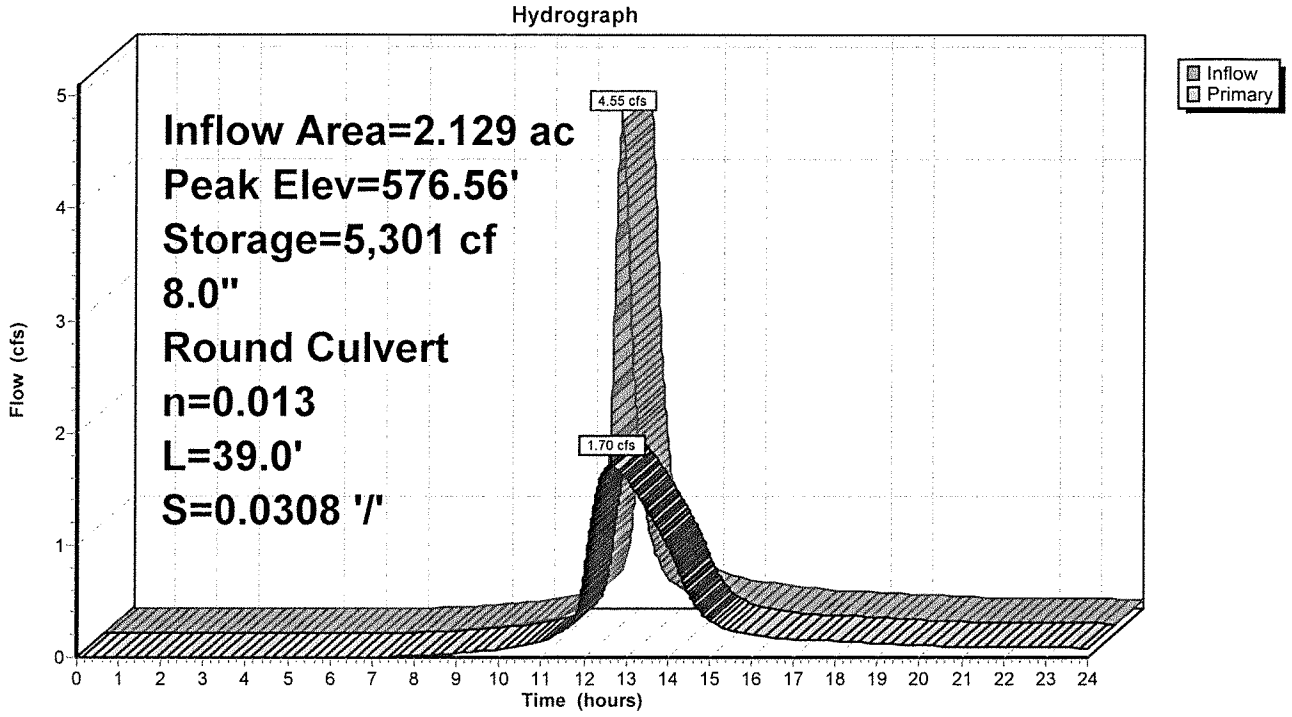
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.20	0	0	0
576.00	5,367	2,147	2,147
577.00	6,376	5,872	8,018
578.00	7,440	6,908	14,926
579.00	8,562	8,001	22,927
580.00	9,000	8,781	31,708

Device	Routing	Invert	Outlet Devices
#1	Primary	575.20'	**8.0" Round Culvert** L= 39.0' Ke= 0.500 Inlet / Outlet Invert= 575.20' / 574.00' S= 0.0308 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=1.70 cfs @ 12.63 hrs HW=576.56' TW=574.23' (TW follows 2.33' below HW)
↑—**1=Culvert** (Inlet Controls 1.70 cfs @ 4.87 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 17P: Pond 5 (east commercial site)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 14S: Area to Pond 4

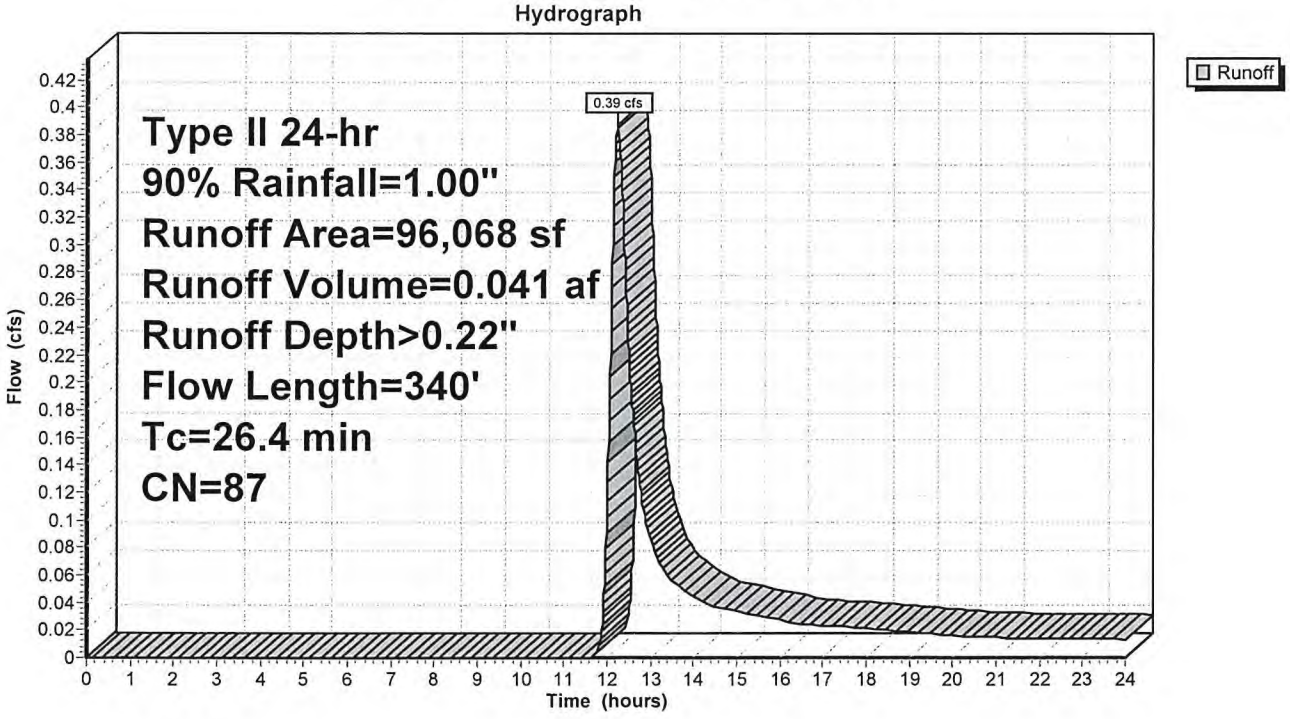
Runoff = 0.39 cfs @ 12.23 hrs, Volume= 0.041 af, Depth> 0.22"
Routed to Pond 15P : Pond 4 (west commercial site)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 90% Rainfall=1.00"

	Area (sf)	CN	Description
*	37,939	98	Roofs/roads/sidwalk
	58,129	80	>75% Grass cover, Good, HSG D
	96,068	87	Weighted Average
	58,129		60.51% Pervious Area
	37,939		39.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.6	70	0.0100	0.05		**Sheet Flow, over grass** Grass: Bermuda n= 0.410 P2= 2.50"
0.7	100	0.0120	2.22		**Shallow Concentrated Flow, shallow conc flow** Paved Kv= 20.3 fps
1.1	170	0.0030	2.48	1.95	**Pipe Channel, pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
26.4	340	Total			

Subcatchment 14S: Area to Pond 4



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 15P: Pond 4 (west commercial site)

Inflow Area = 2.205 ac, 39.49% Impervious, Inflow Depth > 0.22" for 90% event
Inflow = 0.39 cfs @ 12.23 hrs, Volume= 0.041 af
Outflow = 0.11 cfs @ 12.80 hrs, Volume= 0.039 af, Atten= 71%, Lag= 33.8 min
Primary = 0.11 cfs @ 12.80 hrs, Volume= 0.039 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 575.74' @ 12.80 hrs Surf.Area= 4,170 sf Storage= 508 cf

Plug-Flow detention time= 74.0 min calculated for 0.039 af (96% of inflow)
Center-of-Mass det. time= 54.3 min (948.8 - 894.5)

Volume	Invert	Avail.Storage	Storage Description
#1	575.50'	45,353 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

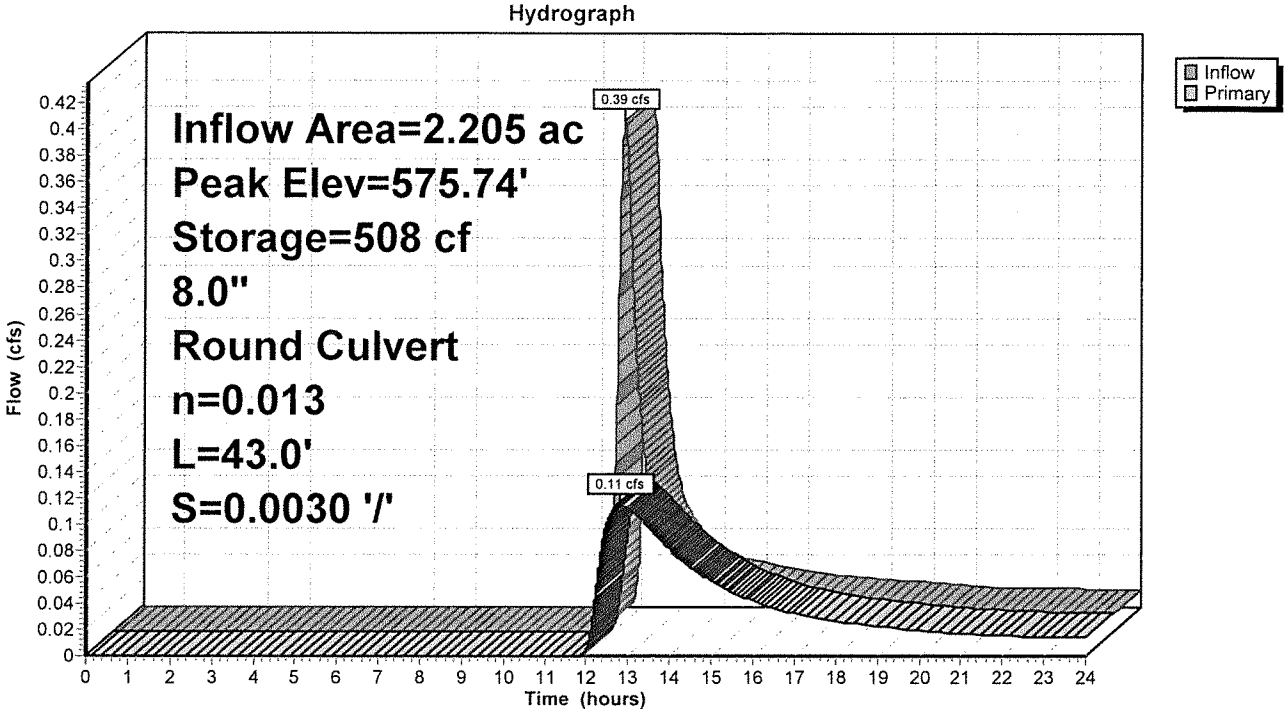
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.50	0	0	0
576.00	8,552	2,138	2,138
577.00	9,712	9,132	11,270
578.00	10,927	10,320	21,590
579.00	12,200	11,564	33,153
580.00	12,200	12,200	45,353

Device	Routing	Invert	Outlet Devices
#1	Primary	575.50'	**8.0" Round Culvert** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 575.50' / 575.37' S= 0.0030 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.11 cfs @ 12.80 hrs HW=575.74' TW=573.41' (TW follows 2.33' below HW)
↑—**1=Culvert** (Barrel Controls 0.11 cfs @ 1.46 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 15P: Pond 4 (west commercial site)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 16S: Area to Pond 5

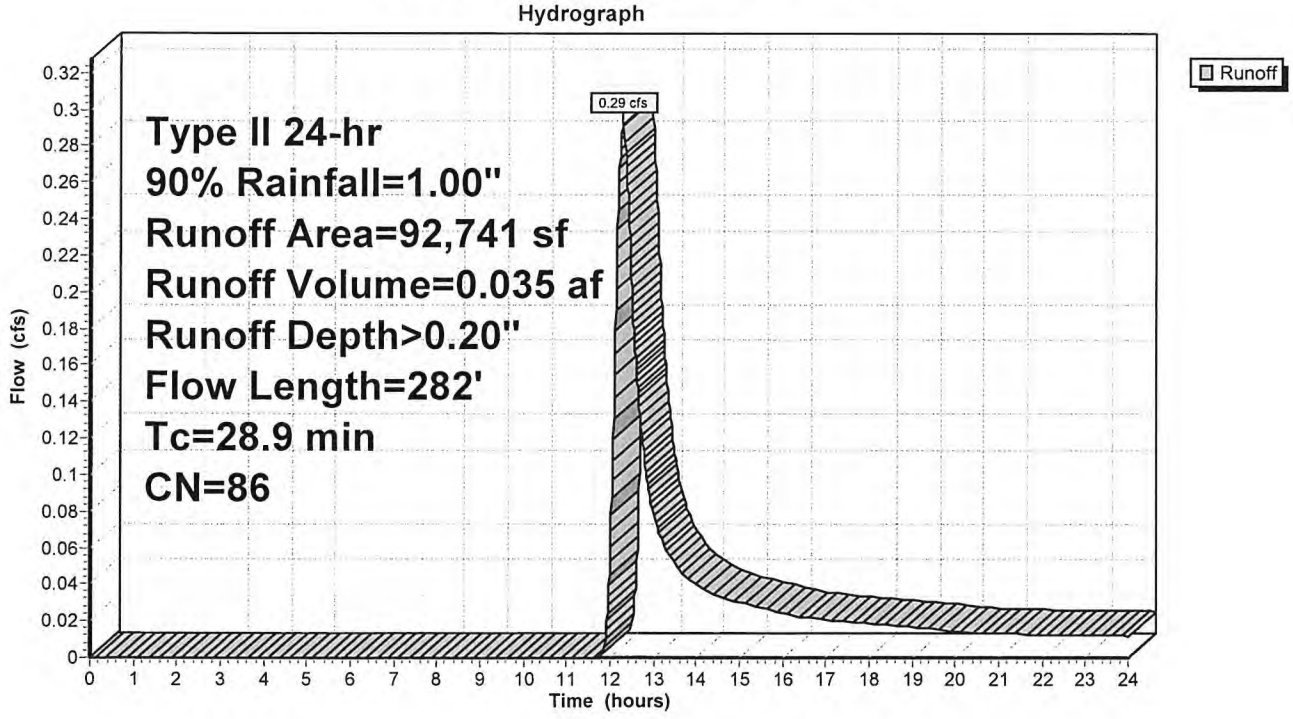
Runoff = 0.29 cfs @ 12.29 hrs, Volume= 0.035 af, Depth> 0.20"
Routed to Pond 17P : Pond 5 (east commercial site)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 90% Rainfall=1.00"

	Area (sf)	CN	Description
*	32,952	98	roofs/roads/sidewalk
	59,789	80	>75% Grass cover, Good, HSG D
	92,741	86	Weighted Average
	59,789		64.47% Pervious Area
	32,952		35.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	80	0.0100	0.05		**Sheet Flow, sheet flow** Grass: Bermuda n= 0.410 P2= 2.50"
0.7	85	0.0100	2.03		**Shallow Concentrated Flow, shallow conc flow** Paved Kv= 20.3 fps
0.8	117	0.0030	2.48	1.95	**Pipe Channel, pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
28.9	282	Total			

Subcatchment 16S: Area to Pond 5



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 17P: Pond 5 (east commercial site)

Inflow Area = 2.129 ac, 35.53% Impervious, Inflow Depth > 0.20" for 90% event
Inflow = 0.29 cfs @ 12.29 hrs, Volume= 0.035 af
Outflow = 0.20 cfs @ 12.50 hrs, Volume= 0.034 af, Atten= 33%, Lag= 12.9 min
Primary = 0.20 cfs @ 12.50 hrs, Volume= 0.034 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 575.45' @ 12.50 hrs Surf.Area= 1,645 sf Storage= 202 cf

Plug-Flow detention time= 16.2 min calculated for 0.034 af (99% of inflow)
Center-of-Mass det. time= 12.2 min (916.2 - 904.0)

Volume	Invert	Avail.Storage	Storage Description
#1	575.20'	31,708 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

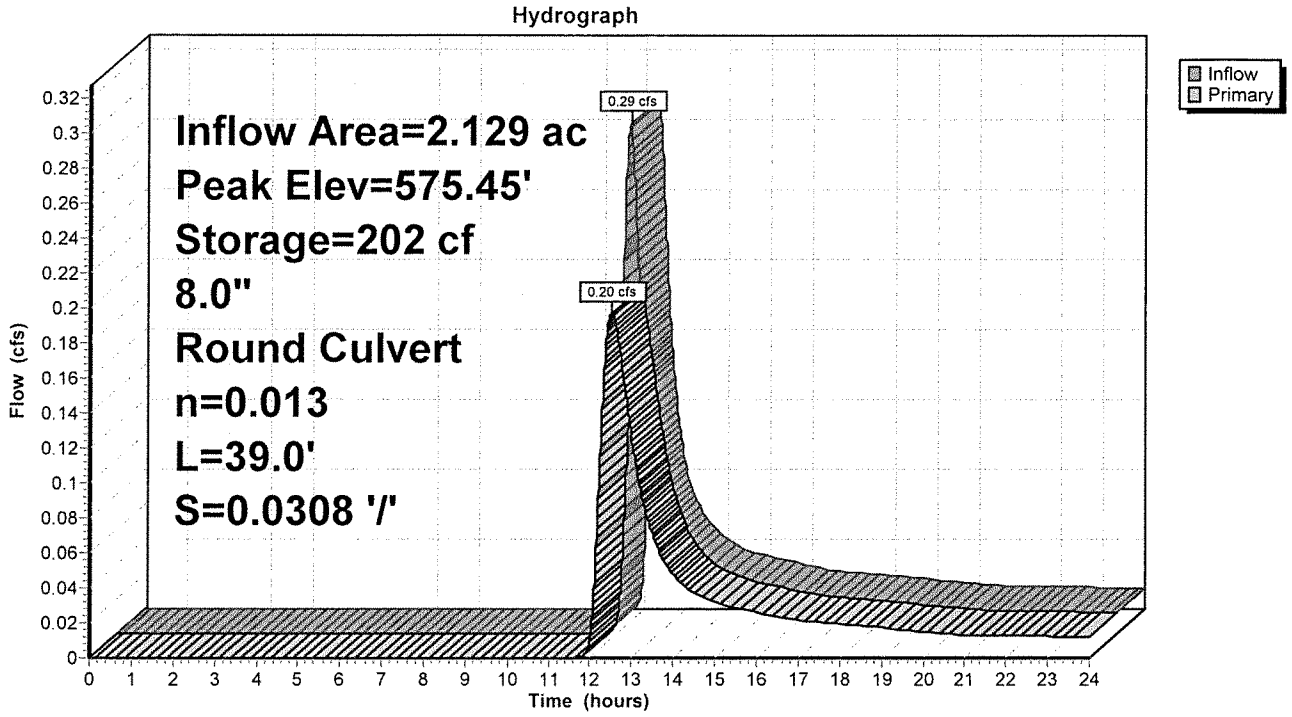
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.20	0	0	0
576.00	5,367	2,147	2,147
577.00	6,376	5,872	8,018
578.00	7,440	6,908	14,926
579.00	8,562	8,001	22,927
580.00	9,000	8,781	31,708

Device	Routing	Invert	Outlet Devices
#1	Primary	575.20'	**8.0" Round Culvert** L= 39.0' Ke= 0.500 Inlet / Outlet Invert= 575.20' / 574.00' S= 0.0308 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=0.20 cfs @ 12.50 hrs HW=575.45' TW=573.12' (TW follows 2.33' below HW)
↑—**1=Culvert** (Inlet Controls 0.20 cfs @ 1.69 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 17P: Pond 5 (east commercial site)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 14S: Area to Pond 4

[47] Hint: Peak is 396% of capacity of segment #3

Runoff = 7.73 cfs @ 12.18 hrs, Volume= 0.690 af, Depth> 3.75"
Routed to Pond 15P : Pond 4 (west commercial site)

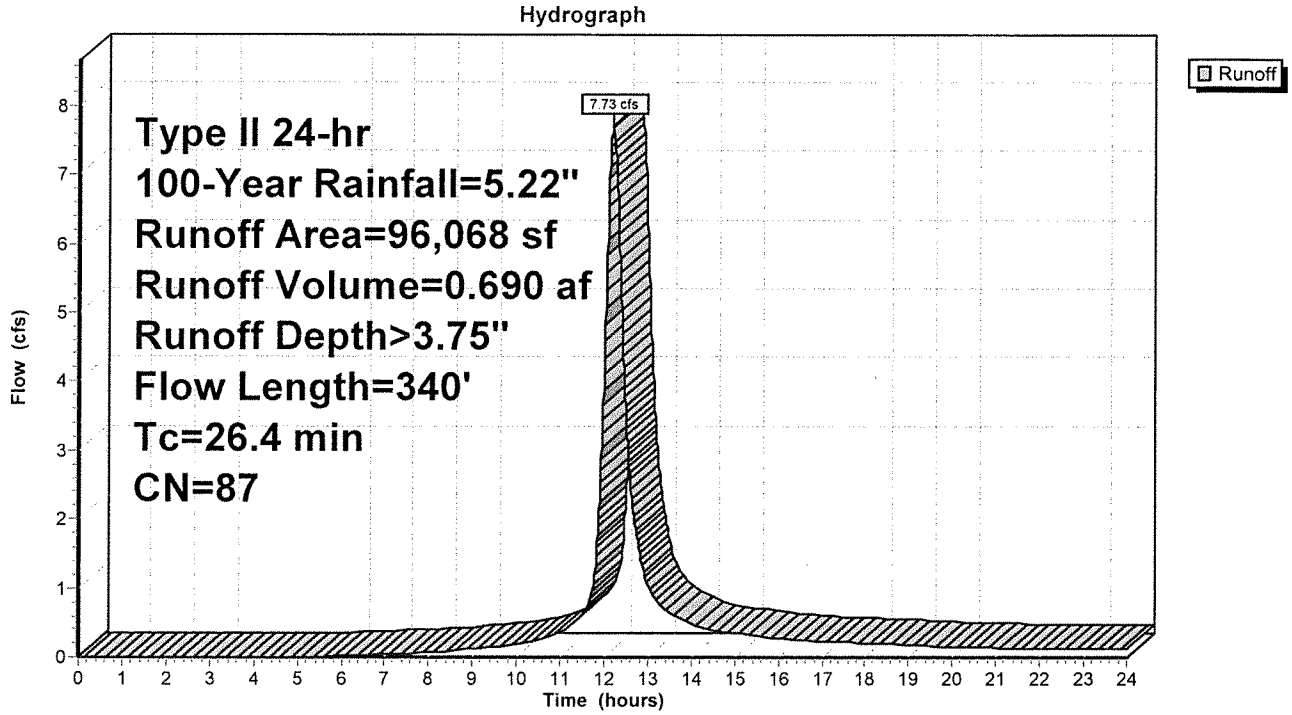
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.22"

	Area (sf)	CN	Description
*	37,939	98	Roofs/roads/sidwalk
	58,129	80	>75% Grass cover, Good, HSG D
	96,068	87	Weighted Average
	58,129		60.51% Pervious Area
	37,939		39.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.6	70	0.0100	0.05		**Sheet Flow, over grass** Grass: Bermuda n= 0.410 P2= 2.50"
0.7	100	0.0120	2.22		**Shallow Concentrated Flow, shallow conc flow** Paved Kv= 20.3 fps
1.1	170	0.0030	2.48	1.95	**Pipe Channel, pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
26.4	340	Total			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Subcatchment 14S: Area to Pond 4



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 15P: Pond 4 (west commercial site)

Inflow Area = 2.205 ac, 39.49% Impervious, Inflow Depth > 3.75" for 100-Year event
Inflow = 7.73 cfs @ 12.18 hrs, Volume= 0.690 af
Outflow = 1.53 cfs @ 12.80 hrs, Volume= 0.676 af, Atten= 80%, Lag= 36.9 min
Primary = 1.53 cfs @ 12.80 hrs, Volume= 0.676 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 577.18' @ 12.80 hrs Surf.Area= 9,933 sf Storage= 13,056 cf

Plug-Flow detention time= 107.7 min calculated for 0.676 af (98% of inflow)
Center-of-Mass det. time= 95.6 min (907.3 - 811.7)

Volume	Invert	Avail.Storage	Storage Description
#1	575.50'	45,353 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

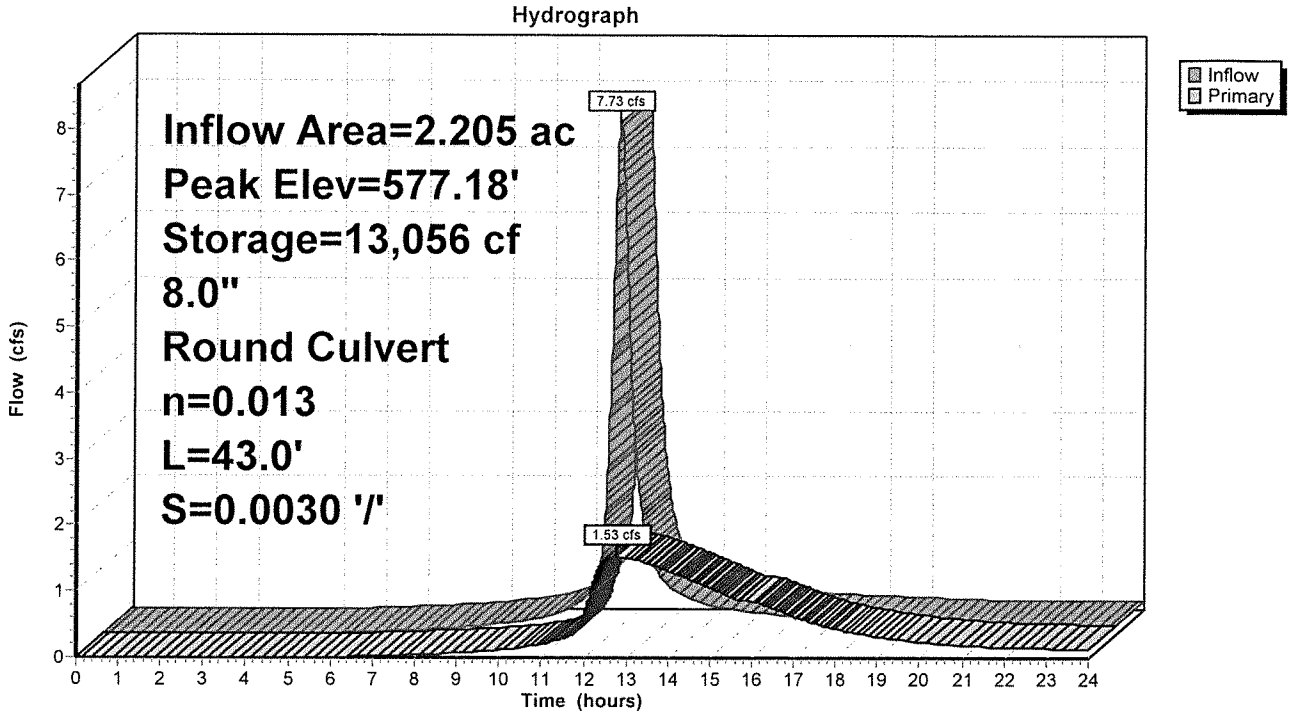
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.50	0	0	0
576.00	8,552	2,138	2,138
577.00	9,712	9,132	11,270
578.00	10,927	10,320	21,590
579.00	12,200	11,564	33,153
580.00	12,200	12,200	45,353

Device	Routing	Invert	Outlet Devices
#1	Primary	575.50'	**8.0" Round Culvert** L= 43.0' Ke= 0.500 Inlet / Outlet Invert= 575.50' / 575.37' S= 0.0030 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=1.53 cfs @ 12.80 hrs HW=577.18' TW=574.85' (TW follows 2.33' below HW)
↑—**1=Culvert** (Barrel Controls 1.53 cfs @ 4.40 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 15P: Pond 4 (west commercial site)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Subcatchment 16S: Area to Pond 5

[47] Hint: Peak is 354% of capacity of segment #3

Runoff = 6.90 cfs @ 12.23 hrs, Volume= 0.647 af, Depth> 3.65"
Routed to Pond 17P : Pond 5 (east commercial site)

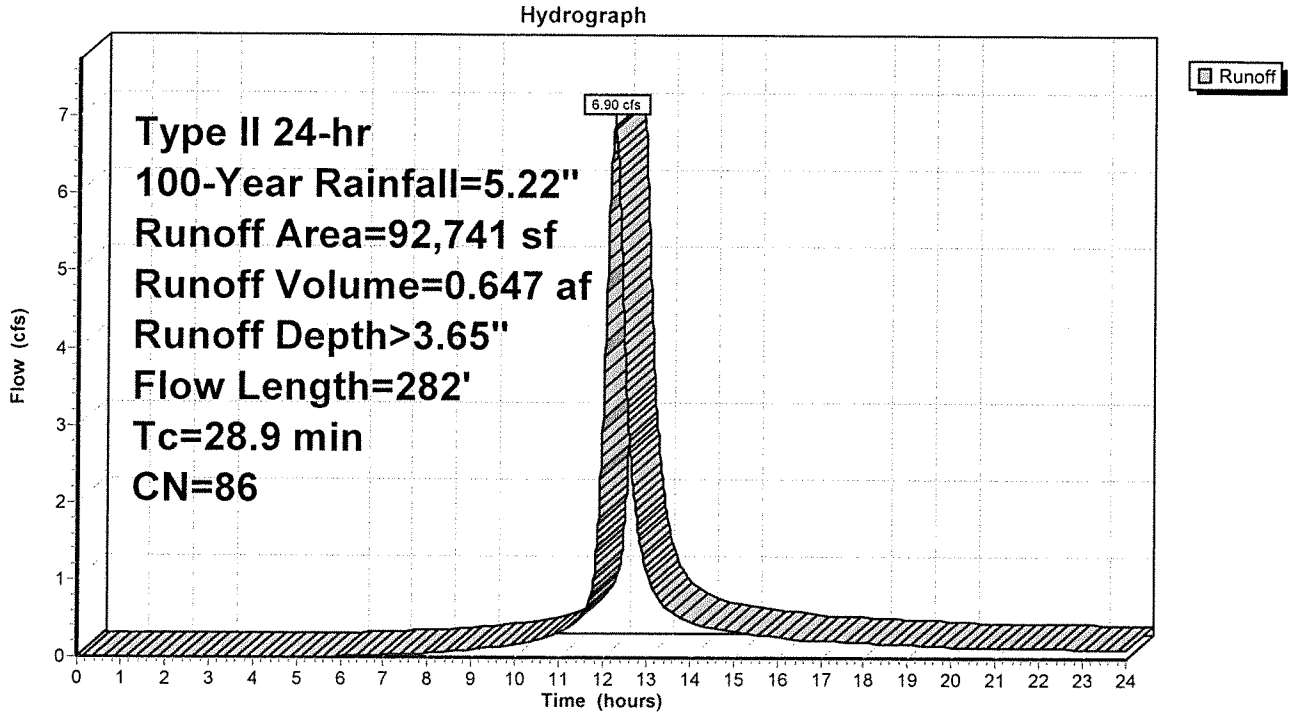
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.22"

	Area (sf)	CN	Description
*	32,952	98	roofs/roads/sidewalk
	59,789	80	>75% Grass cover, Good, HSG D
	92,741	86	Weighted Average
	59,789		64.47% Pervious Area
	32,952		35.53% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.4	80	0.0100	0.05		**Sheet Flow, sheet flow** Grass: Bermuda n= 0.410 P2= 2.50"
0.7	85	0.0100	2.03		**Shallow Concentrated Flow, shallow conc flow** Paved Kv= 20.3 fps
0.8	117	0.0030	2.48	1.95	**Pipe Channel, pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
28.9	282	Total			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Subcatchment 16S: Area to Pond 5



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Summary for Pond 17P: Pond 5 (east commercial site)

Inflow Area = 2.129 ac, 35.53% Impervious, Inflow Depth > 3.65" for 100-Year event
Inflow = 6.90 cfs @ 12.23 hrs, Volume= 0.647 af
Outflow = 2.15 cfs @ 12.69 hrs, Volume= 0.645 af, Atten= 69%, Lag= 27.7 min
Primary = 2.15 cfs @ 12.69 hrs, Volume= 0.645 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 577.17' @ 12.69 hrs Surf.Area= 6,552 sf Storage= 9,090 cf

Plug-Flow detention time= 41.0 min calculated for 0.644 af (100% of inflow)
Center-of-Mass det. time= 38.3 min (855.1 - 816.8)

Volume	Invert	Avail.Storage	Storage Description
#1	575.20'	31,708 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

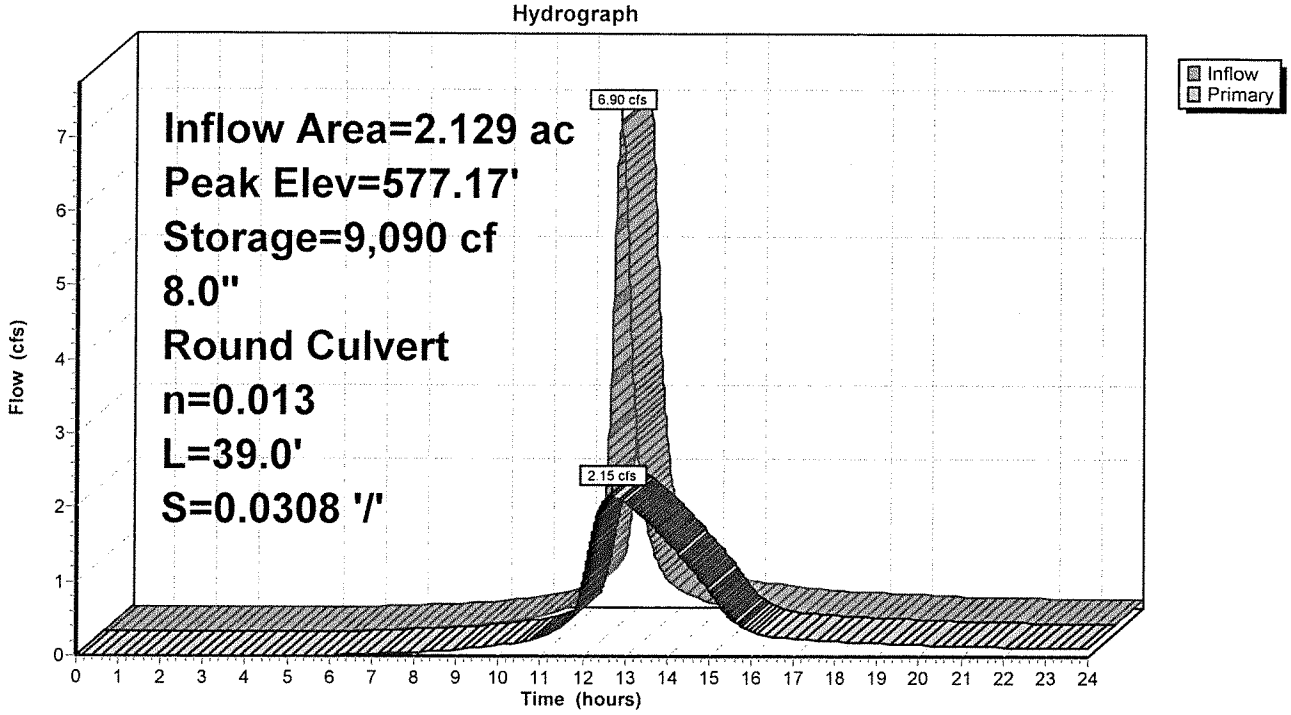
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
575.20	0	0	0
576.00	5,367	2,147	2,147
577.00	6,376	5,872	8,018
578.00	7,440	6,908	14,926
579.00	8,562	8,001	22,927
580.00	9,000	8,781	31,708

Device	Routing	Invert	Outlet Devices
#1	Primary	575.20'	**8.0" Round Culvert** L= 39.0' Ke= 0.500 Inlet / Outlet Invert= 575.20' / 574.00' S= 0.0308 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=2.15 cfs @ 12.69 hrs HW=577.17' TW=574.84' (TW follows 2.33' below HW)
↑—**1=Culvert** (Inlet Controls 2.15 cfs @ 6.15 fps)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pond 17P: Pond 5 (east commercial site)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX E

STORM SEWER SIZING CALCULATIONS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name: Millersport
Job Number: 13027C
Re: Storm Sewer Pipe Sizing Calculations - Pond 1
Calculated By: dls Date: 05/23/22
Checked By: Date:

STORM SEWER PIPE SIZING CALCULATIONS

INLET & STORM SEWER LOCATION	TRIBUTARY AREA (A) (sq ft)	(acres)	RUNOFF COEFF. C	INLET TIME (min)	TIME OF CONCEN. (total-min)	INTENSITY i (10-yr) (in/hr)	RUNOFF Q DIRECT (cfs)	SUM (cfs)	PIPE DESIGN DIA (in)	S (ft/ft)	n	V (fps)	Q (cfs)	PIPE FLOW L (ft)	TIME (min)
YD1	484	0.01	0.20	0.6	0.6	6.2	0.01	**0.01**							
to									6	0.0030	0.012	1.70	**0.33**	63	0.6
YD2	1875	0.04	0.20	4.8	4.8	6.2	0.05	**0.07**							
to									6	0.0030	0.012	1.70	**0.33**	71	0.7
YD3	1489	0.03	0.20	4.2	5.5	6.2	0.04	**0.11**							
to									6	0.0030	0.012	1.70	**0.33**	63	0.6
BY RCVR1	1400	0.03	0.20	4.2	6.1	6.0	0.04	**2.35**							
to									15	0.0030	0.012	3.13	**3.84**	233	1.2
Pond 1															
ES-1	4007	0.09	0.20	0.6	0.6	6.2	0.11	**0.11**							
to									8	0.0030	0.012	2.06	**0.72**	75	0.6
BY RCVR2															
CB-1	36367	0.83	0.64	13.3	13.3	3.8	2.04	**2.04**							
to									12	0.0030	0.012	2.70	**2.12**	42	0.3
BY RCVR2	729	0.02	0.20	5.0	13.6	3.7	0.01	**2.17**							
to									15	0.0030	0.012	3.13	**3.84**	56	0.3
YD4	970	0.02	0.20	2.4	13.9	3.7	0.02	**2.18**							
to									15	0.0030	0.012	3.13	**3.84**	85	0.5
YD5	1030	0.02	0.20	3.5	14.3	3.6	0.02	**2.20**							
to									15	0.0030	0.012	3.13	**3.84**	64	0.3
BY RCVR1															
CB-2	21500	0.49	0.74	6.5	6.5	5.7	2.09	**2.09**							
to									12	0.0030	0.012	2.70	**2.12**	31	0.2
CB-3	14347	0.33	0.68	8.2	8.2	5.1	1.14	**3.23**							
to									15	0.0030	0.012	3.13	**3.84**	43	0.2
Pond 1															

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name: Millersport
Job Number: 13027C
Re: Storm Sewer Pipe Sizing Calculations-Pond 2
Calculated By: dls Date: 05/23/22
Checked By: Date:

STORM SEWER PIPE SIZING CALCULATIONS

INLET & STORM SEWER LOCATION	TRIBUTARY AREA (A) (sq ft)	(acres)	RUNOFF COEFF. C	INLET TIME (min)	TIME OF CONCEN. (total-min)	INTENSITY i (10-yr) (in/hr)	RUNOFF Q DIRECT (cfs)	SUM (cfs)	PIPE DESIGN DIA (in)	S (ft/ft)	n	V (fps)	Q (cfs)	PIPE FLOW L (ft)	TIME (min)
ES-7	892980	20.50	0.20	57.9	57.9	1.6	6.66	**6.66**							
to									15	0.0100	0.012	5.72	**7.01**	36	0.1
YD-6	1400	0.03	0.20	4.1	58.0	1.6	0.01	**6.67**							
to									15	0.0100	0.012	5.72	**7.01**	60	0.2
YD-7	800	0.02	0.20	4.1	58.2	6.2	1.60	**8.27**							
to									15	0.0190	0.012	7.88	**9.67**	76	0.2
STM-MH1								**13.32**							
to									24	0.0030	0.012	4.28	**13.45**	121	0.5
STM MH2								**13.47**							
to									24	0.0030	0.012	4.28	**13.45**	64	0.2
STM-MH3								**20.21**							
to									30	0.0030	0.012	4.97	**24.39**	124	0.4
Pond 2															
YD-8	3782	0.09	0.20	6.0	6.0	5.9	0.10	**0.10**							
to									6	0.0030	0.012	1.70	**0.33**	50	0.5
CB-4	70376	1.62	0.47	11.0	11.0	4.2	3.22	**3.32**							
to									15	0.0030	0.012	3.13	**3.84**	60	0.3
CB-5	33120	0.76	0.65	15.0	15.0	3.5	1.73	**5.05**							
to									18	0.0030	0.012	3.54	**6.25**	61	0.3
STM MH1								**5.05**							
CB-6	23215	0.53	0.74	6.3	6.3	5.8	2.29	**2.29**							
to									12	0.0030	0.012	2.70	**2.12**	31	0.2
CB-7	30331	0.70	0.82	8.5	8.5	5.0	2.85	**5.14**							
to									18	0.0030	0.012	3.54	**6.25**	15	0.1
STM MH3	0	0.00	0.00	0.0	8.6	6.2	1.60	**6.74**							
YD-9	1300	0.03	0.20	9.9	9.9	4.5	0.03	**0.03**							
to									6	0.0030	0.012	1.70	**0.33**	75	0.7
YD-10	4730	0.11	0.20	12.8	12.8	3.9	0.08	**0.11**							
to									6	0.0030	0.012	1.70	**0.33**	75	0.7
YD-11	2327	0.05	0.20	10.4	13.6	3.7	0.04	**0.15**							
to									6	0.0030	0.012	1.70	**0.33**	141	1.4
STM MH-2								**0.15**							

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name: Millersport
Job Number: 13027C
Re: Storm Sewer Pipe Sizing Calculations-Pond 3
Calculated By: dls Date: 05/23/22
Checked By: Date:

STORM SEWER PIPE SIZING CALCULATIONS

INLET & STORM SEWER LOCATION	TRIBUTARY AREA (A) (sq ft)	(acres)	RUNOFF COEFF. C	INLET TIME (min)	TIME OF CONCEN. (total-min)	INTENSITY i (10-yr) (in/hr)	RUNOFF Q DIRECT (cfs)	SUM (cfs)	PIPE DESIGN DIA (in)	S (ft/ft)	n	V (fps)	Q (cfs)	PIPE FLOW L (ft)	TIME (min)
CB-8	8903	0.66	0.66	7.9	7.9	5.2	2.30	**2.30**							
to									12	0.0100	0.012	4.93	**3.87**	31	0.1
CB-9	17127	0.39	0.64	7.9	8.0	5.1	1.28	**3.58**							
to									12	0.0100	0.012	4.93	**3.87**	60	0.2
STM RCVR-4	39062	0.90	0.51	9.6	9.6	4.6	2.10	**12.64**							
to									24	0.0040	0.012	4.95	**15.53**	121	0.4
YD-12	1930	0.04	0.20	5.6	47.5	1.9	0.02	**12.66**							
to									24	0.0040	0.012	4.95	**15.53**	77	0.3
Pond 3								**12.66**							
ES-13	798019	18.32	0.20	46.9	46.9	1.9	6.96	**6.96**							
to									24	0.0030	0.012	4.28	**13.45**	50	0.2
STM RCVR-4								**6.96**							

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name: Millersport
Job Number: 13027C
Re: Storm Sewer Pipe Sizing Calculations-Pond 4
Calculated By: dls Date: 05/23/22
Checked By: Date:

STORM SEWER PIPE SIZING CALCULATIONS

INLET & STORM SEWER LOCATION	TRIBUTARY AREA (A) (sq ft)	(acres)	RUNOFF COEFF. C	INLET TIME (min)	TIME OF CONCEN. (total-min)	INTENSITY i (10-yr) (in/hr)	RUNOFF Q DIRECT (cfs)	SUM (cfs)	PIPE DESIGN DIA (in)	S (ft/ft)	n	V (fps)	Q (cfs)	PIPE FLOW L (ft)	TIME (min)
CB-12	24400	0.56	0.70	5.8	5.8	5.9	2.31	**2.31**							
to									12	0.0100	0.012	4.93	**3.87**	31	0.1
CB-13	26300	0.60	0.72	5.8	5.9	5.9	2.56	**4.88**							
to									12	0.0100	0.012	4.93	**3.87**	127	0.4
Pond 4								**4.88**							
CB-14	24370	0.56	0.68	8.7	8.7	4.9	1.87	**1.87**							
to									12	0.0100	0.012	4.93	**3.87**	31	0.1
CB-15	21324	0.49	0.65	9.3	9.3	4.7	1.50	**3.37**							
to									12	0.0100	0.012	4.93	**3.87**	104	0.4
BY RCVR-3	4500	0.10	0.20	7.0	7.0	7.9	0.16	**9.68**							
to									24	0.0030	0.012	4.28	**13.45**	67	0.3
Pond 4								**9.68**							
CB-16	13020	0.30	0.60	8.6	8.6	4.9	0.88	**0.88**							
to									12	0.0030	0.012	2.70	**2.12**	31	0.2
CB-17	10250	0.24	0.50	8.6	8.8	4.9	0.58	**1.46**							
to									12	0.0030	0.012	2.70	**2.12**	100	0.6
BY RCVR-4	1350	0.03	0.20	5.4	9.4	4.6	0.03	**1.49**							
to									12	0.0030	0.012	2.70	**2.12**	96	0.6
CB-20	11820	0.27	0.71	4.9	10.0	4.4	0.84	**2.33**							
to									15	0.0030	0.012	3.13	**3.84**	31	0.2
CB-21	11820	0.27	0.71	4.9	10.2	4.3	0.82	**3.16**							
to									15	0.0030	0.012	3.13	**3.84**	113	0.6
BY RCVR-3								**3.16**							
CB-22	33932	0.78	0.66	7.7	7.7	5.3	2.73	**2.73**							
to									12	0.0100	0.012	4.93	**3.87**	153	0.5
BY-RVCR-5	10920	0.25	0.20	31.0	31.0	2.4	0.12	**2.85**							
to									15	0.0030	0.012	3.13	**3.84**	69	0.4
YD-14	12610	0.29	0.20	32.1	32.1	2.3	0.13	**2.99**							
to									15	0.0030	0.012	3.13	**3.84**	65	0.3
BY RCVR-3								**2.99**							

BY PASS TO 26C @ SMITH ROAD

CB-18	4067	0.09	0.64	2.5	2.5	6.2	0.37	**0.37**							
to									12	0.0030	0.012	2.70	**2.12**	31	0.2
CB-19	4067	0.09	0.64	2.5	2.7	6.2	0.37	**0.74**							
to									12	0.0030	0.012	2.70	**2.12**	31	0.2
26C								**0.74**							

CULVERT PIPE @ 26C

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name: Millersport
Job Number: 13027C
Re: Storm Sewer Pipe Sizing Calculations-Pond 4
Calculated By: dls Date: 05/23/22
Checked By: Date:

STORM SEWER PIPE SIZING CALCULATIONS

INLET & STORM SEWER LOCATION	TRIBUTARY AREA (A) (sq ft)	(acres)	RUNOFF COEFF. C	INLET TIME (min)	TIME OF CONCEN. (total-min)	INTENSITY i (10-yr) (in/hr)	RUNOFF Q DIRECT (cfs)	SUM (cfs)	PIPE DESIGN DIA (in)	S (ft/ft)	n	V (fps)	Q (cfs)	PIPE FLOW L (ft)	TIME (min)
CULVERT	439084	10.08	0.20	66.9	66.9	1.5	3.02	**3.02**							
to									15	0.0150	0.012	7.00	**8.59**	93	0.2
26C	0	0.00	0.00	0.0	67.2	6.2	0.00	**3.02**							

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name: Millersport
Job Number: 13027C
Re: Storm Sewer Pipe Sizing Calculations-Pond Commercial
Calculated By: dls Date: 05/23/22
Checked By: Date:

STORM SEWER PIPE SIZING CALCULATIONS

INLET &	TRIBUTARY		RUNOFF	INLET	TIME OF	INTENSITY	RUNOFF Q		PIPE DESIGN					PIPE FLOW	
STORM SEWER	AREA (A)		COEFF.	TIME	CONCEN.	i (10-yr)	DIRECT	SUM	DIA	S		V	Q	L	TIME
LOCATION	(sq ft)	(acres)	C	(min)	(total-min)	(in/hr)	(cfs)	(cfs)	(in)	(ft/ft)	n	(fps)	(cfs)	(ft)	(min)
CB-10	7821	0.63	0.63	4.3	4.3	6.2	2.45	**2.45**							
to									12	0.0050	0.012	3.48	**2.74**	31	0.1
CB-11	7821	0.18	0.63	4.3	4.4	6.2	0.70	**3.15**							
to									15	0.0030	0.012	3.13	**3.84**	258	1.4
YD-13	1751	0.04	0.20	5.9	5.9	5.9	0.05	**3.20**							
to									15	0.0030	0.012	3.13	**3.84**	22	0.1
Pond Comercial								**3.20**							

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX F

NYSDEC SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITY (PERMIT NO. GP-0-20-002)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2020 Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

Table of Contents

Part 1. PERMIT COVERAGE AND LIMITATIONS 1
A. Permit Application 1
B. Effluent Limitations Applicable to Discharges from Construction Activities 1
C. Post-construction Stormwater Management Practice Requirements 4
D. Maintaining Water Quality 8
E. Eligibility Under This General Permit 9
F. Activities Which Are Ineligible for Coverage Under This General Permit 9
Part II. PERMIT COVERAGE 12
A. How to Obtain Coverage 12
B. Notice of Intent (NOI) Submittal 13
C. Permit Authorization 13
D. General Requirements For Owners or Operators With Permit Coverage 15
E. Permit Coverage for Discharges Authorized Under GP-0-15-002 17
F. Change of Owner or Operator 17
Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) 18
A. General SWPPP Requirements 18
B. Required SWPPP Contents 20
C. Required SWPPP Components by Project Type 24
Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS 24
A. General Construction Site Inspection and Maintenance Requirements 24
B. Contractor Maintenance Inspection Requirements 24
C. Qualified Inspector Inspection Requirements 25
Part V. TERMINATION OF PERMIT COVERAGE 29
A. Termination of Permit Coverage 29
Part VI. REPORTING AND RETENTION RECORDS 31
A. Record Retention 31
B. Addresses 31
Part VII. STANDARD PERMIT CONDITIONS 31
A. Duty to Comply 31
B. Continuation of the Expired General Permit 32
C. Enforcement 32
D. Need to Halt or Reduce Activity Not a Defense 32
E. Duty to Mitigate 33
F. Duty to Provide Information 33
G. Other Information 33
H. Signatory Requirements 33
I. Property Rights 35
J. Severability 35

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

K. Requirement to Obtain Coverage Under an Alternative Permit....35
L. Proper Operation and Maintenance....36
M. Inspection and Entry....36
N. Permit Actions....37
O. Definitions....37
P. Re-Opener Clause....37
Q. Penalties for Falsification of Forms and Reports....37
R. Other Permits....38
APPENDIX A – Acronyms and Definitions....39
Acronyms....39
Definitions....40
APPENDIX B – Required SWPPP Components by Project Type....48
Table 1....48
Table 2....50
APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal....52
APPENDIX D – Watersheds with Lower Disturbance Threshold....58
APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)....59
APPENDIX F – List of NYS DEC Regional Offices....65

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges* to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;

2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State*.

3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

Discharges authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* ("SWPPP") the reason(s) for the

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

   (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharges*;

   (ii) Control stormwater *discharges*, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;

   (iii) *Minimize* the amount of soil exposed during *construction activity*;

   (iv) *Minimize* the disturbance of *steep slopes*;

   (v) *Minimize* sediment *discharges* from the site;

   (vi) Provide and maintain *natural buffers* around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharges*, unless *infeasible*;

   (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;

   (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

   (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.

b. **Soil Stabilization.** In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering**. *Discharges* from *dewatering* activities, including *discharges* from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

(i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

(ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and

(iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited *Discharges*.** The following *discharges* are prohibited:

(i) Wastewater from washout of concrete;

(ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

(iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;

(iv) Soaps or solvents used in vehicle and equipment washing; and

(v) Toxic or hazardous substances from a spill or other release.

f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

(i) Runoff Reduction Volume ("RRv"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site discharges directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria ("Qp"): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria ("Qf"): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watershed

(i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site *discharge*s directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

c. Sizing Criteria for Redevelopment Activity

(i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.

(1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or

(2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or

(3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or

(4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

(ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharges* necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharges* authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharges* authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharges* will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharges*; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.

3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: "Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned"; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharges* from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.

4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

1. *Discharges* after *construction activities* have been completed and the site has undergone *final stabilization*;

2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;

3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;

4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;

6. *Construction activities* for residential, commercial and institutional projects:

   a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

7. *Construction activities* for linear transportation projects and linear utility projects:

   a. Where the *discharges* from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:

   a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.

      - 1-5 acres of disturbance - 20 feet
      - 5-20 acres of disturbance - 50 feet
      - 20+ acres of disturbance - 100 feet, or

   b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
      (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
      (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
      (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
      (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or

   c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

(i) No Affect
(ii) No Adverse Affect
(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharges* from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the "MS4 SWPPP Acceptance" form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.

3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (http://www.dec.ny.gov/). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

   NOTICE OF INTENT
   NYS DEC, Bureau of Water Permits
   625 Broadway, 4th Floor
   Albany, New York 12233-3505

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.

2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:

   a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (http://www.dec.ny.gov/) for more information,

   b. where required, all necessary Department permits subject to the *Uniform Procedures Act ("UPA")* (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators* of *construction activities* that are required to obtain *UPA* permits

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

c. the final SWPPP has been prepared, and

d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.

3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

   a. For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:

      (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or

      (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has not been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;

      (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "*MS4* SWPPP Acceptance" form, or

(ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.

4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

use control MS4, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..

5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of *a construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

   An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4,* the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.

2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.

2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.

3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.

4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:

    a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;

c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* the Department or other regulatory authority; and

d. to document the final construction conditions.

5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.

6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor.* The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

   The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

   "I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharges* from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

    a. Background information about the scope of the project, including the location, type and size of project

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge*(s);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;

k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and

l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

   Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

   The post-construction stormwater management practice component of the SWPPP shall include the following:

   a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. A Stormwater Modeling and Analysis Report that includes:
   (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;

   (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;

   (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;

   (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

   (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and

   (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;

d. Soil testing results and locations (test pits, borings);

e. Infiltration test results, when required; and

f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria,* Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators* of *construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:

   a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:

a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization,* and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.

e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization,* all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

a. Date and time of inspection;

b. Name and title of person(s) performing inspection;

c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

d. A description of the condition of the runoff at all points of *discharge* from the *construction site.* This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;

e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;

f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;

g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);

k. Identification and status of all corrective actions that were required by previous inspection; and

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector*. Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

   a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.

d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.

4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) required in Part V.A.3. of this permit.

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:

a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),

c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,

d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator.*

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator,* its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit , or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

    a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) the chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4,* or by a duly authorized representative of that person.

   It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge*(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner's or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.

4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
Cpv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DOW – Division of Water
EAF – Environmental Assessment Form
ECL - Environmental Conservation Law
EPA – U. S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQRA - State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property –means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for "*Construction Activity(ies)*" also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for "*Commence (Commencement of) Construction Activities"* and "*Larger Common Plan of Development or Sale" also.*

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department's rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term "plan" in "larger common plan of development or sale" is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State;
(ii) Designed or used for collecting or conveying stormwater;
(iii) Which is not a *combined sewer*; and
(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the "Required Elements" sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Steep Slope – means land area designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls; for many projects, includes post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint sources*. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint sources*, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C or not *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover
- Cross-country ski trails and walking/hiking trails
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Table 1 (Continued) Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Table 2

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW's, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover,* and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

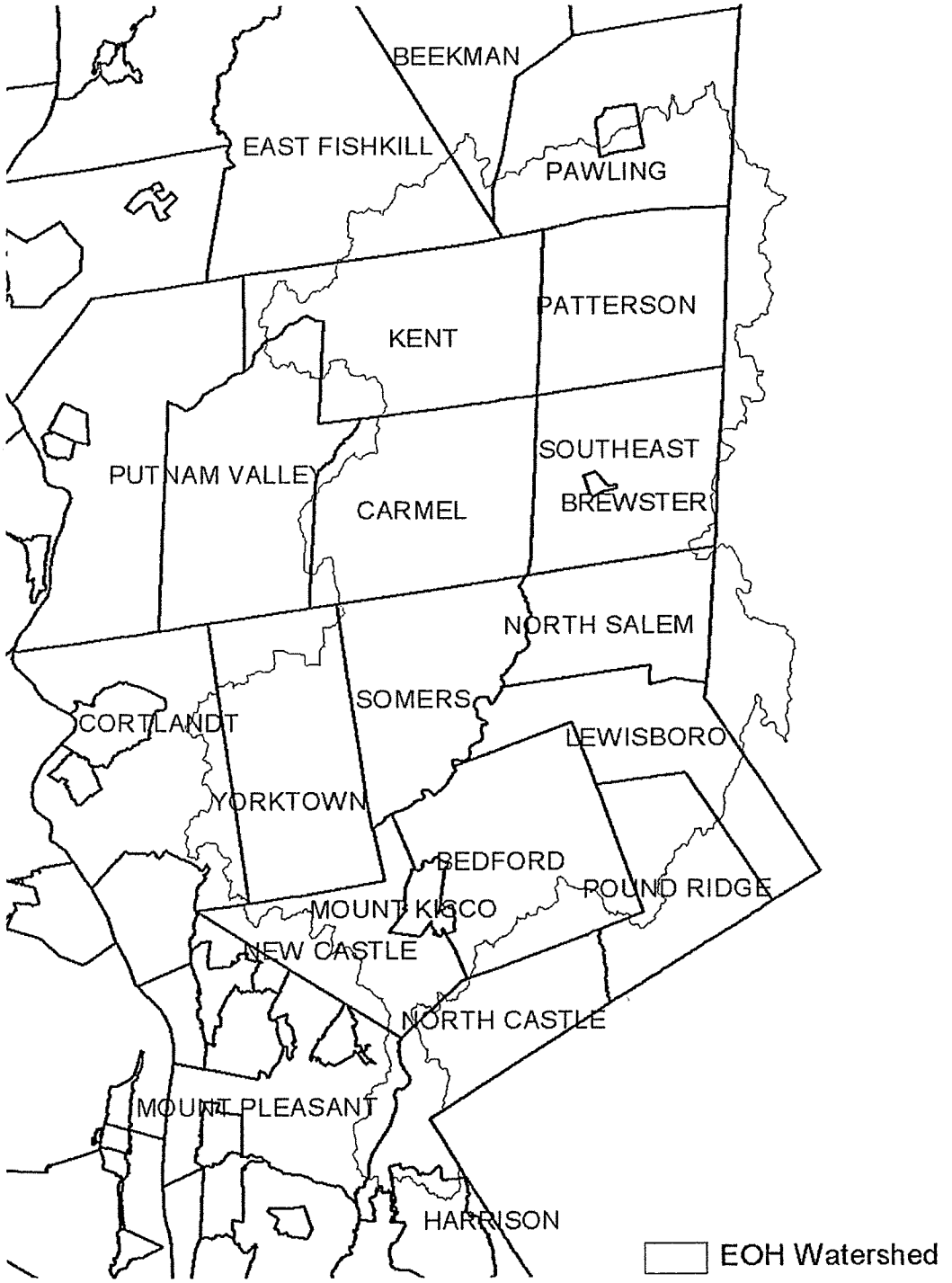
APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- Entire New York City Watershed located east of the Hudson River - Figure 1
- Onondaga Lake Watershed - Figure 2
- Greenwood Lake Watershed -Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 1 - New York City Watershed East of the Hudson



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

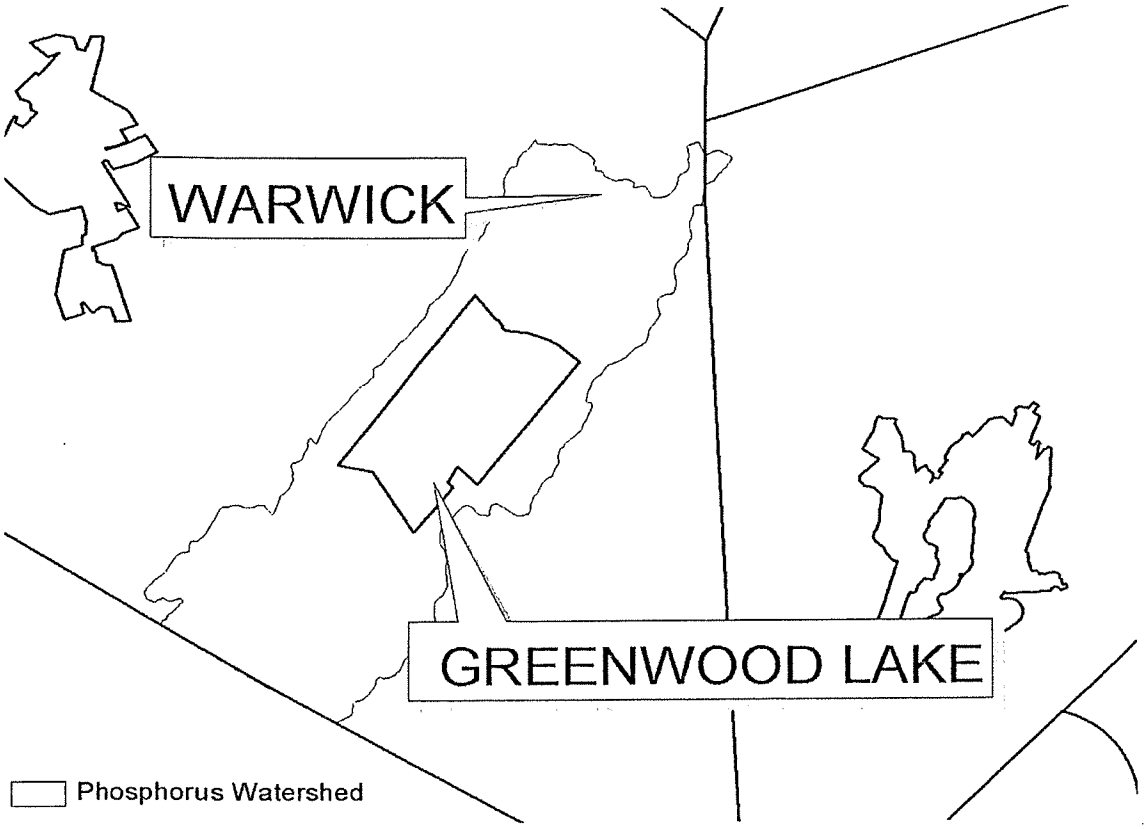
Figure 2 - Onondaga Lake Watershed



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

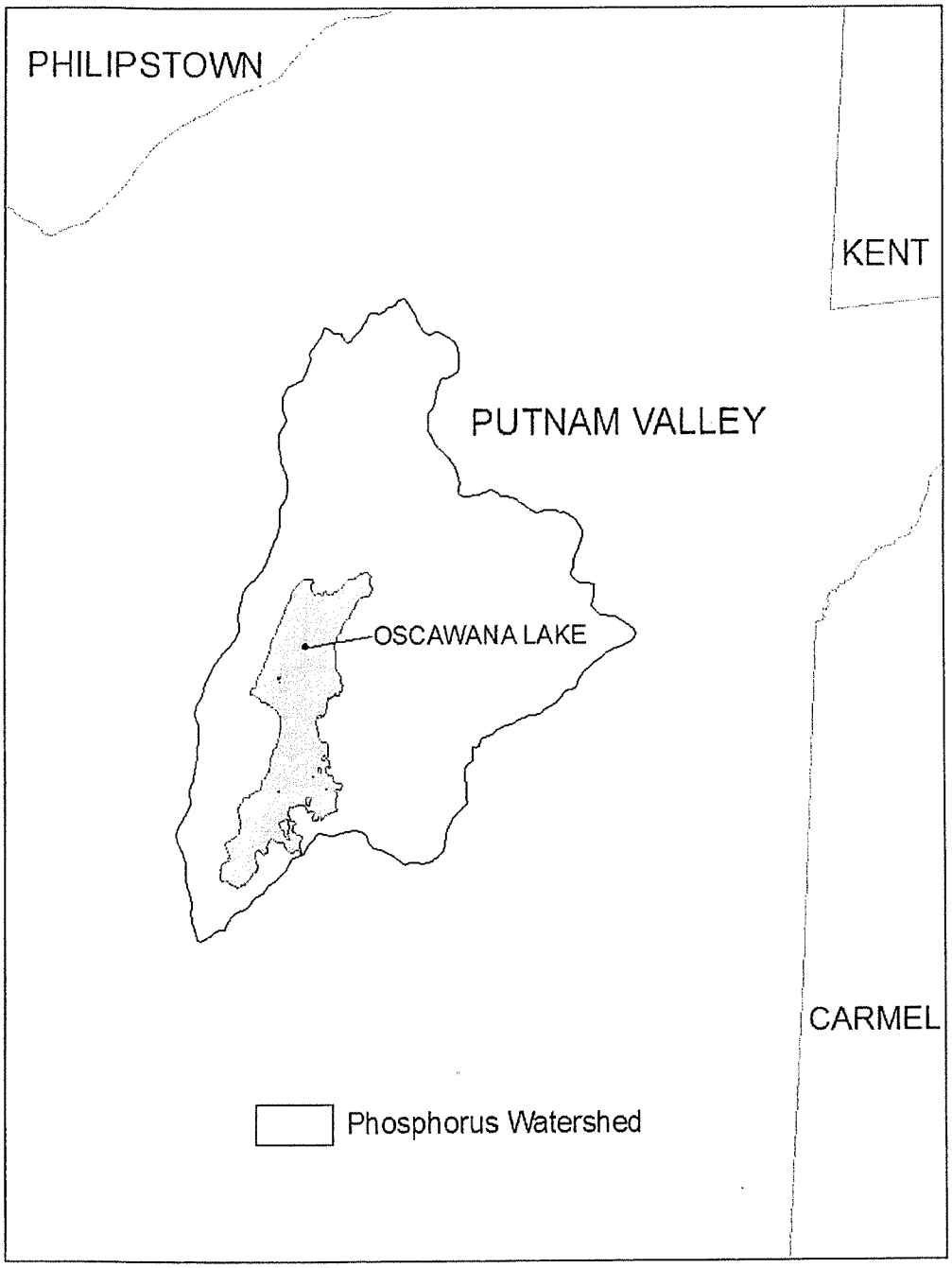
Appendix C

Figure 3 - Greenwood Lake Watershed



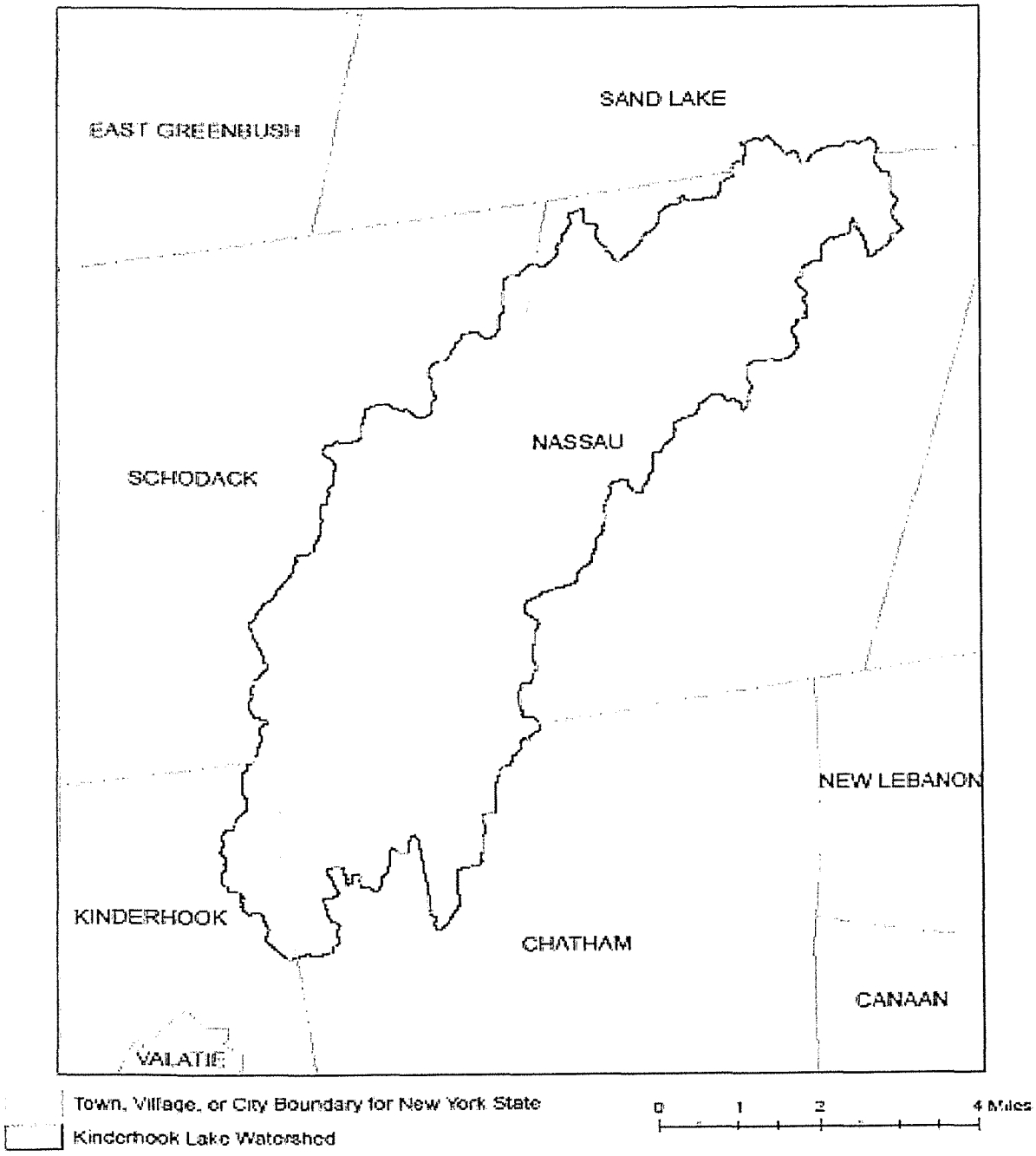
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 4 - Oscawana Lake Watershed



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 5 - Kinderhook Lake Watershed



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River - See Figure 1 in Appendix C

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX F – List of NYS DEC Regional Offices

Region	Counties	Division of Environmental Permits (DEP) Permit Administrators	Division of Water (DOW) Water Engineers
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	100 Hillside Avenue, Suite 1w White Plains, NY 10603 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX G

SPDES NOTICE OF INTENT (NOI)
NOTICE OF TERMINATION (NOT)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOI for coverage under Stormwater General Permit for Construction Activity

version 1.37

(Submission #: HQ2-Z1S3-NE231, version 1)

Details

Originally Started By	William Schutt
Alternate Identifier	4300 Millersport Highway - Traditional Neighborhood Development
Submission ID	HQ2-Z1S3-NE231
Submission Reason	New
Status	Draft

Form Input

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)
Cimato & Sons

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
Cimato

Owner/Operator Contact Person First Name
Fred

Owner/Operator Mailing Address
9220 Transit Road

City
East Amherst

State
New York

Zip
14051

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Phone
716-688-3536

Email
cimatoenterprises5647@gmail.com

Federal Tax ID
16-131-2648

> If the owner/operator is an organization, provide the Federal Tax ID number, or Employer Identification Number (EIN), in the format xx-xxxxxxx. If the owner/operator is an individual and not an organization, enter "Not Applicable" or "N/A" and do not provide the individual's social security number.

Project Location

Project/Site Name
4300 Millersport Highway - Traditional Neighborhood Development

Street Address (Not P.O. Box)
4300 Millersport Highway

Side of Street
North

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Town of Amherst

State
NY

Zip
14228

DEC Region
9

> The DEC Region must be provided. Please use the NYSDEC Stormwater Interactive Map (https://gisservices.dec.ny.gov/gis/stormwater/) to confirm which DEC Region this site is located in. To view the DEC Regions, click on “Other Useful Reference Layers” on the left side of the map, then click on “DEC Administrative Boundary.” Zoom out as needed to see the Region boundaries.
> For projects that span multiple Regions, please select a primary Region and then provide the additional Regions as a note in Question 39.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

County
ERIE

Name of Nearest Cross Street
Smith Road

Distance to Nearest Cross Street (Feet)
650

Project In Relation to Cross Street
East

Tax Map Numbers Section-Block-Parcel
16.00-2-20

Tax Map Numbers
NONE PROVIDED

> If the project does not have tax map numbers (e.g. linear projects), enter “Not Applicable” or "N/A".

1. Coordinates

Provide the Geographic Coordinates for the project site. The two methods are:
- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.
- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

Navigate to your location and click on the map to get the X,Y coordinates
43.05603199999999,-78.72841799999999

Project Details

2. What is the nature of this project?
New Construction

> For the purposes of this eNOI, “New Construction” refers to any project that does not involve the disturbance of existing impervious area (i.e. 0 acres). If existing impervious area will be disturbed on the project site, it is considered redevelopment with either increase in impervious area or no increase in impervious area.

3. Select the predominant land use for both pre and post development conditions.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pre-Development Existing Landuse
Pasture/Open Land

Post-Development Future Land Use
Multifamily Residential

3a. If Single Family Subdivision was selected in question 3, enter the number of subdivision lots.
NONE PROVIDED

---

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area.

*** ROUND TO THE NEAREST TENTH OF AN ACRE. ***

Total Site Area (acres)
66.7

Total Area to be Disturbed (acres)
22.1

Existing Impervious Area to be Disturbed (acres)
0.0

Future Impervious Area Within Disturbed Area (acres)
8.6

5. Do you plan to disturb more than 5 acres of soil at any one time?
No

---

6. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

A (%)
0

B (%)
0

C (%)
0

D (%)
100

7. Is this a phased project?
Yes

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

8. Enter the planned start and end dates of the disturbance activities.

Start Date
08/14/2024

End Date
09/30/2028

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
Ransom Creek

> Drainage ditches and storm sewer systems are not considered surface waterbodies. Please identify the surface waterbody that they discharge to. If the nearest surface waterbody is unnamed, provide a description of the waterbody, such as, "Unnamed tributary to Niagara River."

9a. Type of waterbody identified in question 9?
Stream/Creek Off Site

Other Waterbody Type Off Site Description
NONE PROVIDED

9b. If "wetland" was selected in 9A, how was the wetland identified?
NONE PROVIDED

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001?
No

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001?
No

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?
No

> Please use the DEC Stormwater Interactive Map (https://gisservices.dec.ny.gov/gis/stormwater/) to confirm if this site is located in one of the watersheds of an AA or AA-S classified water. To view the watershed areas, click on "Permit Related Layers" on the left side of the map, then click on "Class AA AAS Watersheds."

If No, skip question 13.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as D (provided the map unit name is inclusive of slopes greater than 25%), E or F on the USDA Soil Survey?
NONE PROVIDED

If Yes, what is the acreage to be disturbed?
NONE PROVIDED

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area?
No

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?
Yes

16. What is the name of the municipality/entity that owns the separate storm sewer system?
Town of Amherst, Erie County Highway

17. Does any runoff from the site enter a sewer classified as a Combined Sewer?
No

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?
No

19. Is this property owned by a state authority, state agency, federal government or local government?
No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.)
No

Required SWPPP Components

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?
Yes

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)?
Yes

If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP Identification sections.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual?
Yes

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:
Professional Engineer (P.E.)

SWPPP Preparer
Wm Schutt Associates

Contact Name (Last, First)
Schutt, William

Mailing Address
37 Central Avenue

City
Lancaster

State
New York

Zip
14086

Phone
716-683-5961

Email
pbittar@wmschutt.com

Download SWPPP Preparer Certification Form

Please take the following steps to prepare and upload your preparer certification form:

1) Click on the link below to download a blank certification form
2) The certified SWPPP preparer should sign this form
3) Scan the signed form
4) Upload the scanned document
Download SWPPP Preparer Certification Form

Please upload the SWPPP Preparer Certification
NONE PROVIDED
Comment
NONE PROVIDED

Erosion & Sediment Control Criteria

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

25. Has a construction sequence schedule for the planned management practices been prepared?
Yes

26. Select all of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural
Dust Control
Silt Fence
Stabilized Construction Entrance
Storm Drain Inlet Protection

Biotechnical
None

Vegetative Measures
Mulching
Protecting Vegetation
Seeding
Topsoiling

Permanent Structural
Rock Outlet Protection
Land Grading

Other
NONE PROVIDED

Post-Construction Criteria

*** IMPORTANT: Completion of Questions 27-39 is not required if response to Question 22 is No.**

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.
Preservation of Undisturbed Area
Roadway Reduction
Locating Development in Less Sensitive Areas
Reduction of Clearing and Grading

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).
All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet)
0.702

29. Post-construction SMP Identification

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29. (acre-feet)
0.202

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28)?
No

If Yes, go to question 36. If No, go to question 32.

32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P) (0.95) (Ai) / 12, Ai=(s) (Aic)] (acre-feet)
0.1

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?
Yes

If Yes, go to question 33.

Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. SMPs

Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment projects.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question #29. (acre-feet)
0.804

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).
1.01

Question 34 appears to be incorrect. Please review the responses to Questions 30 and 33a to ensure the correct values were provided, or update Question 34.

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?
Yes

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv required and provided or select waiver (#36a), if applicable.

CPv Required (acre-feet)
0.78

CPv Provided (acre-feet)
0.806

36a. The need to provide channel protection has been waived because:
NONE PROVIDED

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (#37a), if applicable.

Overbank Flood Control Criteria (Qp)

Pre-Development (CFS)
34.66

Post-Development (CFS)
23.64

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)
77.84

Post-Development (CFS)
49.37

37a. The need to meet the Qp and Qf criteria has been waived because:
NONE PROVIDED

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?
Yes

If Yes, Identify the entity responsible for the long term Operation and Maintenance
Cimato & Sons

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.
The proposed stormwater management system, including water quality components of the system exist or will be constructed in an area with shallow depth to groundwater. Per USDA soil survey, site soils consist of Ovid Silt loam and Cosad loam fine sand, both with a depth to groundwater table of 6 to18 inches. Due tot eh nature of the soils, the minimum Rrv requirement was met but not 100% of the required WQv volume was provided in green infrastructure practices.

Post-Construction SMP Identification

Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs

Identify the Post-construction SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

RR Techniques (Area Reduction)

Round to the nearest tenth

Total Contributing Acres for Conservation of Natural Area (RR-1)
39.4

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)
NONE PROVIDED

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
NONE PROVIDED

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)
NONE PROVIDED

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)
NONE PROVIDED

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)
0.80

Total Contributing Impervious Acres for Vegetated Swale (RR-5)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Garden (RR-6)
NONE PROVIDED

Total Contributing Impervious Acres for Stormwater Planter (RR-7)
NONE PROVIDED

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)
NONE PROVIDED

Total Contributing Impervious Acres for Porous Pavement (RR-9)
NONE PROVIDED

Total Contributing Impervious Acres for Green Roof (RR-10)
NONE PROVIDED

Standard SMPs with RRv Capacity

Total Contributing Impervious Acres for Infiltration Trench (I-1)
NONE PROVIDED

Total Contributing Impervious Acres for Infiltration Basin (I-2)
NONE PROVIDED

Total Contributing Impervious Acres for Dry Well (I-3)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Infiltration System (I-4)
NONE PROVIDED

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Total Contributing Impervious Acres for Bioretention (F-5)
0.16

Total Contributing Impervious Acres for Dry Swale (O-1)
0.13

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Pond (P-2)
7.0

Total Contributing Impervious Acres for Wet Extended Detention (P-3)
NONE PROVIDED

Total Contributing Impervious Acres for Multiple Pond System (P-4)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Pond (P-5)
NONE PROVIDED

Total Contributing Impervious Acres for Surface Sand Filter (F-1)
NONE PROVIDED

Total Contributing Impervious Acres for Underground Sand Filter (F-2)
NONE PROVIDED

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)
NONE PROVIDED

Total Contributing Impervious Acres for Organic Filter (F-4)
NONE PROVIDED

Total Contributing Impervious Acres for Shallow Wetland (W-1)
NONE PROVIDED

Total Contributing Impervious Acres for Extended Detention Wetland (W-2)
NONE PROVIDED

Total Contributing Impervious Acres for Pond/Wetland System (W-3)
NONE PROVIDED

Total Contributing Impervious Acres for Pocket Wetland (W-4)
NONE PROVIDED

Total Contributing Impervious Acres for Wet Swale (O-2)
NONE PROVIDED

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Total Contributing Impervious Area for Hydrodynamic
NONE PROVIDED

Total Contributing Impervious Area for Wet Vault
NONE PROVIDED

Total Contributing Impervious Area for Media Filter
NONE PROVIDED

"Other" Alternative SMP?
NONE PROVIDED

Total Contributing Impervious Area for "Other"
NONE PROVIDED

Provide the name and manufaturer of the alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

Manufacturer of Alternative SMP
NONE PROVIDED

Name of Alternative SMP
NONE PROVIDED

Other Permits

40. Identify other DEC permits, existing and new, that are required for this project/facility.
Water Quality Certificate
Freshwater Wetlands/Article 24

If SPDES Multi-Sector GP, then give permit ID
NONE PROVIDED

If Other, then identify
NONE PROVIDED

41. Does this project require a US Army Corps of Engineers Wetland Permit?
Yes

If "Yes," then indicate Size of Impact, in acres, to the nearest tenth
0.39

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

42. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.
NONE PROVIDED

MS4 SWPPP Acceptance

43. Is this project subject to the requirements of a regulated, traditional land use control MS4?
Yes - Please attach the MS4 Acceptance form below

If No, skip question 44

44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI?
NONE PROVIDED

MS4 SWPPP Acceptance Form Download

Download form from the link below. Complete, sign, and upload.
MS4 SWPPP Acceptance Form

MS4 Acceptance Form Upload
NONE PROVIDED
Comment
NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download

Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.
Owner/Operator Certification Form (PDF, 45KB)

Upload Owner/Operator Certification Form
NONE PROVIDED
Comment
NONE PROVIDED

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit
*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information
1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by:
9. Title/Position:
10. Date Final SWPPP Reviewed and Accepted:
IV. Regulated MS4 Information
11. Name of MS4:
12. MS4 SPDES Permit Identification Number: NYR20A
13. Contact Person:
14. Street Address:
15. City/State/Zip:
16. Telephone Number:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person: | 4a.Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): ___

9b. □ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes □ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? □ yes □ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

___

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? ☐ yes ☐ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

☐ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

☐ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

☐ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.

☐ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? ☐ yes ☐ no

(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:	
Title/Position:	
Signature:	Date:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued	
VII. Qualified Inspector Certification - Final Stabilization:	
I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.	
Printed Name:	
Title/Position:	
Signature:	Date:
VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):	
I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.	
Printed Name:	
Title/Position:	
Signature:	Date:
IX. Owner or Operator Certification	
I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.	
Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX H

CONTRACTOR CERTIFICATION STATEMENT FORM

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

OWNER CERTIFICATION STATEMENT

Project Title: 4300 Millersport Hwy – Traditional Neighborhood Development

Project Location: 4300 Millersport Hwy, Town of Amherst, Erie County, NY

Project Description: The initial phase of the proposed mixed-use development includes a combination of public and private roads; 38 patio homes and a series of 4-unit and 2-unit Townhomes. The site also notes an 8.66 +/- acre Future Development Area. The site is 66.8 +/- acres, zoned TND, Traditional Neighborhood Development and is located on the north side of Millersport Hwy within the Town of Amherst. The site is currently vacant with a mixture of brush and trees. The site has 33 +/- acres of federal wetlands, with a proposed wetland disturbance of 0.76 acres.

Owner's Official Name: Cimato and Sons

Address: 9220 Transit Road, East Amherst, NY 14051
Tel. #: (716)688-3536

Owner's Responsibilities: Installation and/or maintenance of erosion and sediment controls in accordance with the project Stormwater Pollution Prevention Plan (SWPPP) Report and associated Erosion and Sediment Control Plan drawing.

Certification Statement:

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings. "

_____ Owner
Signature Title

_____ ____/____/____
Name (Printed) Date

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX I

SWPPP INSPECTION FORMS
&
EXCERPTS FROM NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (2016 BLUE BOOK)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

PRELIMINARY SITE ASSESSMENT REPORT

Project Name _____

GP-0-15-002 Permit No. _____ **Date of Authorization** _____

Name of Owner _____

General Contractor _____

The Following Information To Be Read By All Persons Involved in The Construction of Stormwater Related Activities:

Site Assessment and Inspections –

a. The Operator agrees to have a qualified professional[1] conduct an assessment of the site prior to the commencement of construction and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction. Following the commencement of construction, site inspections shall be conducted by the qualified professional at least every 7 calendar days

b. The Operator shall maintain a record of all inspection reports in this site log book. The site log book shall be maintained on site and be made available to the permitting authorities upon request. Prior to the commencement of construction[2], the Operator shall certify in the site log book that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. The Operator shall post at the site, in a publicly-accessible location, a summary of the site inspection activities on a monthly basis.

c. Prior to filing of the Notice of Termination or the end of permit term, the Operator shall have the qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed.

1 "Qualified Professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed engineer or someone working under the direction and supervision of a licensed engineer (person must have experience in the principles and practices of erosion and sediment control), Certified Professional in Erosion and Sediment Control (CPESC), or soil scientist.
2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.
3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

OPERATOR'S CERTIFICATION

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings."

Name (please print): _____

Title: _____ Date: _____

Address: _____

Phone: _____ Email: _____

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

PRE-CONSTRUCTION SITE ASSESSMENT FORM

Inspector (please print name) _____ Date of Inspection _____

Qualified Professional (print name) _____

Qualified Professional Signature _____

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the following forms is accurate and complete.

NOTE: Provide comments below as necessary

a. Notice of Intent, SWPPP, and Contractor's Certification:

Yes	No	NA
[ ]	[ ]	[ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ]	[ ]	[ ] Is the SWPPP on-site? Where? _____
[ ]	[ ]	[ ] Is the Plan current? What is the latest revision date? _____
[ ]	[ ]	[ ] Have all contractors involved with implementing the erosion and sediment control portions of the SWPPP signed the contractor's certification?

b. Resource Protection

Yes	No	NA
[ ]	[ ]	[ ] Are construction limits clearly flagged or fenced?
[ ]	[ ]	[ ] Important trees and associated rooting zones, on-site septic systems absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, etc. have been flagged for protection.
[ ]	[ ]	[ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

c. Surface Water Protection

Yes	No	NA
[ ]	[ ]	[ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ]	[ ]	[ ] Bodies of water located on site or in the vicinity of the site have been identified and protected.
[ ]	[ ]	[ ] Appropriate practices to protect on-site or downstream surface water are installed.

d. Stabilized Construction Entrance

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Yes	No	NA	
[ ]	[ ]		[ ] A temporary construction entrance, to capture mud and debris from construction vehicles before they enter the public highway, has been installed.
[ ]	[ ]		[ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ]	[ ]		[ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

e. Perimeter Sediment Controls

Yes	No	NA	
[ ]	[ ]		[ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ]	[ ]		[ ] Silt fences are installed at appropriate spacing intervals.
[ ]	[ ]		[ ] Sediment/detention basin was installed as first land disturbing activity.
[ ]	[ ]		[ ] Sediment traps and barriers are installed.

NOTES

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STORMWATER POLLUTION PREVENTION CONSTRUCTION DURATION INSPECTIONS

Project:_____ Date: _____Time:_____
Job No.: _____ Temperature: _____
Contractor:_____ Wind: _____
Soil Conditions: _____
Inspector (print name):_____ [ ] Weekly Inspection (or) _____

SUGGESTED E&SC REMEDIAL WORK BASED ON CURRENT INSPECTION:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

EROSION AND SEDIMENT CONTROL PRACTICES THAT REQUIRE REPAIR OR MAINTENANCE:

ISSUE	LAST REPORTED	FIRST REPORTED	STATUS

MODIFICATIONS TO THE SWPPP BASED ON CURRENT INSPECTION:
Modification and reason: _____
_____
_____
_____
_____
_____

Refer to attached site plan sketch for summary of observed site conditions (page 2).
Refer to attached inspection checklist (pages 3 to 8) for items inspected.

Wm. Schutt and Associates, 37 Central Ave., Lancaster, New York 14086

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STORMWATER POLLUTION PREVENTION CONSTRUCTION DURATION INSPECTIONS

Project: _____ Date: _____ Time: _____
Job No.: _____

SITE SKETCH

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STORMWATER POLLUTION PREVENTION CONSTRUCTION DURATION INSPECTIONS

Project: _____ Date: _____Time:_____
Job No.: _____

Maintaining Water Quality

Yes	No	N/A	
[ ]	[ ]	[ ]	Is there any stormwater discharge from project site?
[ ]	[ ]	[ ]	Are there natural surface waterbodies within or adjacent to project site? Describe condition: _____
[ ]	[ ]	[ ]	Is there an increase in turbidity causing a substantial visible contrast to natural conditions? [ ] On-Site [ ] Off-Site
[ ]	[ ]	[ ]	Is there residue from oil and floating substances, visible oil film, or globules or grease? [ ] On-Site [ ] Off-Site
[ ]	[ ]	[ ]	Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

_____

_____

General Site Conditions

Yes	No	N/A	
[ ]	[ ]	[ ]	Is construction site litter and debris appropriately managed?
[ ]	[ ]	[ ]	Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ]	[ ]	[ ]	Is all disturbance within the limits of the approved plans? (i.e. no construction impacts to the adjacent property?)
[ ]	[ ]	[ ]	Is dust adequately controlled?

_____

_____

Temporary Stream Crossing [ ] N/A

Yes	No	N/A	
[ ]	[ ]	[ ]	Maximum diameter pipes necessary to span creek without dredging are installed.
[ ]	[ ]	[ ]	Installed non-woven geotextile fabric beneath approaches.
[ ]	[ ]	[ ]	Is fill composed of aggregate (no earth or soil)?
[ ]	[ ]	[ ]	Rock on approaches is clean enough to remove mud from vehicles and prevent sediment from entering stream during high flow.

_____

_____

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STORMWATER POLLUTION PREVENTION CONSTRUCTION DURATION INSPECTIONS

Project: _____ Date: _____Time:_____
Job No.: _____

Excavation Dewatering [ ] N/A

Yes No N/A

[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

_____
_____

TEMPORARY STRUCTURAL MEASURES

1. Level Spreader/Water Bar [ ] N/A

Yes No N/A

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

_____
_____

2. Interceptor Dikes and Swales [ ] N/A

Yes No N/A

[ ] [ ] [ ] Installed per plan with minimum side slopes @ 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure.

_____
_____

3. Stone Check Dam [ ] N/A

Yes No N/A

[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?

_____
_____

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STORMWATER POLLUTION PREVENTION CONSTRUCTION DURATION INSPECTIONS

Project: _____ Date: _____ Time: _____
Job No.: _____

4. Rock Dam [ ] N/A

Yes	No	N/A	
[ ]	[ ]	[ ]	Installed per plan.

5. Stabilized Construction Entrance [ ] N/A

Yes	No	N/A	
[ ]	[ ]	[ ]	Stone is clean enough to effectively remove mud from vehicles.
[ ]	[ ]	[ ]	Installed per standards and specifications?
[ ]	[ ]	[ ]	Does all traffic use the stabilized entrance to enter and leave site?
[ ]	[ ]	[ ]	Is adequate drainage provided to prevent ponding at entrance?

6. Silt Fence [ ] N/A

Yes	No	N/A	
[ ]	[ ]	[ ]	Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ]	[ ]	[ ]	Joints constructed by wrapping the two ends together for continuous support.
[ ]	[ ]	[ ]	Fabric buried six (6) inches minimum.
[ ]	[ ]	[ ]	Posts are stable, fabric is tight and without rips or frayed areas.
[ ]	[ ]	[ ]	Does accumulated sediment need to be removed?

7. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or Excavated Practices) [ ] N/A

Yes	No	N/A	
[ ]	[ ]	[ ]	Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ]	[ ]	[ ]	Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ]	[ ]	[ ]	Drainage area is one (1) acre or less.
[ ]	[ ]	[ ]	Excavated area is 900 cubic feet.
[ ]	[ ]	[ ]	Excavated side slopes should be 2:1.
[ ]	[ ]	[ ]	2' x 4' frame is constructed and structurally sound.
[ ]	[ ]	[ ]	Posts 3-foot maximum spacing between posts.
[ ]	[ ]	[ ]	Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ]	[ ]	[ ]	Posts are stable, fabric is tight and without rips or frayed areas.
[ ]	[ ]	[ ]	Does accumulated sediment need to be removed?

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STORMWATER POLLUTION PREVENTION CONSTRUCTION DURATION INSPECTIONS

Project: _____ Date: _____ Time: _____
Job No.: _____

8. Temporary Sediment Trap [ ] N/A

Yes	No	N/A	
[ ]	[ ]	[ ]	Outlet structure is constructed per the approved plan or drawing.
[ ]	[ ]	[ ]	Geotextile fabric has been placed beneath rock fill.
[ ]	[ ]	[ ]	Does accumulated sediment need to be removed?

_____
_____

9. Temporary Sediment Basin [ ] N/A

Yes	No	N/A	
[ ]	[ ]	[ ]	Basin and outlet structure constructed per the approved plan.
[ ]	[ ]	[ ]	Basin side slopes are stabilized with seed/mulch.
[ ]	[ ]	[ ]	Does accumulated sediment need to be removed?
[ ]	[ ]	[ ]	Drainage structure flushed and basin restored upon removal of sediment basin facility.

_____
_____

10. Topsoil and Spoil Stockpiles [ ] N/A

Yes	No	N/A	
[ ]	[ ]	[ ]	Stockpiles are stabilized with vegetation and/or mulch.
[ ]	[ ]	[ ]	Sediment control is installed at the toe of the slope

_____
_____

11. Other Temporary Measures [ ] N/A

_____
_____

PERMANENT STRUCTURAL MEASURES [ ] N/A
(Rock Outlet, Retaining Wall, Riprap Slope, Stream Bank Protection, etc.)

Yes	No	N/A	
[ ]	[ ]	[ ]	Installed per plan.
			Type: _____

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STORMWATER POLLUTION PREVENTION CONSTRUCTION DURATION INSPECTIONS

Project: _____ Date: _____Time:_____
Job No.: _____

VEGETATIVE MEASURES [ ] N/A

Yes	No	N/A	
[ ]	[ ]	[ ]	Temporary seedings and mulch have been applied to disturbed, idle areas.
[ ]	[ ]	[ ]	Four (4) inches minimum of topsoil has been applied under permanent seedings.
[ ]	[ ]	[ ]	Soil restoration; disturbed areas tilled, soil amendments added.
[ ]	[ ]	[ ]	Vegetation protected in non-disturbed areas

_____

_____

POST CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

1. Ponds [ ] N/A

Yes	No	N/A	
[ ]	[ ]	[ ]	Pond/Aquatic Bench/Pretreatment/Emergency Spillway/Outlets/Inlets constructed per the approved plan.
[ ]	[ ]	[ ]	Pretreatment method is maintained and sediment accumulation is within NYSDEC standards?
[ ]	[ ]	[ ]	Basin side slopes are stabilized with seed/mulch.
[ ]	[ ]	[ ]	Drainage system flushed and pond design depth restored upon removal of temporary sediment basin facility when construction has been completed.

_____

_____

2. Wetlands [ ] N/A

Yes	No	N/A	
[ ]	[ ]	[ ]	Constructed per approved plan?

_____

_____

3. Infiltration [ ] N/A

Yes	No	N/A	
[ ]	[ ]	[ ]	Constructed per approved plan? Type: _____(Trench, Basin, Dry Well)

_____

_____

4. Filtering Systems [ ] N/A

Yes	No	N/A	
[ ]	[ ]	[ ]	Constructed per approved plan? Type: _____(Sand, Organic, Bioretention)

_____

_____

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STORMWATER POLLUTION PREVENTION CONSTRUCTION DURATION INSPECTIONS

Project: _____ Date: _____ Time: _____
Job No.: _____

5. Alternative Practices [ ] N/A

Yes No N/A

[ ] [ ] [ ] Constructed per approved plan?

Type: _____

_____

_____

6. Open Channels [ ] N/A

Yes No N/A

[ ] [ ] [ ] Constructed per approved plan?

Type: _____

_____

_____

7. Verified Proprietary Devices [ ] N/A

Yes No N/A

[ ] [ ] [ ] Installed/Constructed per approved plan?

Type: _____

_____

_____

Additional Field Observations/Comments:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Qualified Professional Verification:
"I acknowledge that, to the best of my knowledge, all information provided within this inspection report is accurate and complete."

Qualified Professional (print name): _____

(signature): _____

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STORMWATER POLLUTION PREVENTION
MONTHLY SUMMARY OF SITE INSPECTIONS

Name of Permitted Facility:		Today's Date:	Reporting Month:
Job No.:	Client:	Contractor:	
Location:		Permit Identification Number:	
Name and Telephone Number of Inspector:			

Date of Inspection	Regular/Rainfall based Inspection	Name of Inspector	Items of Concern

Owner/Operator Certification

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector during a site inspection. I also* understand that the *owner or operator must comply with the terms and* conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings. "

Signature of Permittee or Duly Authorized Representative Date

Name of Permittee or Duly Authorized Representative

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STORMWATER POLLUTION PREVENTION
3-MONTH STATUS REPORT

OPERATOR'S COMPLIANCE RESPONSE FORM

Name of Permitted Facility:		Today's Date:	Reporting 3-Month Period:
Job No.:	Client:	Contractor:	
Location:		Permit Identification Number:	
Name and Telephone Number of Inspector:			

Installation, Repair, or Maintenance Activity Performed	Date	By Whom

Owner/Operator Certification

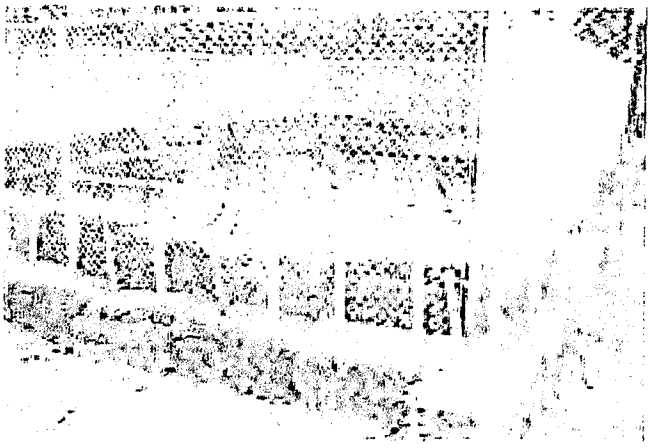
"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector during a site inspection. I also u*nderstand that the *owner or operator must comply with the terms and* conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Signature of Permittee or Duly Authorized Representative Date

Name of Permittee or Duly Authorized Representative

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STANDARD AND SPECIFICATIONS FOR CONCRETE TRUCK WASHOUT



Definition & Scope

A temporary excavated or above ground lined constructed pit where concrete truck mixers and equipment can be washed after their loads have been discharged, to prevent highly alkaline runoff from entering storm drainage systems or leaching into soil.

Conditions Where Practice Applies

Washout facilities shall be provided for every project where concrete will be poured or otherwise formed on the site. This facility will receive highly alkaline wash water from the cleaning of chutes, mixers, hoppers, vibrators, placing equipment, trowels, and screeds. Under no circumstances will wash water from these operations be allowed to infiltrate into the soil or enter surface waters.

Design Criteria

Capacity: The washout facility should be sized to contain solids, wash water, and rainfall and sized to allow for the evaporation of the wash water and rainfall. Wash water shall be estimated at 7 gallons per chute and 50 gallons per hopper of the concrete pump truck and/or discharging drum. The minimum size shall be 8 feet by 8 feet at the bottom and 2 feet deep. If excavated, the side slopes shall be 2 horizontal to 1 vertical.

Location: Locate the facility a minimum of 100 feet from drainage swales, storm drain inlets, wetlands, streams and other surface waters. Prevent surface water from entering the structure except for the access road. Provide appropriate access with a gravel access road sloped down to the structure. Signs shall be placed to direct drivers to the facility after their load is discharged.

Liner: All washout facilities will be lined to prevent leaching of liquids into the ground. The liner shall be plastic sheeting with a minimum thickness of 10 mils with no holes or tears, and anchored beyond the top of the pit with an earthen berm, sand bags, stone, or other structural appurtenance except at the access point.

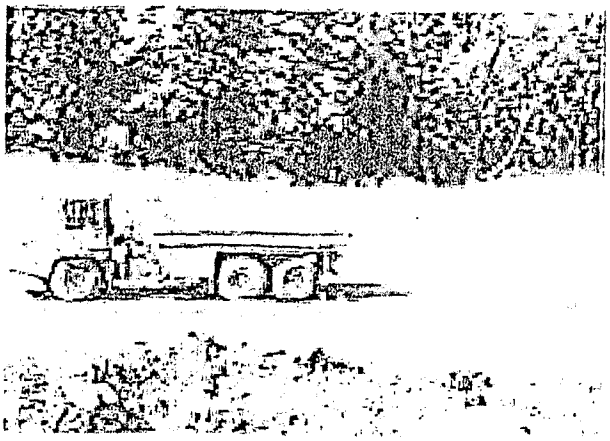
If pre-fabricated washouts are used they must ensure the capture and containment of the concrete wash and be sized based on the expected frequency of concrete pours. They shall be sited as noted in the location criteria.

Maintenance

- All concrete washout facilities shall be inspected daily. Damaged or leaking facilities shall be deactivated and repaired or replaced immediately. Excess rainwater that has accumulated over hardened concrete should be pumped to a stabilized area, such as a grass filter strip.
- Accumulated hardened material shall be removed when 75% of the storage capacity of the structure is filled. Any excess wash water shall be pumped into a containment vessel and properly disposed of off site.
- Dispose of the hardened material off-site in a construction/demolition landfill. On-site disposal may be allowed if this has been approved and accepted as part of the projects SWPPP. In that case, the material should be recycled as specified, or buried and covered with a minimum of 2 feet of clean compacted earthfill that is permanently stabilized to prevent erosion.
- The plastic liner shall be replaced with each cleaning of the washout facility.
- Inspect the project site frequently to ensure that no concrete discharges are taking place in non-designated areas.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STANDARD AND SPECIFICATIONS FOR DUST CONTROL



Definition & Scope

The control of dust resulting from land-disturbing activities, to prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

Conditions Where Practice Applies

On construction roads, access points, and other disturbed areas subject to surface dust movement and dust blowing where off-site damage may occur if dust is not controlled.

Design Criteria

Construction operations should be scheduled to minimize the amount of area disturbed at one time. Buffer areas of vegetation should be left where practical. Temporary or permanent stabilization measures shall be installed. No specific design criteria is given; see construction specifications below for common methods of dust control.

Water quality must be considered when materials are selected for dust control. Where there is a potential for the material to wash off to a stream, ingredient information must be provided to the NYSDEC.

No polymer application shall take place without written approval from the NYSDEC.

Construction Specifications

A. **Non-driving Areas** – These areas use products and materials applied or placed on soil surfaces to prevent airborne migration of soil particles.

Vegetative Cover – For disturbed areas not subject to traffic, vegetation provides the most practical method of dust control (see Section 3).

Mulch (including gravel mulch) – Mulch offers a fast effective means of controlling dust. This can also include rolled erosion control blankets.

Spray adhesives – These are products generally composed of polymers in a liquid or solid form that are mixed with water to form an emulsion that is sprayed on the soil surface with typical hydroseeding equipment. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations for the specific soils on the site. In no case should the application of these adhesives be made on wet soils or if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators and others working with the material.

B. **Driving Areas** – These areas utilize water, polymer emulsions, and barriers to prevent dust movement from the traffic surface into the air.

Sprinkling – The site may be sprayed with water until the surface is wet. This is especially effective on haul roads and access route to provide short term limited dust control.

Polymer Additives – These polymers are mixed with water and applied to the driving surface by a water truck with a gravity feed drip bar, spray bar or automated distributor truck. The mixing ratios and application rates will be in accordance with the manufacturer's recommendations. Incorporation of the emulsion into the soil will be done to the appropriate depth based on expected traffic. Compaction after incorporation will be by vibratory roller to a minimum of 95%. The prepared surface shall be moist and no application of the polymer will be made if there is a probability of precipitation within 48 hours of its proposed use. Material Safety Data Sheets will be provided to all applicators working with the material.

Barriers – Woven geo-textiles can be placed on the driving surface to effectively reduce dust throw and particle migration on haul roads. Stone can also be used for construction roads for effective dust control.

Windbreak – A silt fence or similar barrier can control air currents at intervals equal to ten times the barrier height. Preserve existing wind barrier vegetation as much as practical.

Maintenance

Maintain dust control measures through dry weather periods until all disturbed areas are stabilized.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STANDARD AND SPECIFICATIONS FOR PROTECTING VEGETATION DURING CONSTRUCTION



Definition & Scope

The protection of trees, shrubs, ground cover and other vegetation from damage by construction equipment. In order to preserve existing vegetation determined to be important for soil erosion control, water quality protection, shade, screening, buffers, wildlife habitat, wetland protection, and other values.

Conditions Where Practices Applies

On planned construction sites where valued vegetation exists and needs to be preserved.

Design Criteria

1. Planning Considerations

   A. Inventory:

   1) Property boundaries, topography, vegetation and soils information should be gathered. Identify potentially high erosion areas, areas with tree windthrow potential, etc. A vegetative cover type map should be made on a copy of a topographic map which shows other natural and manmade features. Vegetation that is desirable to preserve because of its value for screening, shade, critical erosion control, endangered species, aesthetics, etc., should be identified and marked on the map.

   2) Based upon this data, general statements should be prepared about the present condition, potential problem areas, and unique features of the property.

   B. Planning:

   1) After engineering plans (plot maps) are prepared, another field review should take place and recommendations made for the vegetation to be saved. Minor adjustments in location of roads, dwellings, and utilities may be needed. Construction on steep slopes, erodible soils, wetlands, and streams should be avoided. Clearing limits should be delineated (See "Determine Limits of Clearing and Grading" on page 2.2).

   2) Areas to be seeded and planted should be identified. Remaining vegetation should blend with their surroundings and/or provide special function such as a filter strip, buffer zone, or screen.

   3) Trees and shrubs of special seasonal interest, such as flowering dogwood, red maple, striped maple, serviceberry, or shadbush, and valuable potential shade trees should be identified and marked for special protective treatment as appropriate.

   4) Trees to be cut should be marked on the plans. If timber can be removed for salable products, a forester should be consulted for marketing advice.

   5) Trees that may become a hazard to people, personal property, or utilities should be removed. These include trees that are weak-wooded, disease-prone, subject to windthrow, or those that have severely damaged root systems.

   6) The vigor of remaining trees may be improved by a selective thinning. A forester should be consulted for implementing this practice.

2. Measures to Protect Vegetation

   A. Limit soil placement over existing tree and shrub roots to a maximum of 3 inches. Soils with loamy texture and good structure should be used.

   B. Use retaining walls and terraces to protect roots of trees and shrubs when grades are lowered. Lowered grades should start no closer than the dripline of the tree. For narrow-canopied trees and shrubs, the stem diameter in inches is converted to feet and doubled, such that a 10 inch tree should be protected to 20 feet.

   C. Trenching across tree root systems should be the same minimum distance from the trunk, as in "B". Tunnels under root systems for underground utilities should start 18 inches or deeper below the normal ground surface. Tree roots which must be severed should be cut clean. Backfill material that will be in contact with the roots should be topsoil or a prepared planting soil mixture.

   D. Construct sturdy fences, or barriers, of wood, steel, or other protective material around valuable

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

vegetation for protection from construction equipment. Place barriers far enough away from trees, but not less than the specifications in "B", so that tall equipment such as backhoes and dump trucks do not contact tree branches.

E. Construction limits should be identified and clearly marked to exclude equipment.

F. Avoid spills of oil/gas and other contaminants.

G. Obstructive and broken branches should be pruned properly. The branch collar on all branches whether living or dead should not be damaged. The 3 or 4 cut method should be used on all branches larger than two inches at the cut. First cut about one-third the way through the underside of the limb (about 6-12 inches from the tree trunk). Then (approximately an inch further out) make a second cut through the limb from the upper side. When the branch is removed, there is no splintering of the main tree trunk. Remove the stub. If the branch is larger than 5-6 inches in diameter, use the four cut system. Cuts 1 and 2 remain the same and cut 3 should be from the underside of the limb, on the outside of the branch collar. Cut 4 should be from the top and in alignment with the 3rd cut. Cut 3 should be 1/4 to 1/3 the way through the limb. This will prevent the bark from peeling down the trunk. Do not paint the cut surface.

H. Penalties for damage to valuable trees, shrubs, and herbaceous plants should be clearly spelled out in the contract.

PROTECTING TREES IN HEAVY USE AREAS

The compaction of soil over the roots of trees and shrubs by the trampling of recreationists, vehicular traffic, etc., reduces oxygen, water, and nutrient uptake by feeder roots. This weakens and may eventually kill the plants. Table 2.6 rates the "Susceptibility of Tree Species to Compaction."

Where heavy compaction is anticipated, apply and maintain a 3 to 4 inch layer of undecayed wood chips or 2 inches of No. 2 washed, crushed gravel. In addition, use of a wooden or plastic mat may be used to lessen compaction, if applicable.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Table 2.6
Susceptibility of Tree Species to Compaction[1]

Resistant:

Box elder	*Acer negundo*	Willows	*Salix spp.*
Green ash	*Fraxinus pennsylvanica*	Honey locust	*Gleditsia triacanthos*
Red elm	*Ulmus rubra*	Eastern cottonwood	*Populus deltoides*
Hawthornes	*Crataegus spp.*	Swamp white oak	*Quercus bicolor*
Bur oak	*Quercus macrocarpa*	Hophornbeam	*Ostrya virginiana*
Northern white cedar	*Thuja occidentalis*		

Intermediate:

Red maple	*Acer rubrum*	Sweetgum	*Liquidambar styraciflua*
Silver maple	*Acer saccharinum*	Norway maple	*Acer platanoides*
Hackberry	*Celtis occidentalis*	Shagbark hickory	*Carya ovata*
Black gum	*Nyssa sylvatica*	London plane	*Platanus x hybrida*
Red oak	*Quercus rubra*	Pin oak	*Quercus palustris*
Basswood	*Tilia americana*		

Susceptible:

Sugar maple	*Acer saccharum*	Austrian Pine	*Pinus nigra*
White pine	*Pinus strobus*	White ash	*Fraxinus americana*
Blue spruce	*Picea pungens*	Paper birch	*Betula papyrifera*
White oak	*Quercus alba*	Moutain ash	*Sorbus aucuparia*
Red pine	*Pinus resinosa*	Japanese maple	*Acer palmatum*

[1] If a tree species does not appear on the list, insufficient information is available to rate it for this purpose.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STANDARD AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ACCESS



Definition & Scope

A stabilized pad of aggregate underlain with geotextile located at any point where traffic will be entering or leaving a construction site to or from a public right-of-way, street, alley, sidewalk, or parking area. The purpose of stabilized construction access is to reduce or eliminate the tracking of sediment onto public rights-of-way or streets.

Conditions Where Practice Applies

A stabilized construction access shall be used at all points of construction ingress and egress.

Design Criteria

See Figure 2.1 on page 2.31 for details.

Aggregate Size: Use a matrix of 1-4 inch stone, or reclaimed or recycled concrete equivalent.

Thickness: Not less than six (6) inches.

Width: 12-foot minimum but not less than the full width of points where ingress or egress occurs. 24-foot minimum if there is only one access to the site.

Length: As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum would apply).

Geotextile: To be placed over the entire area to be covered with aggregate. Filter cloth will not be required on a single-family residence lot. Piping of surface water under entrance shall be provided as required. If piping is impossible, a mountable berm with 5:1 slopes will be permitted.

Criteria for Geotextile: The geotextile shall be woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydro-carbons, mildew, rot resistant, and conform to the fabric properties as shown:

Fabric Properties[3]	Light Duty[1] Roads Grade Subgrade	Heavy Duty[2] Haul Roads Rough Graded	Test Method
Grab Tensile Strength (lbs)	200	220	ASTM D1682
Elongation at Failure (%)	50	60	ASTM D1682
Mullen Burst Strength (lbs)	190	430	ASTM D3786
Puncture Strength (lbs)	40	125	ASTM D751 Modified
Equivalent	40-80	40-80	US Std Sieve
Opening Size			CW-02215
Aggregate Depth	6	10	-

[1]Light Duty Road: Area sites that have been graded to subgrade and where most travel would be single axle vehicles and an occasional multi-axle truck. Acceptable materials are Trevira Spunbond 1115, Mirafi 100X, Typar 3401, or equivalent.

[2]Heavy Duty Road: Area sites with only rough grading, and where most travel would be multi-axle vehicles. Acceptable materials are Trevira Spunbond 1135, Mirafi 600X, or equivalent.

[3]Fabrics not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

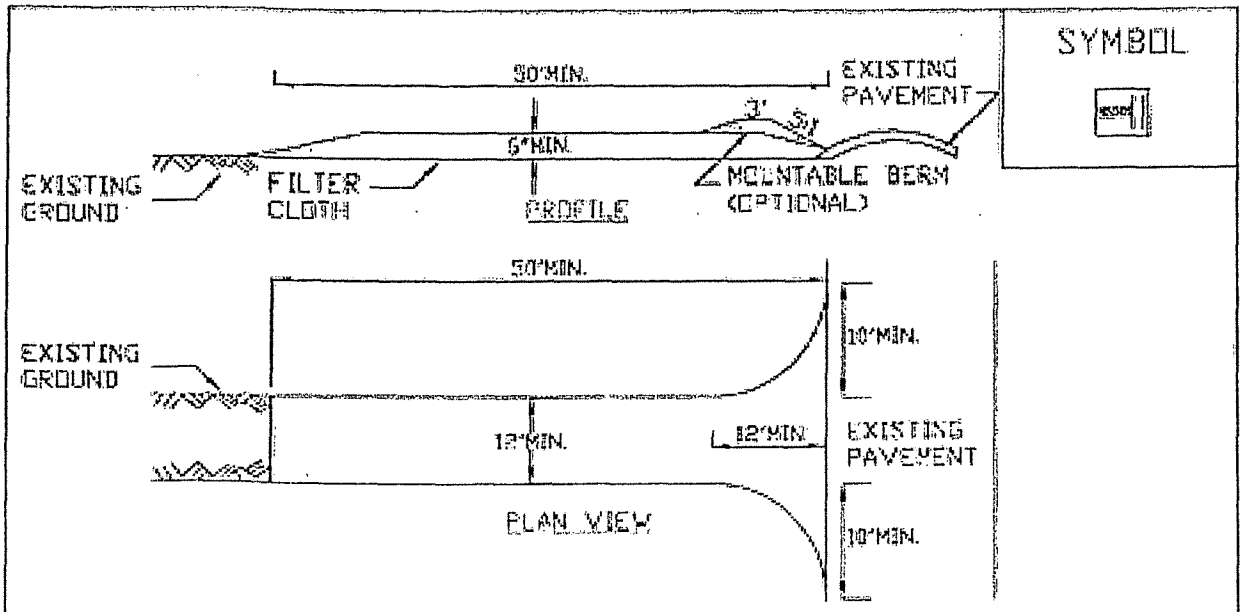
Maintenance

The access shall be maintained in a condition which will prevent tracking of sediment onto public rights-of-way or streets. This may require periodic top dressing with additional aggregate. All sediment spilled, dropped, or washed onto public rights-of-way must be removed immediately.

When necessary, wheels must be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device. All sediment shall be prevented from entering storm drains, ditches, or watercourses.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 2.1
Stabilized Construction Access



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ACCESS SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS,
NEW YORK STATE DEPARTMENT OF TRANSPERTATION,
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,
NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STABILIZED CONSTRUCTION ACCESS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STANDARD AND SPECIFICATIONS FOR ROCK OUTLET PROTECTION



Definition & Scope

A permanent section of rock protection placed at the outlet end of the culverts, conduits, or channels to reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving downstream reach.

Conditions Where Practice Applies

This practice applies where discharge velocities and energies at the outlets of culverts, conduits, or channels are sufficient to erode the next downstream reach. This applies to:

1. Culvert outlets of all types.
2. Pipe conduits from all sediment basins, dry storm water ponds, and permanent type ponds.
3. New channels constructed as outlets for culverts and conduits.

Design Criteria

The design of rock outlet protection depends entirely on the location. Pipe outlet at the top of cuts or on slopes steeper than 10 percent, cannot be protected by rock aprons or riprap sections due to re-concentration of flows and high velocities encountered after the flow leaves the apron.

Many counties and state agencies have regulations and design procedures already established for dimensions, type and size of materials, and locations where outlet protection is required. Where these requirements exist, they shall be followed.

Tailwater Depth

The depth of tailwater immediately below the pipe outlet must be determined for the design capacity of the pipe. If the tailwater depth is less than half the diameter of the outlet pipe, and the receiving stream is wide enough to accept divergence of the flow, it shall be classified as a Minimum Tailwater Condition; see Figure 3.16 on page 3.42 as an example. If the tailwater depth is greater than half the pipe diameter and the receiving stream will continue to confine the flow, it shall be classified as a Maximum Tailwater Condition; see Figure 3.17 on page 3.43 as an example. Pipes which outlet onto flat areas with no defined channel may be assumed to have a Minimum Tailwater Condition; see Figure 3.16 on page 3.42 as an example.

Apron Size

The apron length and width shall be determined from the curves according to the tailwater conditions:

Minimum Tailwater – Use Figure 3.16 on page 3.42
Maximum Tailwater – Use Figure 3.17 on page 3.43

If the pipe discharges directly into a well defined channel, the apron shall extend across the channel bottom and up the channel banks to an elevation one foot above the maximum tailwater depth or to the top of the bank, whichever is less.

The upstream end of the apron, adjacent to the pipe, shall have a width two (2) times the diameter of the outlet pipe, or conform to pipe end section if used.

Bottom Grade

The outlet protection apron shall be constructed with no slope along its length. There shall be no overfall at the end of the apron. The elevation of the downstream end of the apron shall be equal to the elevation of the receiving channel or adjacent ground.

Alignment

The outlet protection apron shall be located so that there are no bends in the horizontal alignment.

Materials

The outlet protection may be done using rock riprap, grouted riprap, or gabions. Outlets constructed on the bank of a stream or wetland shall not use grouted rip-rap, gabions or concrete.

Riprap shall be composed of a well-graded mixture of rock size so that 50 percent of the pieces, by weight, shall be larger than the d_{50} size determined by using the charts. A

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

well-graded mixture, as used herein, is defined as a mixture composed primarily of larger rock sizes, but with a sufficient mixture of other sizes to fill the smaller voids between the rocks. The diameter of the largest rock size in such a mixture shall be 1.5 times the d_{50} size.

Thickness

The minimum thickness of the riprap layer shall be 1.5 times the maximum rock diameter for d_{50} of 15 inches or less; and 1.2 times the maximum rock size for d_{50} greater than 15 inches. The following chart lists some examples:

D_{50} (inches)	d_{max} (inches)	Minimum Blanket Thickness (inches)
4	6	9
6	9	14
9	14	20
12	18	27
15	22	32
18	27	32
21	32	38
24	36	43

Rock Quality

Rock for riprap shall consist of field rock or rough unhewn quarry rock. The rock shall be hard and angular and of a quality that will not disintegrate on exposure to water or weathering. The specific gravity of the individual rocks shall be at least 2.5.

Filter

A filter is a layer of material placed between the riprap and the underlying soil surface to prevent soil movement into and through the riprap. Riprap shall have a filter placed under it in all cases.

A filter can be of two general forms: a gravel layer or a plastic filter cloth. The plastic filter cloth can be woven or non-woven monofilament yarns, and shall meet these base requirements: thickness 20-60 mils, grab strength 90-120 lbs; and shall conform to ASTM D-1777 and ASTM D-1682.

Gravel filter blanket, when used, shall be designed by comparing particle sizes of the overlying material and the base material. Design criteria are available in Standard and Specification for Anchored Slope and Channel Stabilization on page 4.7.

Gabions

Gabions shall be made of hexagonal triple twist mesh with heavily galvanized steel wire. The maximum linear dimension of the mesh opening shall not exceed 4 ½ inches and the area of the mesh opening shall not exceed 10 square inches.

Gabions shall be fabricated in such a manner that the sides, ends, and lid can be assembled at the construction site into a rectangular basket of the specified sizes. Gabions shall be of single unit construction and shall be installed according to manufacturer's recommendations.

The area on which the gabion is to be installed shall be graded as shown on the drawings. Foundation conditions shall be the same as for placing rock riprap, and filter cloth shall be placed under all gabions. Where necessary, key, or tie, the structure into the bank to prevent undermining of the main gabion structure.

Maintenance

Once a riprap outlet has been installed, the maintenance needs are very low. It should be inspected after high flows for evidence of scour beneath the riprap or for dislodged rocks. Repairs should be made immediately.

Design Procedure

1. Investigate the downstream channel to assure that nonerosive velocities can be maintained.
2. Determine the tailwater condition at the outlet to establish which curve to use.
3. Use the appropriate chart with the design discharge to determine the riprap size and apron length required. It is noted that references to pipe diameters in the charts are based on full flow. For other than full pipe flow, the parameters of depth of flow and velocity must be used to adjust the design discharges.
4. Calculate apron width at the downstream end if a flare section is to be employed.

Design Examples are demonstrated in Appendix B.

Construction Specifications

1. The subgrade for the filter, riprap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grad-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

ing limits when installed respectively in the riprap or filter.

3. Filter cloth shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps, whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.

4. Rock for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The rock for riprap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogenous with the smaller rocks and spalls filling the voids between the larger rocks. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

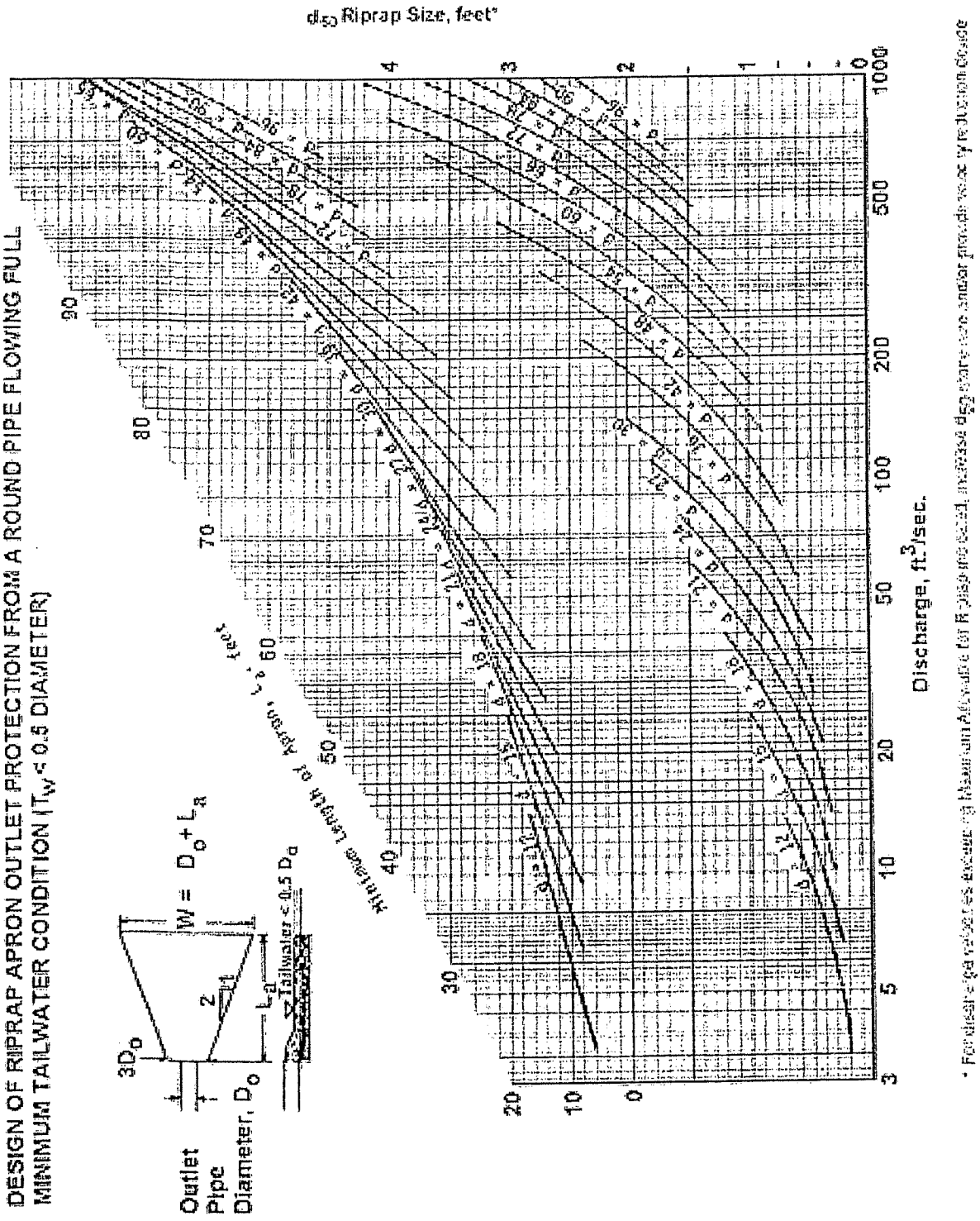
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

2.a

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millerspoort Hwy)

Packet Pg. 460

Figure 3.16
Outlet Protection Design—Minimum Tailwater Condition Chart (Design of Outlet Protection from a Round Pipe Flowing Full, Minimum Tailwater Condition: $T_w < 0.5D_o$) (USDA - NRCS)



2.a

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millerspoint Hwy)

Packet Pg. 461

Figure 3.17
Outlet Protection Design—Maximum Tailwater Condition Chart (Design of Outlet Protection from a Round Pipe Flowing Full, Maximum Tailwater Condition: $T_w \geq 0.5D_o$) (USDA - NRCS)

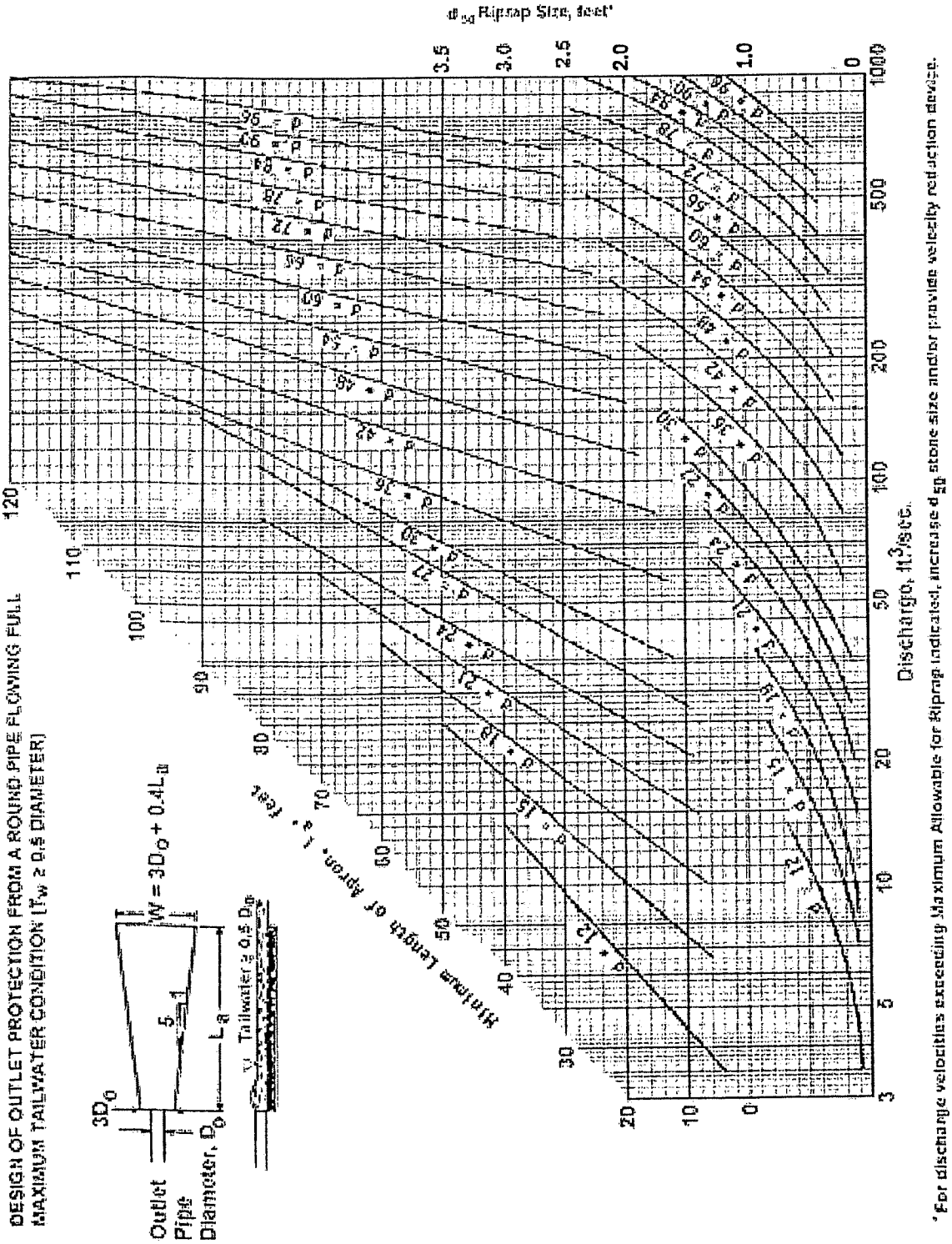
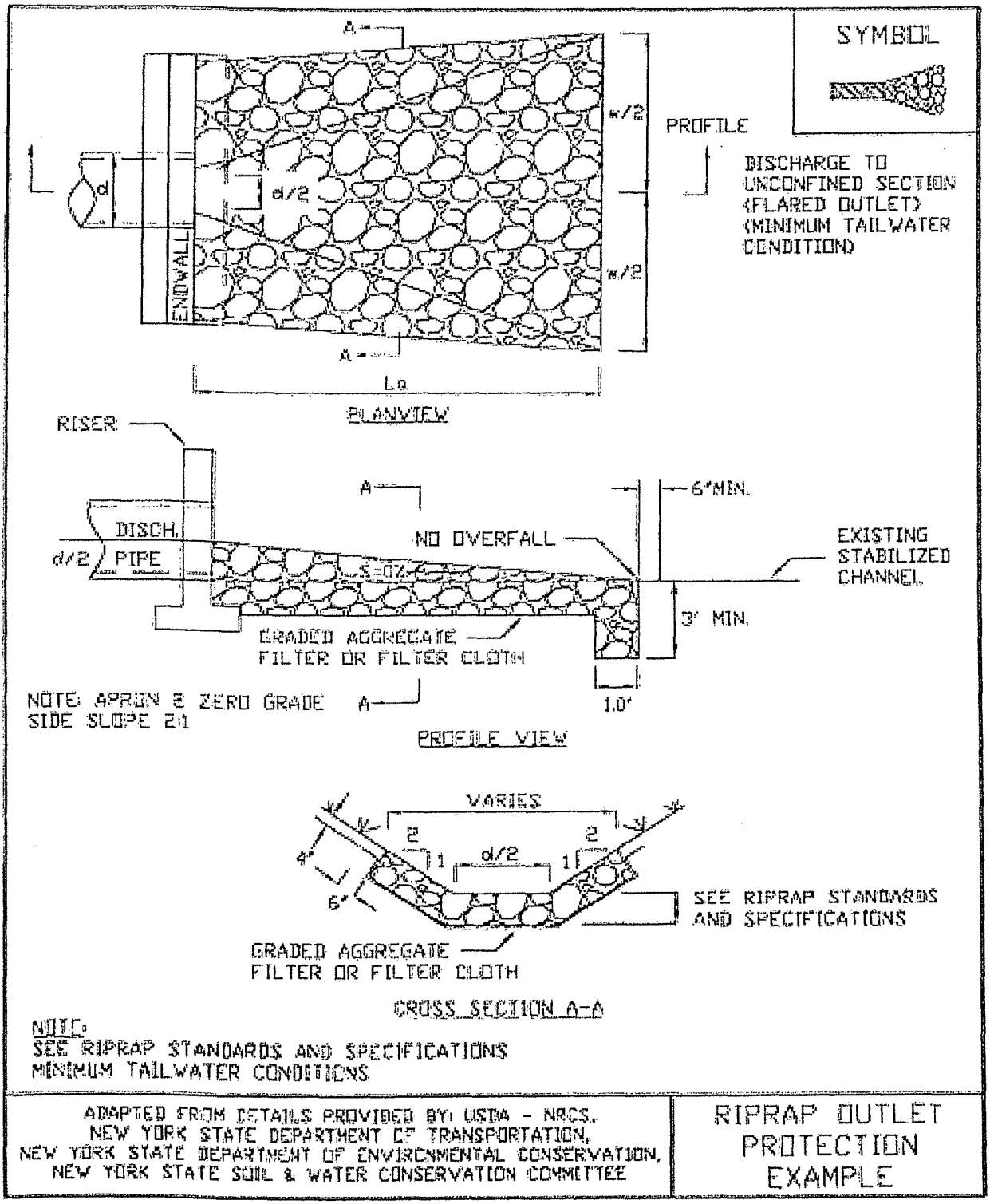
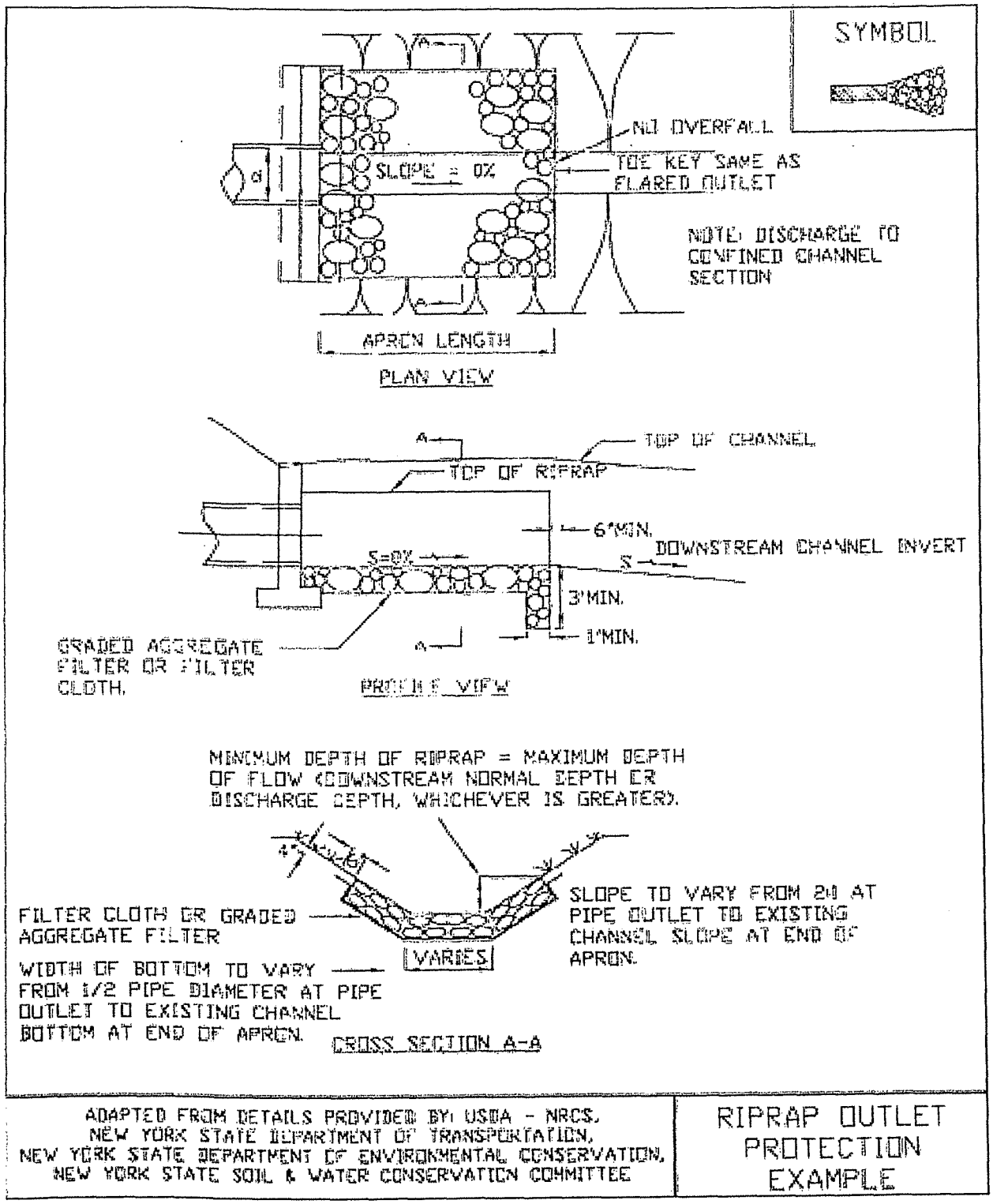


Figure 3.18
Riprap Outlet Protection Detail (1)



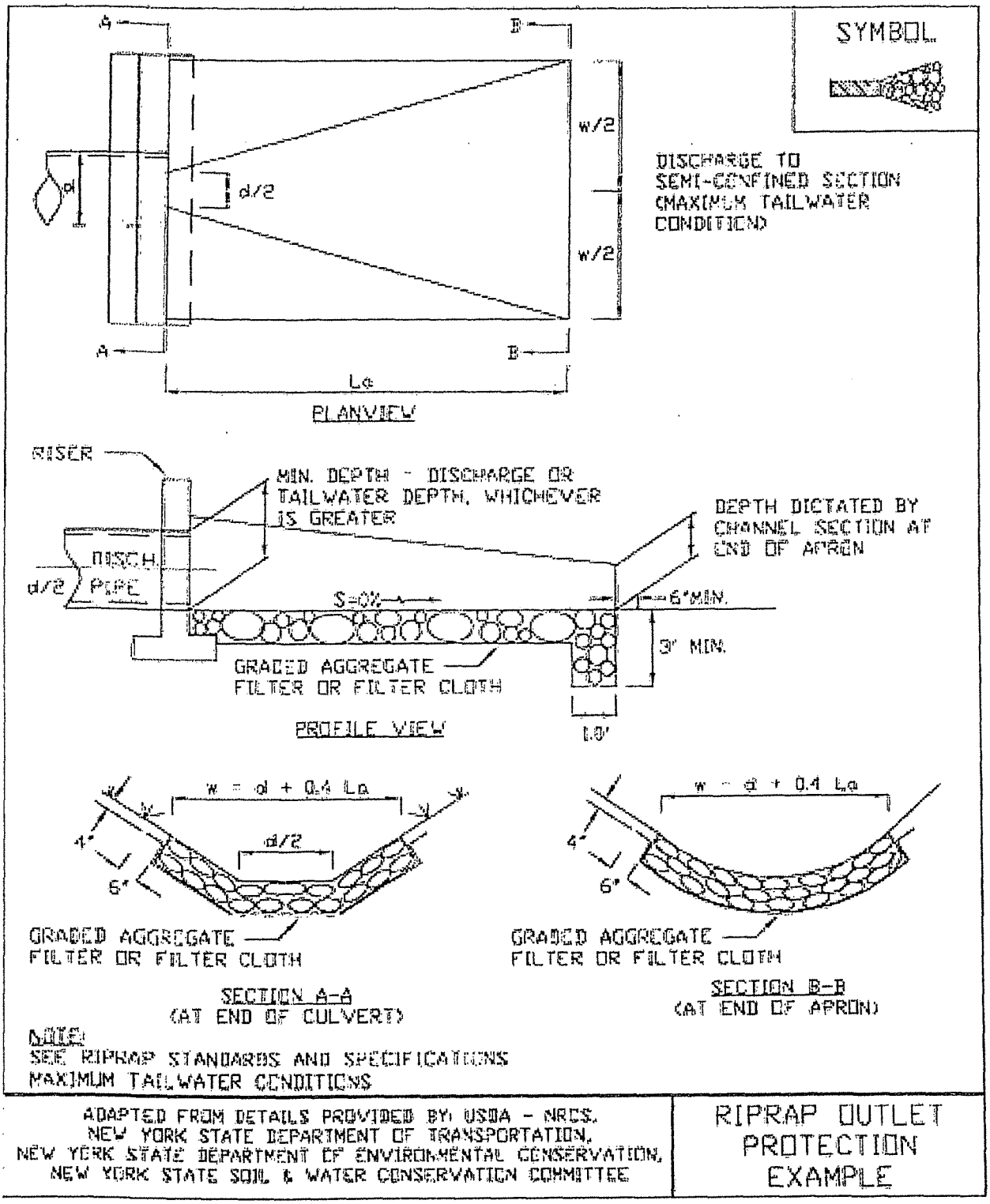
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 3.19
Riprap Outlet Protection Detail (2)



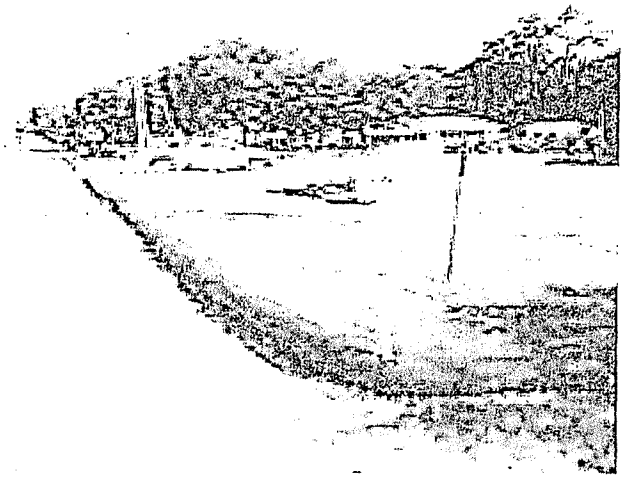
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 3.20
Riprap Outlet Protection Detail (3)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STANDARD AND SPECIFICATIONS FOR COMPOST FILTER SOCK



Definition & Scope

A **temporary** sediment control practice composed of a degradable geotextile mesh tube filled with compost filter media to filter sediment and other pollutants associated with construction activity to prevent their migration offsite.

Condition Where Practice Applies

Compost filter socks can be used in many construction site applications where erosion will occur in the form of sheet erosion and there is no concentration of water flowing to the sock. In areas with steep slopes and/or rocky terrain, soil conditions must be such that good continuous contact between the sock and the soil is maintained throughout its length. For use on impervious surfaces such as road pavement or parking areas, proper anchorage must be provided to prevent shifting of the sock or separation of the contact between the sock and the pavement. Compost filter socks are utilized both at the site perimeter as well as within the construction areas. These socks may be filled after placement by blowing compost into the tube pneumatically, or filled at a staging location and moved into its designed location.

Design Criteria

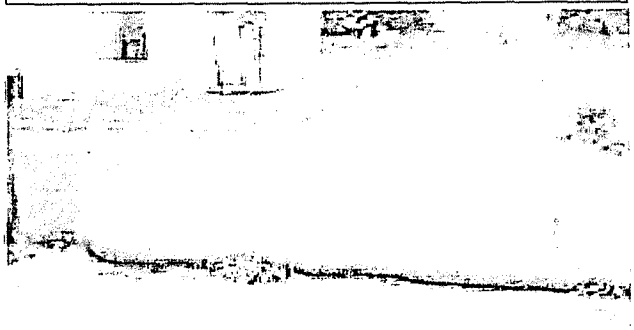
1. Compost filter socks will be placed on the contour with both terminal ends of the sock extended 8 feet upslope at a 45 degree angle to prevent bypass flow.

2. Diameters designed for use shall be 12" – 32" except that 8" diameter socks may be used for residential lots to control areas less than 0.25 acres.

3. The flat dimension of the sock shall be at least 1.5 times the nominal diameter.

4. The **Maximum Slope Length** (in feet) above a compost filter sock shall not exceed the following limits:

Dia. (in.)	Slope %						
	2	5	10	20	25	33	50
8	225*	200	100	50	20	—	—
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50
* Length in feet							



5. The compost infill shall be well decomposed (matured at least 3 months), weed-free, organic matter. It shall be aerobically composted, possess no objectionable odors, and contain less than 1%, by dry weight, of man-made foreign matter. The physical parameters of the compost shall meet the standards listed in Table 5.2 - Compost Standards Table. **Note: All biosolids compost produced in New York State (or approved for importation) must meet NYS DEC's 6 NYCRR Part 360 (Solid Waste Management Facilities) requirements. The Part 360 requirements are equal to or more stringent than 40 CFR Part 503 which ensure safe standards for pathogen reduction and heavy metals content. When using compost filter socks adjacent to surface water, the compost should have a low nutrient value.**

6. The compost filter sock fabric material shall meet the

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

7. Compost filter socks shall be anchored in earth with 2" x 2" wooden stakes driven 12" into the soil on 10 foot centers on the centerline of the sock. On uneven terrain, effective ground contact can be enhanced by the placement of a fillet of filter media on the disturbed area side of the compost sock.

8. All specific construction details and material specifications shall appear on the erosion and sediment control constructions drawings when compost filter socks are included in the plan.

Maintenance

1. Traffic shall not be permitted to cross filter socks.

2. Accumulated sediment shall be removed when it reaches half the above ground height of the sock and disposed of in accordance with the plan.

3. Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired in the manner required by the manufacturer or replaced within 24 hours of inspection notification.

4. Biodegradable filter socks shall be replaced after 6 months; photodegradable filter socks after 1 year. Polypropylene socks shall be replaced according to the manufacturer's recommendations.

5. Upon stabilization of the area contributory to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed in accordance with the stabilization plan. For removal the mesh can be cut and the compost spread as an additional mulch to act as a soil supplement.

Table 5.1 - Compost Sock Fabric Minimum Specifications Table

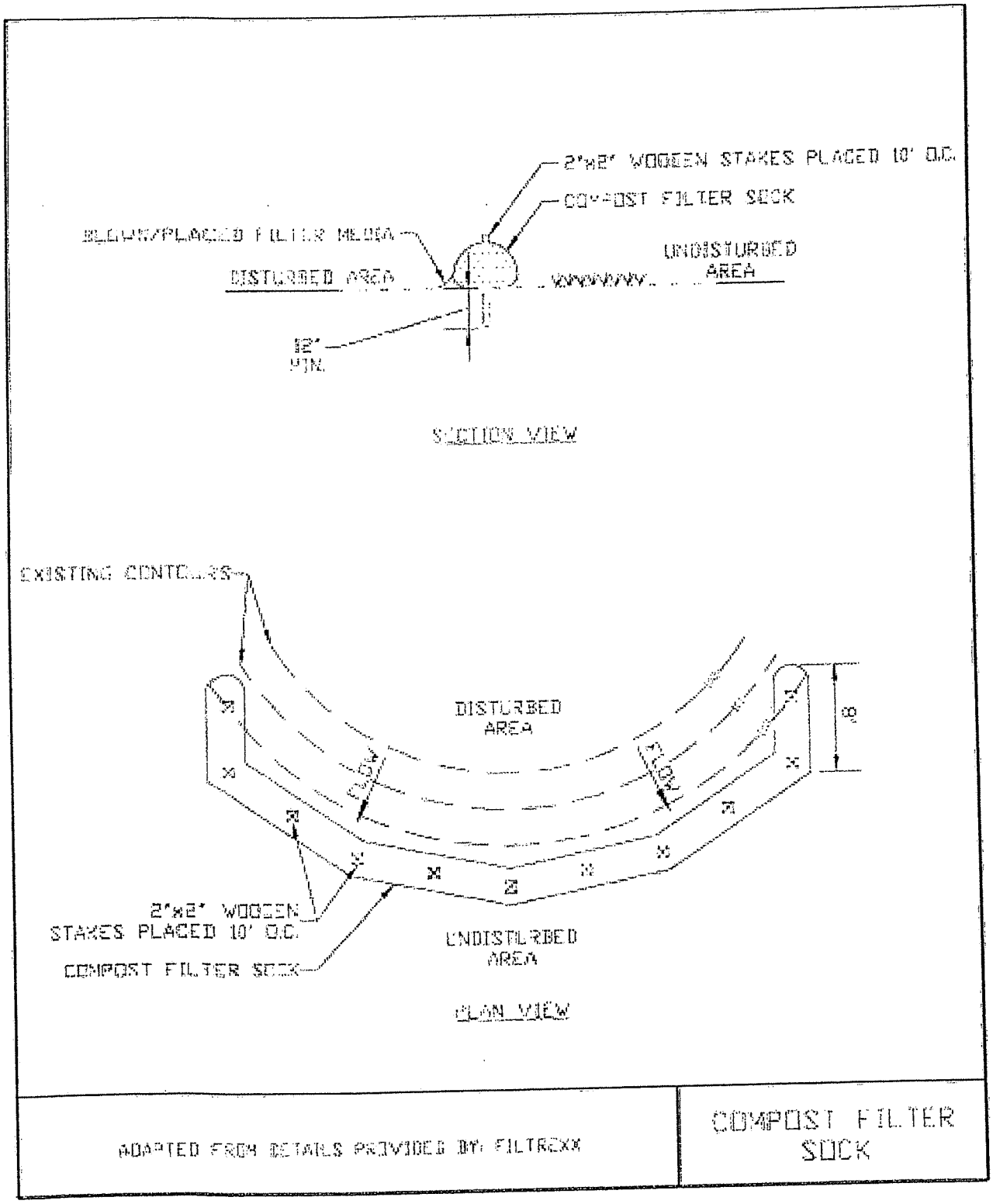
Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photodegradable	Photodegradable	Biodegradable	Photodegradable	Photodegradable
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years

Table 5.2 - Compost Standards Table

Organic matter content	25% - 100% (dry weight)
Organic portion	Fibrous and elongated
pH	6.0 – 8.0
Moisture content	30% - 60%
Particle size	100% passing a 1" screen and 10 - 50% passing a 3/8" screen
Soluble salt concentration	5.0 dS/m (mmhos/cm) maximum

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 5.2
Compost Filter Sock



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STANDARD AND SPECIFICATIONS FOR SILT FENCE



Definition & Scope

A temporary barrier of geotextile fabric installed on the contours across a slope used to intercept sediment laden runoff from small drainage areas of disturbed soil by temporarily ponding the sediment laden runoff allowing settling to occur. The maximum period of use is limited by the ultraviolet stability of the fabric (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope length and fence length will not exceed the limits shown in the Design Criteria for the specific type of silt fence used ; and
2. Maximum ponding depth of 1.5 feet behind the fence; and
3. Erosion would occur in the form of sheet erosion; and
4. There is no concentration of water flowing to the barrier; and
5. Soil conditions allow for proper keying of fabric, or other anchorage, to prevent blowouts.

Design Criteria

1. Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff.
2. All silt fences shall be placed as close to the disturbed area as possible, but at least 10 feet from the toe of a slope steeper than 3H:1V, to allow for maintenance and roll down. The area beyond the fence must be undisturbed or stabilized.
3. The type of silt fence specified for each location on the plan shall not exceed the maximum slope length and maximum fence length requirements shown in the following table:

		Slope Length/Fence Length (ft.)		
Slope	Steepness	Standard	Reinforced	Super
<2%	< 50:1	300/1500	N/A	N/A
2-10%	50:1 to 10:1	125/1000	250/2000	300/2500
10-20%	10:1 to 5:1	100/750	150/1000	200/1000
20-33%	5:1 to 3:1	60/500	80/750	100/1000
33-50%	3:1 to 2:1	40/250	70/350	100/500
>50%	> 2:1	20/125	30/175	50/250

Standard Silt Fence (SF) is fabric rolls stapled to wooden stakes driven 16 inches in the ground.
Reinforced Silt Fence (RSF) is fabric placed against welded wire fabric with anchored steel posts driven 16 inches in the ground.
Super Silt Fence (SSF) is fabric placed against chain link fence as support backing with posts driven 3 feet in the ground.

4. Silt fence shall be removed as soon as the disturbed area has achieved final stabilization.

The silt fence shall be installed in accordance with the appropriate details. Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. Butt joints are not acceptable. A detail of the silt fence shall be shown on the plan. See Figure 5.30 on page 5.56 for Reinforced Silt Fence as an example of details to be provided.

Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

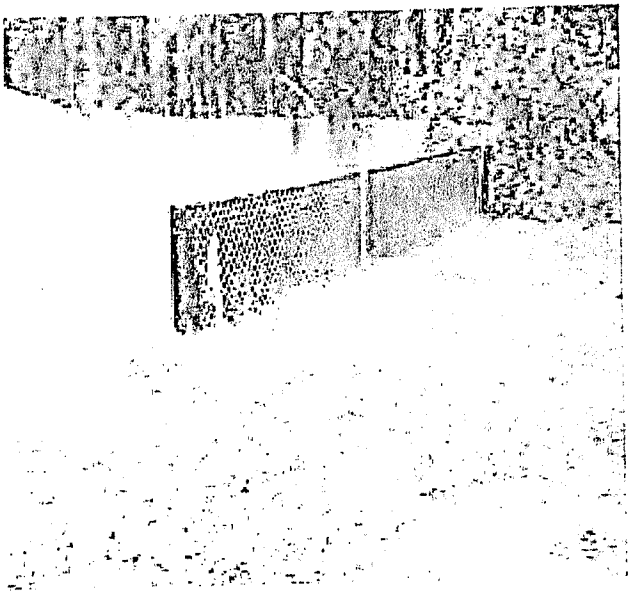
Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	110	ASTM D 4632
Elongation at Failure (%)	20	ASTM D 4632
Mullen Burst Strength (PSI)	300	ASTM D 3786
Puncture Strength (lbs)	60	ASTM D 4833
Minimum Trapezoidal Tear Strength (lbs)	50	ASTM D 4533
Flow Through Rate (gal/ min/sf)	25	ASTM D 4491
Equivalent Opening Size	40-80	US Std Sieve ASTM D 4751
Minimum UV Residual (%)	70	ASTM D 4355

2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.5 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot. Posts for super silt fence shall be standard chain link fence posts.

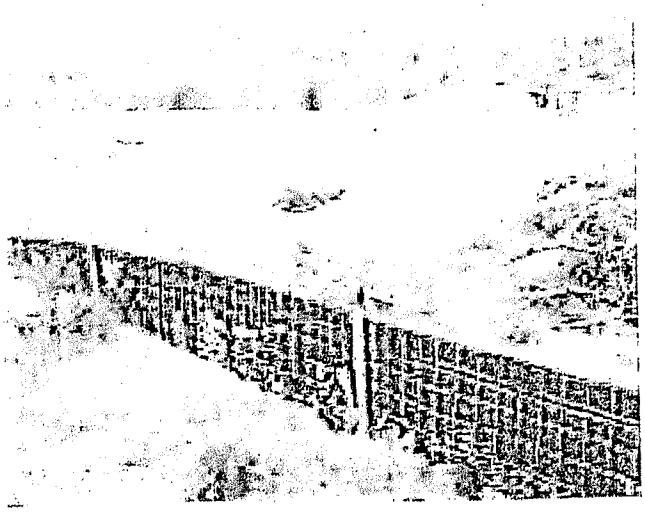
3. Wire Fence for reinforced silt fence: Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.

4. Prefabricated silt fence is acceptable as long as all material specifications are met.

Super Silt Fence



Reinforced Silt Fence



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

STANDARD AND SPECIFICATIONS FOR STORM DRAIN INLET PROTECTION



Definition & Scope

A temporary barrier with low permeability, installed around inlets in the form of a fence, berm or excavation around an opening, detaining water and thereby reducing the sediment content of sediment laden water by settling thus preventing heavily sediment laden water from entering a storm drain system.

Conditions Where Practice Applies

This practice shall be used where the drainage area to an inlet is disturbed, it is not possible to temporarily divert the storm drain outfall into a trapping device, and watertight blocking of inlets is not advisable. It is not to be used in place of sediment trapping devices. This practice shall be used with an upstream buffer strip if placed at a storm drain inlet on a paved surface. It may be used in conjunction with storm drain diversion to help prevent siltation of pipes installed with low slope angle.

Types of Storm Drain Inlet Practices

There are five (5) specific types of storm drain inlet protection practices that vary according to their function, location, drainage area, and availability of materials:

I. Excavated Drop Inlet Protection
II. Fabric Drop Inlet Protection
III. Stone & Block Drop Inlet Protection
IV. Paved Surface Inlet Protection
V. Manufactured Insert Inlet Protection

Design Criteria

Drainage Area – The drainage area for storm drain inlets shall not exceed one acre. Erosion control/temporary stabilization measures must be implemented on the disturbed drainage area tributary to the inlet. The crest elevations of these practices shall provide storage and minimize bypass flow.

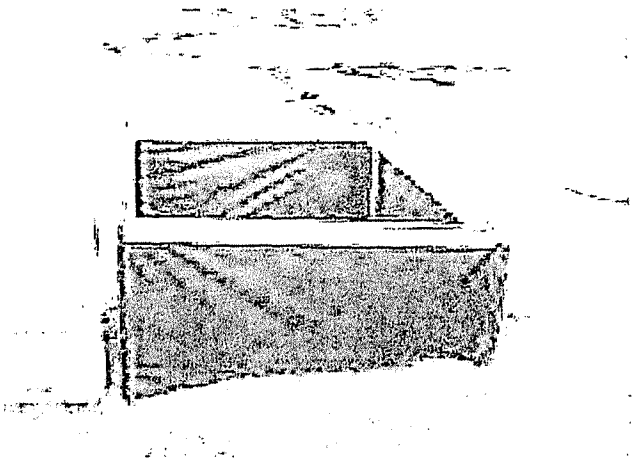
Type I – Excavated Drop Inlet Protection

This practice is generally used during initial overlot grading after the storm drain trunk line is installed.

Limit the drainage area to the inlet device to 1 acre. Excavated side slopes shall be no steeper than 2:1. The minimum depth shall be 1 foot and the maximum depth 2 feet as measured from the crest of the inlet structure. Shape the excavated basin to fit conditions with the longest dimension oriented toward the longest inflow area to provide maximum trap efficiency. The capacity of the excavated basin should be established to contain 900 cubic feet per acre of disturbed area. Weep holes, protected by fabric and stone, should be provided for draining the temporary pool.

Inspect and clean the excavated basin after every storm. Sediment should be removed when 50 percent of the storage volume is achieved This material should be incorporated into the site in a stabilized manner.

Type II – Fabric Drop Inlet Protection



This practice is generally used during final elevation grading phases after the storm drain system is completed.

Limit the drainage area to 1 acre per inlet device. Land area slope immediately surrounding this device should not exceed 1 percent. The maximum height of the fabric above the inlet crest shall not exceed 1.5 feet unless reinforced.

The top of the barrier should be maintained to allow overflow to drop into the drop inlet and not bypass the inlet to

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

unprotected lower areas. Support stakes for fabric shall be a minimum of 3 feet long, spaced a maximum 3 feet apart. They should be driven close to the inlet so any overflow drops into the inlet and not on the unprotected soil. Improved performance and sediment storage volume can be obtained by excavating the area.

Inspect the fabric barrier after each rain event and make repairs as needed. Remove sediment from the pool area as necessary with care not to undercut or damage the filter fabric. Upon stabilization of the drainage area, remove all materials and unstable sediment and dispose of properly. Bring the adjacent area of the drop inlet to grade, smooth and compact and stabilize in the appropriate manner to the site.

Type III – Stone and Block Drop Inlet Protection

This practice is generally used during the initial and intermediate overlot grading of a construction site.

Limit the drainage area to 1 acre at the drop inlet. The stone barrier should have a minimum height of 1 foot and a maximum height of 2 feet. Do not use mortar. The height should be limited to prevent excess ponding and bypass flow.

Recess the first course of blocks at least 2 inches below the crest opening of the storm drain for lateral support. Subsequent courses can be supported laterally if needed by placing a 2x4 inch wood stud through the block openings perpendicular to the course. The bottom row should have a few blocks oriented so flow can drain through the block to dewater the basin area.

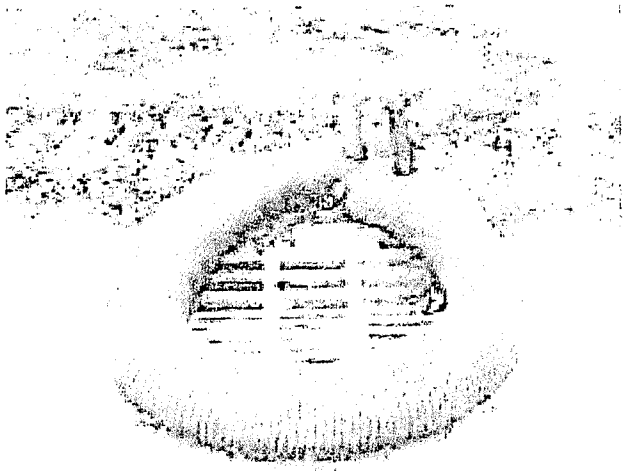
The stone should be placed just below the top of the blocks on slopes of 2:1 or flatter. Place hardware cloth of wire mesh with ½ inch openings over all block openings to hold stone in place.

As an optional design, the concrete blocks may be omitted and the entire structure constructed of stone, ringing the outlet ("doughnut"). The stone should be kept at a 3:1 slope toward the inlet to keep it from being washed into the inlet. A level area 1 foot wide and four inches below the crest will further prevent wash. Stone on the slope toward the inlet should be at least 3 inches in size for stability and 1 inch or smaller away from the inlet to control flow rate. The elevation of the top of the stone crest must be maintained 6 inches lower than the ground elevation down slope from the inlet to ensure that all storm flows pass over the stone into the storm drain and not past the structure. Temporary diking should be used as necessary to prevent bypass flow.

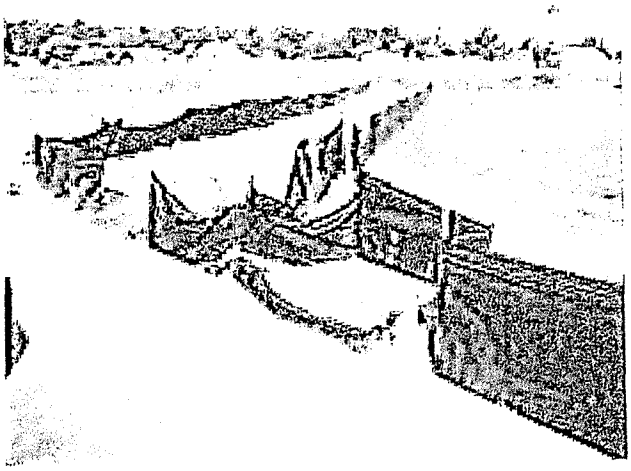
The barrier should be inspected after each rain event and repairs made where needed. Remove sediment as necessary to provide for accurate storage volume for subsequent rains. Upon stabilization of contributing drainage area, remove all materials and any unstable soil and dispose of properly.

Bring the disturbed area to proper grade, smooth, compact and stabilize in a manner appropriate to the site.

Type IV – Paved Surface Inlet Protection



This practice is generally used after pavement construction has been done while final grading and soil stabilization is occurring. These practices should be used with upstream buffer strips in linear construction applications, and with temporary surface stabilization for overlot areas, to reduce the sediment load at the practice. This practice includes sand bags, compost filter socks, geo-tubes filled with ballast, and manufactured surface barriers. Pea gravel can also be used in conjunction with these practices to improve performance. When the inlet is not at a low point, and is offset from the pavement or gutter line, protection should be selected and installed so that flows are not diverted around the inlet.

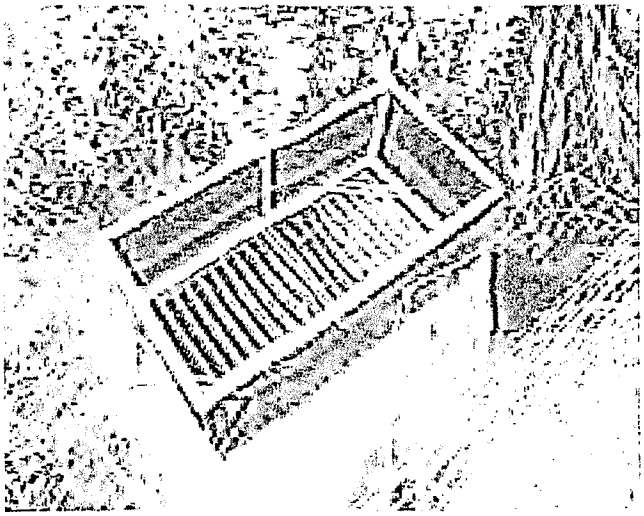


Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

The drainage area should be limited to 1 acre at the drain inlet. All practices will be placed at the inlet perimeter or beyond to maximize the flow capacity of the inlet. Practices shall be weighted, braced, tied, or otherwise anchored to prevent movement or shifting of location on paved surfaces. Traffic safety shall be integrated with the use of this practice. All practices should be marked with traffic safety cones as appropriate. Structure height shall not cause flooding or by-pass flow that would cause additional erosion.

The structure should be inspected after every storm event. Any sediment should be removed and disposed of on the site. Any broken or damaged components should be replaced. Check all materials for proper anchorage and secure as necessary.

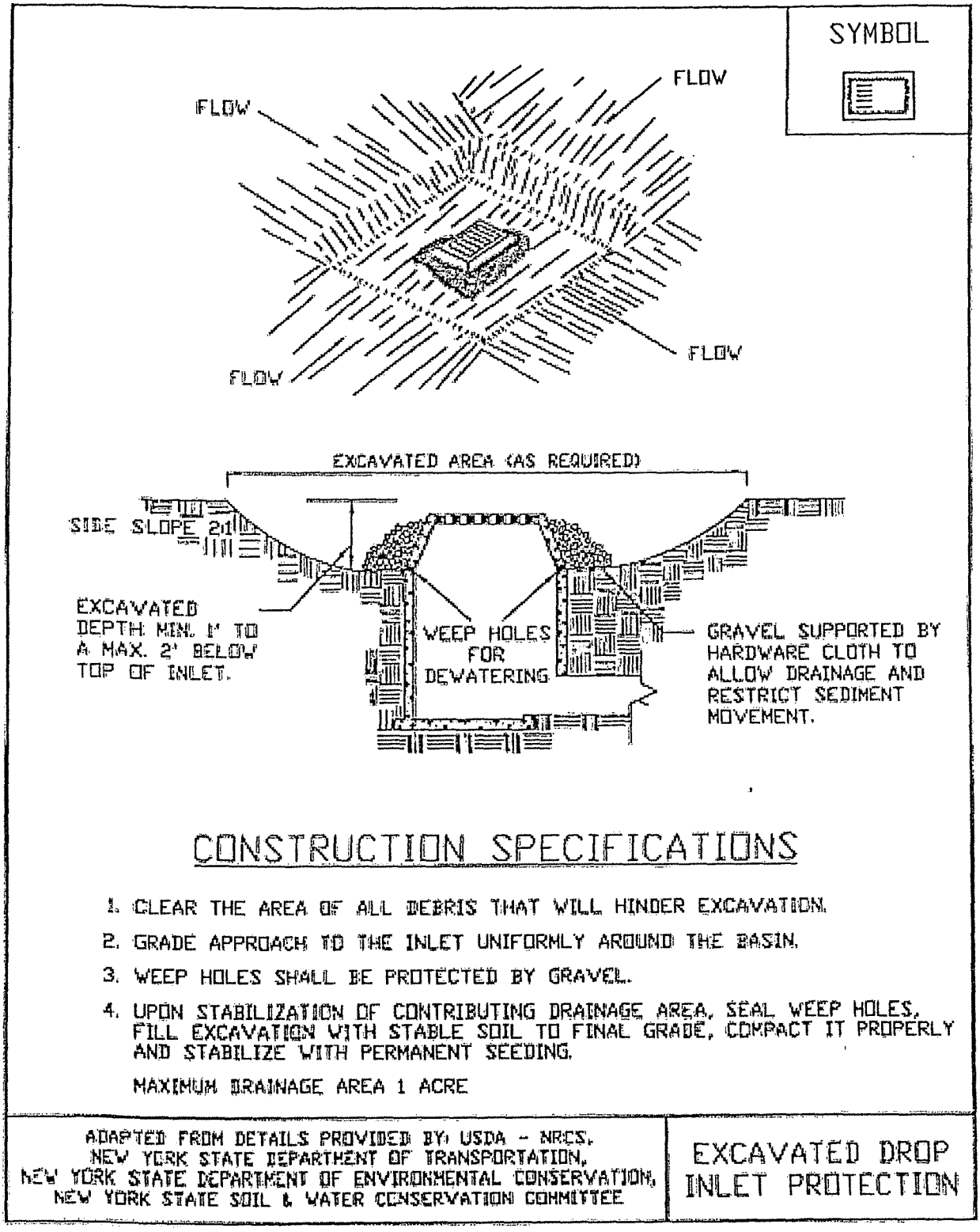
Type V - Manufactured Insert Inlet Protection



The drainage area shall be limited to 1 acre at the drain inlet. All inserts will be installed and anchored in accordance with the manufacturers recommendations and design details. The fabric portion of the structure will equal or exceed the performance standard for the silt fence fabric. The inserts will be installed to preserve a minimum of 50 percent of the open, unobstructed design flow area of the storm drain inlet opening to maintain capacity for storm events.

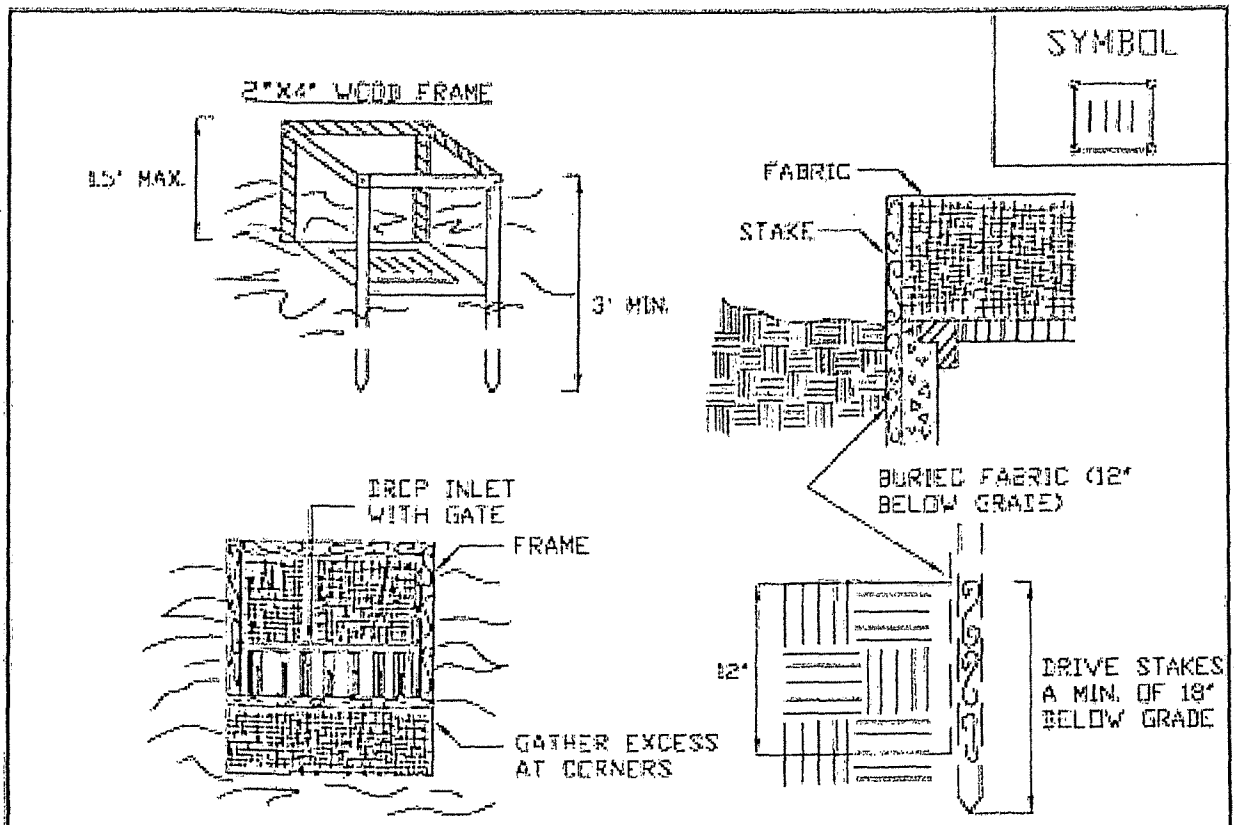
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 5.31
Excavated Drop Inlet Protection



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 5.32
Fabric Drop Inlet Protection



CONSTRUCTION SPECIFICATIONS

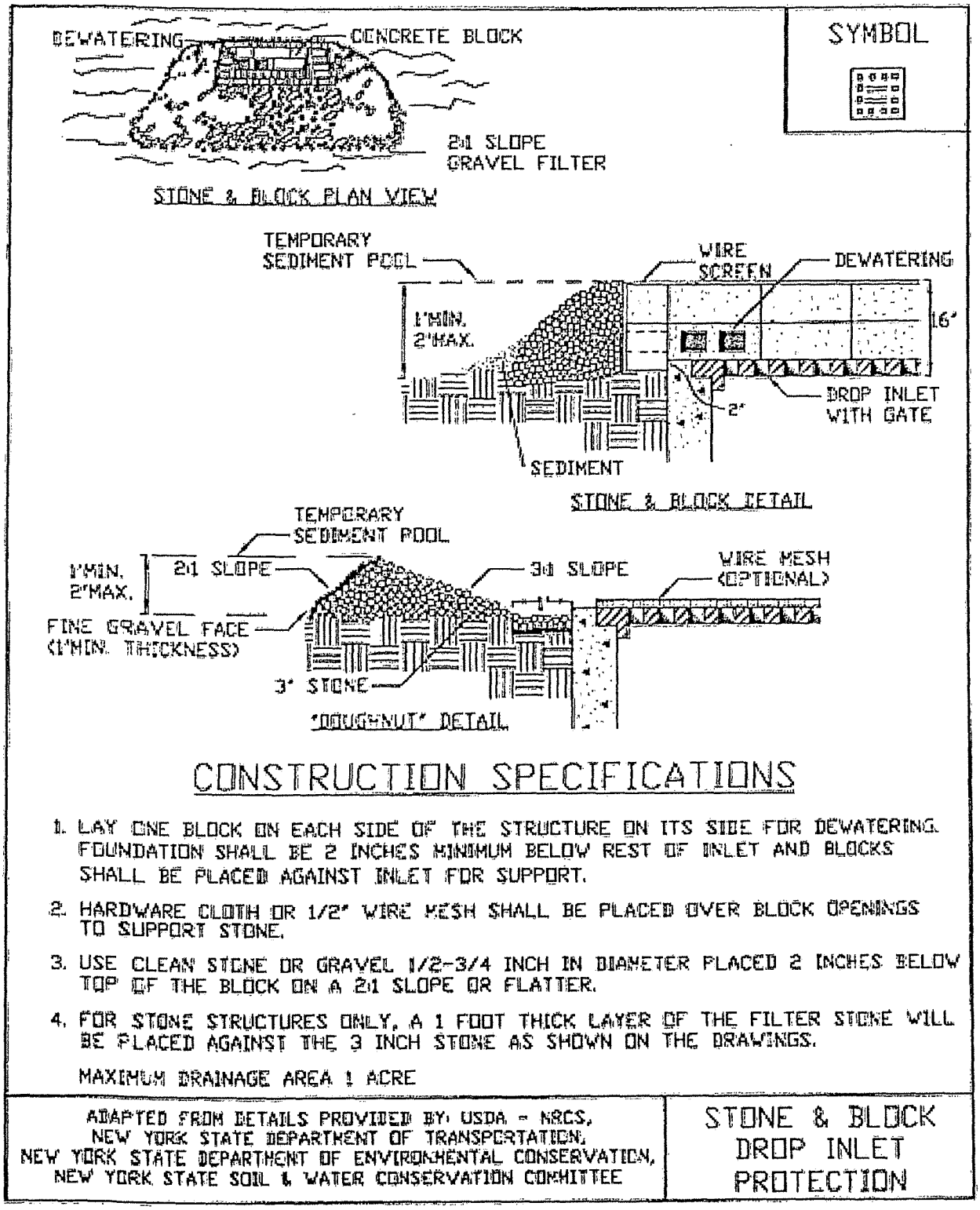
1. FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

MAXIMUM DRAINAGE AREA 1 ACRE

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	FABRIC DROP INLET PROTECTION

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 5.33
Stone & Block Drop Inlet Protection



CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL 1/2-3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS.

MAXIMUM DRAINAGE AREA 1 ACRE

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE	STONE & BLOCK DROP INLET PROTECTION

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX J

DOWNSTREAM SANITARY SEWER CAPACITY DOCUMENTATION
TOWN OUT-OF-DISTRICT DETERMINATION

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

May 23, 2023

Mr. Jeffrey Burroughs, PE
Town of Amherst
Town Engineer
1100 North Forest Road
Williamsville, NY 14221

Re: Proposed Traditional Neighborhood Development
4300 Millersport Hwy
Amherst, NY

Dear Mr. Burroughs,

The Town of Amherst and NYSDEC required that a downstream sanitary sewer flow study be performed to confirm the existing versus projected flow through sections of public sanitary sewer that the above referenced project will be tributary to.

As the Project Owner and Developer of the proposed 4300 Millersport Highway project, Cimato & Sons hereby formally acknowledges and agrees to participate in the Town of Amherst/NYSDEC's I/I Reduction Offset Plan, based on four (4) gallons of I/I to be removed from the sanitary sewer collection system for every one (1) gallon of projected new sanitary flow.

The proposed 4300 Millersport Hwy project consists of 38 patio homes, 4-unit and 2-unit townhomes and two combination commercial/residential structures (Phases 1 thru 3).

In accordance with Town of Amherst Local Sewer Use Law, the Project Owner is required to make a financial contribution to the Town of Amherst Sewer Remediation Trust Fund. The Town's current rate is $250 per gallon of Inflow/Infiltration mitigated flow.

The mitigated flow for the proposed 4300 Millersport Highway development project is 4 times the peak flow (0.122 MGD) or 0.488 MGD. This converts to a flow rate of 338.9 gpm. The resulting financial contribution is $84,725.00 (338.9 gpm x $250.00).

Sincerely,

Fred Cimato

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

AGREEMENT
OUT OF DISTRICT SEWER CONNECTION

This Agreement dated the 1st day of October, 2023, By and Between the Town of Amherst, a Municipal Corporation, located at 5583 Main Street, Williamsville, NY 14221, acting as Commissioners of the Town of Amherst Consolidated Sanitary Sewer District, (the "Town"), and Cimato and Sons (the Customer)

WITNESSETH:

WHEREAS, the Town has created the Town of Amherst Consolidated Sanitary Sewer District in accordance with the provisions of the law; and

WHEREAS, the Customer's project site of 4300 Millersport Highway (SBL# 16.00-2-20) is located in the Town of Amherst, outside of the boundaries of said sanitary sewer district; and

WHEREAS, the Customer is desirous of using the sanitary sewer facilities of said sewer district; and

WHEREAS, the Town of Amherst has approved a request of the Customer to pursue an out of district sanitary sewer connection agreement with the Town of Amherst, as recommended by its Town Engineer.

NOW, THEREFORE, in consideration of the furnishing of sanitary sewer facilities to the Customer by the Town, the Customer does hereby agree as follows:

1. To form a Sewerage Works Corporation to maintain the private sanitary sewer facilities on said project site, up to and including the point of connection with the Town's sanitary sewer system.

2. To pay for the cost of improvements necessary to the Town's sanitary sewer system as a direct result of the customer's tie in to the Town's sanitary sewer facilities.

3. To obtain and deliver to the Town any and all rights-of-way and easements, in recordable form, which the Town considers necessary to provide said service and pay the costs of recording same.

4. To pay the required tap-in fee to the Town and abide by and conform with the rules and regulations of said district now and as amended.

5. To obtain project approval by the Town's Planning Board and obtain any all necessary permits and approvals to construct said sanitary sewer facilities.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

6. Not to add to or otherwise increase the flow of discharge into sewer district by additional waste facilities beyond those shown in the plans submitted as SP-2022-03 without written approval of the Town Board of the Town of Amherst.

7. To yearly pay an "out-of-district" charge based on the following rates as hereinafter set forth, and to pay the rates as they may from time be altered and changed by the Town of Amherst. Said charge shall be payable in advance each year and shall be due and owing on the 15th day of March of each year except as follows:

    A. In the first year said customer shall pay on the next succeeding March 15 a prorated charge based on the date of this agreement in addition to a full yearly charge for the next succeeding year.
    B. In the last year said customer shall pay the charge, but shall be reimbursed pro rata if this agreement shall be cancelled, terminated or expire from the date of such cancellation, termination or expiration.
    C. Statement of Charges: The sum of the following:
        1. Assessed valuation of property times the rate for the Consolidated Sanitary Sewer District.
        2. Lateral frontage (in feet) times the rate for the Consolidated Sanitary Sewer District. For the purposes of this agreement, lateral frontage is defined as the lineal footage of town owned force main on the east side of Millersport Highway opposite the Millersport Highway frontage of Customer's project, a distance of 734.25 feet.
        3. Yearly water usage times the rate for the Consolidated Sanitary Sewer District.

8. The term of this agreement shall be for a period of five (5) years from its effective date except as hereinafter provide, and either party thereto may cancel said agreement by (90) days written notice to the other party of its desire to cancel.

9. Said agreement shall automatically terminate and said Customer shall sever his connection with the said Sewer District or any extension of same within ten (10) days of such time as the Town of Amherst makes available to the Customer sanitary sewer facilities.

10. In the event that this agreement is not cancelled or terminated as provided for above, the agreement shall be automatically renewed by the customer for an additional five (5) years, but subject to cancellation or termination within the (5) year renewable period as provided for in the initial five (5) year period.

11. The Customer shall give written notice of his intention to renew this agreement thirty (30) days prior to the expiration of any such five (5) year period.

12. This agreement may not be assigned without the written consent of the Town who shall not unreasonably withhold consent.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

13. This agreement shall be binding upon the customer, his heirs, executors and administrators, and the Customer agrees to give due notice of said agreement to any transferees and to hold harmless and indemnify the Town for any loss occasioned by his failure.

IN WITNESS WHEREOF, THE Town Supervisor of the Town of Amherst, acting on behalf of Town of Amherst Consolidated Sanitary Sewer District and an individual authorized to act on behalf of Cimato and Sons Sewerage Works Corporation have executed this Agreement on this 1st day of October, 2023.

Cimato and Sons on behalf of a Sewerage Works Corporation to be Formed

_____
Fred Cimato

Town of Amherst

_____
Brian J. Kulpa, Town Supervisor

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX K

HYDRANT TEST PRESSURE DATA

WATER PRESSURE CALCULATIONS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Hydrant FLow Test

Print Date: 4/21/2021

Residual Hydrant: K03C61 **Test Date/Time:** 4/20/2021 12:16

Location.....: MILLERSPORT HWY 1ST HYD NE/O NEW RD
TOWN OF AMHERST

Size of Main/Branch: 10"/6" Fire District: 22029 SWORMVILLE FD 12 Water District: 315 AMHERST DISTRICT 15C

Performed By: MES/CDB Comments: HYDRANT FLOW TEST REQUESTED BY P. BITTAR, WM SCHUTT
EMAIL: PBITTAR@WMSCHUTT.COM

CW #57231

Dischrge Coef: 090 Elvtn Usgs(ft): Static(psi): 95 Residual(psi): 80 Required Residual Pressure(psi): 20
Gallons Used..: 7,500 Total Flow(gpm): 2,512 Flow at Reqd Resid Pressure: 5,991

Flow Hydrants:

Flow Hyd	Location	Main/Brnch	Nzle	Size	Pitot	Flow	Comments
K03 C54	MILLERSPORT HWY	10"/6"	1:	2.50	56.0	1,256	
	1ST HYD SW/O NEW RD		2:	2.50	56.0	1,256	
			3:			Total Flow:	2,512

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Hydrant FLow Test

Print Date: 4/21/2021

Residual Hydrant: K03C46 **Test Date/Time:** 4/20/2021 11:21

Location.....: NEW RD 1ST HYD N/O MILLERSPORT HWY
TOWN OF AMHERST

Size of Main/Branch: 8"/6" Fire District: 22029 SWORMVILLE FD 12 Water District: 315 AMHERST DISTRICT 15C

Performed By: MES/CDB Comments: HYDRANT FLOW TEST REQUESTED BY P. BITTAR, WM SCHUTT
EMAIL: PBITTAR@WMSCHUTT.COM

CW #57230

Dischrge Coef: 090 Elvtn Usgs(ft): Static(psi): 96 Residual(psi): 73 Required Residual Pressure(psi): 20
Gallons Used..: 6,540 Total Flow(gpm): 2,174 Flow at Reqd Resid Pressure: 4,145

Flow Hydrants:

Flow Hyd	Location	Main/Brnch	Nzle	Size	Pitot	Flow	Comments
K03 C38	NEW RD	8"/6"	1:	2.50	42.0	1,087	
	2ND HYD N/O MILLERSPORT HWY		2:	2.50	42.0	1,087	
			3:			Total Flow:	2,174

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Hydrant FLow Test

Print Date: 4/21/2021

Residual Hydrant: K03G01 **Test Date/Time:** 4/20/2021 13:58

Location.....: 205 SMITH RD 3RD HYD SE/O HOPKINS RD
TOWN OF AMHERST

Size of Main/Branch: 8"/6" Fire District: 22027 NORTH AMHERST FD 10 Water District: 315 AMHERST DISTRICT 15C

Performed By: MES/CDB Comments: HYDRANT FLOW TEST REQUESTED BY P. BITTAR, WM SCHUTT
EMAIL: PBITTAR@WMSCHUTT.COM

CW #57232

Dischrge Coef: 090 Elvtn Usgs(ft): Static(psi): 94 Residual(psi): 87 Required Residual Pressure(psi): 20
Gallons Used..: 4,500 Total Flow(gpm): 1,501 Flow at Reqd Resid Pressure: 5,363

Flow Hydrants:

Flow Hyd	Location	Main/Brnch	Nzle	Size	Pitot	Flow	Comments
K03 G03	265 SMITH RD 4TH HYD SE/O HOPKINS RD	8"/6"	1:	2.50	80.0	1,501	
			2:				
			3:			Total Flow:	1,501

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport Hwy - TND Development		
Job Number:	13027C		
Re:	Water Pressure Calcs		
Calculated By:	dls	**Date:**	03/06/24
Checked By:		**Date:**	

DOMESTIC

Flow Test Data:

Location: Hydrant - K03G01_ 205 smith road
Date: 4/20/2021
Size of main: 8 inch
Size of branch: 6 inch

Observed Static Pressure (p_s) = 94 psi

Observed Residual Pressure (p_r) = 87 psi

Observed Flow (Q_f) = 1,501 gpm

Design Flow (Q) = 366.00 gpm

C factor = 100

Pressure at computed demand (p_d)

$$Q = \frac{Q_f(p_s - p_n)^{0.54}}{(p_s - p_r)^{0.54}}$$

$$p_d = p_s - [(p_s - p_r)^{0.54} (Q/Q_f)]^{1.85}$$

p_d = 93.49 psi

8-inch ex public water main to proposed connection point

Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	360	-	360 lf
8 " x 6" TS and valve:	0	30	0 lf
8 " x 8" tee	1	50	50 lf
8 " x .5"(service)	0	0.5	0 lf
8 " 90° bend*	0		0 lf
8 " 45° bend*	0	10	0 lf
8 " 22.5° bend*	0	15	0 lf
8 " 11 1/4° bend*	0	15	0 lf
8 "x6" Reducer	0		0 lf
8 " Valve Box	0		0 lf
8 " Gate Valve	1	5	5 lf
8 " Hydrant Conn	0	50	0 lf
		Total Equ. Length of Pipe:	**415 lf**

* includes horizontal and and estimated vertical bends

Frictional Head Loss through 8 inch pipe (fA_1)

$$fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$$

fA1 = 1.93 ft

fA2 = 0.00 ft

Elev at tie-in: 573

Elev at end of extension: 573

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

where: L = equivalent length (ft)
Q = flow (gpm)
C= 100
d = pipe diameter (in.)

HL = 0.84 psi

Residual Pressure (P) at the building:

P = p_d - HL - Loss from pipe

" RPZ: 0 psi
" Meter: 0 psi

P = 92.65 psi **P > 20 psi**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport Hwy - TND Development
Job Number:	13027C
Re:	Water Pressure Calcs
Calculated By:	dls **Date:** 03/06/24
Checked By:	**Date:**

8-inch public watermain into site to sta 18+27

Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	844	-	844 lf
8 " x 8" TS and valve:	0		0 lf
8 " x 8" tee	1	50	50 lf
8 " x .5"(service)	0		0 lf
8 " 90° bend*	0		0 lf
8 " 45° bend*	0		0 lf
8 " 22.5° bend*	2	10	20 lf
8 " 11 1/4° bend*	8	10	80 lf
8 " Valve Box	0		0 lf
8 " Gate Valve	2	5	10 lf
8 " Hydrant Conn	2	35	70 lf
		Total Equ. Length of Pipe:	**1074 lf**

* includes horizontal and and estimated vertical bends

Frictional Head Loss through 8 inch pipe (fA_1) $fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$

fA1 = 4.99 ft

fA2 = 0.00 ft Elev at tie-in: 573 Elev at end of extension: 573

where: L = equivalent length (ft)
Q = flow (gpm)
C= 100
d = pipe diameter (in.)

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

HL = 2.16 psi

Residual Pressure (P) at the building:

$P = p_d$ - HL - Loss from pipe

" RPZ: 0 psi
" Meter: 0 psi

P = 90.49 psi **P > 20 psi**

8-inch public watermain into site to end of Road C

Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	731	-	731 lf
8 " x 8" TS and valve:	0		0 lf
8 " x 8" tee	1	50	50 lf
8 " x 2"(service)	0	0.8	0 lf
8 " 90° bend*	0	10	0 lf
8 " 45° bend*	1	10	10 lf
8 " 22.5° bend*	12	10	120 lf
8 " 11 1/4° bend*	4	10	40 lf
8 " Valve Box	0		0 lf

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport Hwy - TND Development
Job Number:	13027C
Re:	Water Pressure Calcs
Calculated By:	dls **Date:** 03/06/24
Checked By:	**Date:**

8 " Gate Valve	2	5	10 lf
8 " Hydrant Conn	0	35	0 lf

Total Equ. Length of Pipe: **961 lf**

* includes horizontal and and estimated vertical bends

Frictional Head Loss through 8 inch pipe (fA_1)

$$fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$$

fA1 = 4.47 ft

fA2 = 0.00 ft

Elev at tie-in: 573 Elev at end of extension: 573

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

HL = 1.94 psi

where: L = equivalent length (ft)
Q = flow (gpm)
C= 100
d = pipe diameter (in.)

Residual Pressure (P) at the building:

$P = p_d$ - HL - Loss from pipe

P = 90.71 psi **P > 20 psi**

downsize to 6-inch RPZ and meter

6 " RPZ: _____ psi

6 " Meter: _____ psi

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport Hwy - TND Development
Job Number:	13027C
Re:	Water Pressure Calcs
Calculated By:	dls **Date:** 03/06/24
Checked By:	**Date:**

~~DOMESTIC~~ Fire

Flow Test Data:

Location: Hydrant - K03G01_ 205 smith road
Date: 4/20/2021
Size of main: 8 inch
Size of branch: 6 inch

Observed Static Pressure (p_s) = 94 psi

Observed Residual Pressure (p_r) = 87 psi

Observed Flow (Q_f) = 1,501 gpm

Design Flow (Q) = 1,100.00 gpm

C factor = 100

Pressure at computed demand (p_d)

$$Q = \frac{Q_f(p_s - p_n)^{0.54}}{(p_s - p_r)^{0.54}}$$

$$p_d = p_s - [(p_s - p_r)^{0.54} (Q/Q_f)]^{1.85}$$

p_d = **90.07** psi

8-inch ex public water main to proposed connection point
Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	360	-	360 lf
8 " x 6" TS and valve:	0	30	0 lf
8 " x 8" tee	1	50	50 lf
8 " x .5"(service)	0	0.5	0 lf
8 " 90° bend*	0		0 lf
8 " 45° bend*	0	10	0 lf
8 " 22.5° bend*	0	15	0 lf
8 " 11 1/4° bend*	0	15	0 lf
8 "x6" Reducer	0		0 lf
8 " Valve Box	0		0 lf
8 " Gate Valve	1	5	5 lf
8 " Hydrant Conn	0	50	0 lf
		Total Equ. Length of Pipe:	**415 lf**

* includes horizontal and and estimated vertical bends

Frictional Head Loss through 8 inch pipe (fA_1)

$$fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$$

fA1 = 14.77 ft

fA2 = 0.00 ft

Elev at tie-in: 573 Elev at end of extension: 573

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

where: L = equivalent length (ft)
Q = flow (gpm)
C= 100
d = pipe diameter (in.)

HL = 6.40 psi

Residual Pressure (P) at the building:

P = p_d - HL - Loss from pipe

" RPZ: 0 psi
" Meter: 0 psi

P = **83.67** psi **P > 20 psi**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport Hwy - TND Development		
Job Number:	13027C		
Re:	Water Pressure Calcs		
Calculated By:	dls	**Date:**	03/06/24
Checked By:		**Date:**	

8-inch public watermain into site to sta 18+27

Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	844	-	844 lf
8 " x 8" TS and valve:	0		0 lf
8 " x 8" tee	1	50	50 lf
8 " x .5"(service)	0		0 lf
8 " 90° bend*	0		0 lf
8 " 45° bend*	0		0 lf
8 " 22.5° bend*	2	10	20 lf
8 " 11 1/4° bend*	8	10	80 lf
8 " Valve Box	0		0 lf
8 " Gate Valve	2	5	10 lf
8 " Hydrant Conn	2	35	70 lf
		Total Equ. Length of Pipe:	**1074 lf**

* includes horizontal and and estimated vertical bends

Frictional Head Loss through 8 inch pipe (fA_1) $fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$

fA1 = 38.22 ft

fA2 = 0.00 ft Elev at tie-in: 573 Elev at end of extension: 573

where: L = equivalent length (ft)
Q = flow (gpm)
C= 100
d = pipe diameter (in.)

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

HL = 16.57 psi

Residual Pressure (P) at the building:

$P = p_d$ - HL - Loss from pipe

" RPZ: 0 psi
" Meter: 0 psi

P = 67.10 psi **P > 20 psi**

8-inch public watermain into site to end of Road C

Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	731	-	731 lf
8 " x 8" TS and valve:	0		0 lf
8 " x 8" tee	1	50	50 lf
8 " x 2"(service)	0	0.8	0 lf
8 " 90° bend*	0	10	0 lf
8 " 45° bend*	1	10	10 lf
8 " 22.5° bend*	12	10	120 lf
8 " 11 1/4° bend*	4	10	40 lf
8 " Valve Box	0		0 lf

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport Hwy - TND Development
Job Number:	13027C
Re:	Water Pressure Calcs
Calculated By:	dls **Date:** 03/06/24
Checked By:	**Date:**

8 " Gate Valve	2	5	10 lf
8 " Hydrant Conn	0	35	0 lf

Total Equ. Length of Pipe: **961 lf**

* includes horizontal and and estimated vertical bends

Frictional Head Loss through 8 inch pipe (fA_1) $fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$

fA1 = 34.20 ft

fA2 = 0.00 ft Elev at tie-in: 573 Elev at end of extension: 573

where: L = equivalent length (ft)
Q = flow (gpm)
C= 100
d = pipe diameter (in.)

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

HL = 14.83 psi

Residual Pressure (P) at the building:

$P = p_d$ - HL - Loss from pipe

P = 68.84 psi P > 20 psi

downsize to 6-inch RPZ and meter

6 " RPZ: _____ psi

6 " Meter: _____ psi

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport hwy		
Job Number:	13027c		
Re:	Water Pressure Calcs		
Calculated By:	dls	**Date:**	03/06/24
Checked By:		**Date:**	

DOMESTIC

Flow Test Data:

Location:	Hydrant K03C61 - Millersport Hwy	
Date:	7/13/2017	
Size of main:	10	inch
Size of branch:	6	inch
Observed Static Pressure (p_s) =	95	psi
Observed Residual Pressure (p_r) =	80	psi
Observed Flow (Q_f) =	2,512	gpm
Design Flow (Q) =	366.00	gpm
C factor =	100	

Pressure at computed demand (p_d)

$$Q = \frac{Q_f(p_s - p_D)^{0.54}}{(p_s - p_r)^{0.54}}$$

$$p_d = p_s - [(p_s - p_r)^{0.54} (Q/Q_f)]^{1.85}$$

p_d = **94.58** psi

10-inch ex public water main to proposed connection point

Proposed watermain line size: 10 inch

Equivalent lengths of 10 inch pipe:

	#	Equ. Length	
10 " PVC water line:	1760	-	1760 lf
10 " x 8" TS and valve:	1	30	30 lf
10 " x 8" tee	3	30	90 lf
10 " x .5"(service)	0		0 lf
10 " 90° bend*	0		0 lf
10 " 45° bend*	0		0 lf
10 " 22.5° bend*	0		0 lf
10 " 11 1/4° bend*	0		0 lf
10 "x6" Reducer	0		0 lf
10 " Valve Box	0		0 lf
10 " Gate Valve	1	2	2 lf
10 " Hydrant Conn	1	35	35 lf
Total Equ. Length of Pipe:			**1917 lf**

Frictional Head Loss through 10 inch pipe (fA_1)

$$fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$$

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name: 4300 Millersport hwy
Job Number: 13027c
Re: Water Pressure Calcs
Calculated By: dls **Date:** 03/06/24
Checked By: **Date:**

fA1 = 3.01 ft

fA2 = 0.00 ft Elev at tie-in: 570 Elev at end of extension: 570

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

where: L = equivalent length (ft)
Q = flow (gpm)
C = 100
d = pipe diameter (in.)

HL = 1.30 psi

Residual Pressure (P) at the building:

P = p_d - HL - Loss from pipe

" RPZ: 0 psi
" Meter: 0 psi

P = 93.27 psi **P > 20 psi**

8-inch public water line from Millersport to Road A/B intersection

Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	529	-	529 lf
8 " x 8" TS and valve:	0		0 lf
8 " x8" tee	1	30	30 lf
8 " x .5"(service)	0	0	0 lf
8 " 90° bend*	0		0 lf
8 " 45° bend*	7	10	70 lf
8 " 22.5° bend*	2	10	20 lf
8 " 11 1/4° bend*	1	10	10 lf
8 " Valve Box	0		0 lf
8 " Gate Valve	3	2	6 lf
8 " Hydrant Conn	1	35	35 lf

Total Equ. Length of Pipe: **700 lf**

Frictional Head Loss through 8 inch pipe (fA_1) $fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$

fA1 = 3.25 ft

fA2 = 5.00 ft Elev at tie-in: 570 Elev at end of extension: 575

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

where: L = equivalent length (ft)
Q = flow (gpm)
C = 100
d = pipe diameter (in.)

HL = 3.58 psi

Residual Pressure (P) at the building:

P = p_d - HL - Loss from pipe

" RPZ: 0 psi
" Meter: 0 psi

P = 89.69 psi **P > 20 psi**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport hwy		
Job Number:	13027c		
Re:	Water Pressure Calcs		
Calculated By:	dls	**Date:**	03/06/24
Checked By:		**Date:**	

8-inch public water line Road A/B intersection to sta 18+27

Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	445	-	445 lf
8 " x 8" TS and valve:	0		0 lf
8 " x 8" tee	0	50	0 lf
8 " x .5"(service)	0	0.8	0 lf
8 " 90° bend*		15	0 lf
8 " 45° bend*	0	10	0 lf
8 " 22.5° bend*	0	10	0 lf
8 " 11 1/4° bend*	2	10	20 lf
8 " Valve Box	0		0 lf
8 " Gate Valve	2	2	4 lf
8 " Hydrant Conn	1	35	35 lf

Total Equ. Length of Pipe: **504 lf**

Frictional Head Loss through 8 inch pipe (fA_1)

$$fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$$

fA1 = 2.34 ft

fA2 = 0.00 ft

Elev at tie-in: 575

Elev at end of extension: 575

where: L = equivalent length (ft)
Q = flow (gpm)
C = 100
d = pipe diameter (in.)

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

HL = 1.02 psi

Residual Pressure (P) at the building:

$P = p_d$ - HL - Loss from pipe

6 " RPZ: 0 psi

6 " Meter: 0 psi

P = 88.68 psi **P > 20 psi**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport hwy		
Job Number:	13027c		
Re:	Water Pressure Calcs		
Calculated By:	dls	**Date:**	03/06/24
Checked By:		**Date:**	

8-inch public water line Road A/B intersection to Road A/D intersection

Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	805	-	805 lf
8 " x 8" TS and valve:	0		0 lf
8 " x 8" tee	1	50	50 lf
8 " x .5"(service)	0	0.8	0 lf
8 " 90° bend*	0	10	0 lf
8 " 45° bend*	0	10	0 lf
8 " 22.5° bend*	1	10	10 lf
8 " 11 1/4° bend*	4	10	40 lf
8 " Valve Box	0		0 lf
8 " Gate Valve	1	2	2 lf
8 " Hydrant Conn	2	35	70 lf

Total Equ. Length of Pipe: **977 lf**

Frictional Head Loss through 8 inch pipe (fA_1) $fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$

fA1 = 4.54 ft

fA2 = 0.00 ft Elev at tie-in: 575 Elev at end of extension: 575

where: L = equivalent length (ft)
Q = flow (gpm)
C = 100
d = pipe diameter (in.)

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

HL = 1.97 psi

Residual Pressure (P) at the building:

$P = p_d$ - HL - Loss from pipe

6 " RPZ: 0 psi
6 " Meter: 0 psi

P = 87.73 psi **P > 20 psi**

8-inch public water line Road A/B intersection to end of Road D

Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	1204	-	1204 lf
8 " x 8" TS and valve:	0		0 lf
8 " x 8" tee	1	50	50 lf
8 " x .5"(service)	0	0.8	0 lf
8 " 90° bend*	0	10	0 lf
8 " 45° bend*	1	10	10 lf
8 " 22.5° bend*	12	10	120 lf
8 " 11 1/4° bend*	3	10	30 lf
8 " Valve Box	0		0 lf

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport hwy
Job Number:	13027c
Re:	Water Pressure Calcs
Calculated By:	dls **Date:** 03/06/24
Checked By:	**Date:**

8 " Gate Valve	3	2	6	lf
8 " Hydrant Conn	1	35	35	lf

Total Equ. Length of Pipe: **1455 lf**

Frictional Head Loss through 8 inch pipe (fA_1)

$$fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$$

fA1 = 6.76 ft

fA2 = 0.00 ft

Elev at tie-in: 575 Elev at end of extension: 575

where: L = equivalent length (ft)
Q = flow (gpm)
C = 100
d = pipe diameter (in.)

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

HL = 2.93 psi

Residual Pressure (P) at the building:

$P = p_d$ - HL - Loss from pipe

6 " RPZ: 0 psi
6 " Meter: 0 psi

P = 86.76 psi **P > 20 psi**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport hwy		
Job Number:	13027c		
Re:	Water Pressure Calcs		
Calculated By:	dls	**Date:**	03/06/24
Checked By:		**Date:**	

~~DOMESTIC~~ Fire

Flow Test Data:

Location:	Hydrant K03C61 - Millersport Hwy	
Date:	7/13/2017	
Size of main:	10	inch
Size of branch:	6	inch
Observed Static Pressure (p_s) =	95	psi
Observed Residual Pressure (p_r) =	80	psi
Observed Flow (Q_f) =	2,512	gpm
Design Flow (Q) =	1,100.00	gpm
C factor =	100	

Pressure at computed demand (p_d)

$$Q = \frac{Q_f(p_s - p_n)^{0.54}}{(p_s - p_r)^{0.54}}$$

$$p_d = p_s - [(p_s - p_r)^{0.54} (Q/Q_f)]^{1.85}$$

p_d = 91.75 psi

10-inch ex public water main to proposed connection point

Proposed watermain line size: 10 inch

Equivalent lengths of 10 inch pipe:

	#	Equ. Length	
10 " PVC water line:	1760	-	1760 lf
10 " x 8" TS and valve:	1	30	30 lf
10 " x 8" tee	3	30	90 lf
10 " x .5"(service)	0		0 lf
10 " 90° bend*	0		0 lf
10 " 45° bend*	0		0 lf
10 " 22.5° bend*	0		0 lf
10 " 11 1/4° bend*	0		0 lf
10 "x6" Reducer	0		0 lf
10 " Valve Box	0		0 lf
10 " Gate Valve	1	2	2 lf
10 " Hydrant Conn	1	35	35 lf

Total Equ. Length of Pipe: **1917 lf**

Frictional Head Loss through 10 inch pipe (fA_1)

$$fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$$

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name: 4300 Millersport hwy
Job Number: 13027c
Re: Water Pressure Calcs
Calculated By: dls **Date:** 03/06/24
Checked By: **Date:**

fA1 = 23.04 ft

fA2 = 0.00 ft Elev at tie-in: 570 Elev at end of extension: 570

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

where: L = equivalent length (ft)
Q = flow (gpm)
C = 100
d = pipe diameter (in.)

HL = 9.99 psi

Residual Pressure (P) at the building:

P = p_d - HL - Loss from pipe

" RPZ: 0 psi
" Meter: 0 psi

P = 81.77 psi **P > 20 psi**

8-inch public water line from Millersport to Road A/B intersection

Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	529	-	529 lf
8 " x 8" TS and valve:	0		0 lf
8 " x8" tee	1	30	30 lf
8 " x .5"(service)	0	0	0 lf
8 " 90° bend*	0		0 lf
8 " 45° bend*	7	10	70 lf
8 " 22.5° bend*	2	10	20 lf
8 " 11 1/4° bend*	1	10	10 lf
8 " Valve Box	0		0 lf
8 " Gate Valve	3	2	6 lf
8 " Hydrant Conn	1	35	35 lf

Total Equ. Length of Pipe: **700 lf**

Frictional Head Loss through 8 inch pipe (fA_1) $fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$

fA1 = 24.91 ft

fA2 = 5.00 ft Elev at tie-in: 570 Elev at end of extension: 575

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

where: L = equivalent length (ft)
Q = flow (gpm)
C = 100
d = pipe diameter (in.)

HL = 12.97 psi

Residual Pressure (P) at the building:

P = p_d - HL - Loss from pipe

" RPZ: 0 psi
" Meter: 0 psi

P = 68.80 psi **P > 20 psi**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport hwy		
Job Number:	13027c		
Re:	Water Pressure Calcs		
Calculated By:	dls	**Date:**	03/06/24
Checked By:		**Date:**	

8-inch public water line Road A/B intersection to sta 18+27

Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	445	-	445 lf
8 " x 8" TS and valve:	0		0 lf
8 " x 8" tee	0	50	0 lf
8 " x .5"(service)	0	0.8	0 lf
8 " 90° bend*		15	0 lf
8 " 45° bend*	0	10	0 lf
8 " 22.5° bend*	0	10	0 lf
8 " 11 1/4° bend*	2	10	20 lf
8 " Valve Box	0		0 lf
8 " Gate Valve	2	2	4 lf
8 " Hydrant Conn	1	35	35 lf

Total Equ. Length of Pipe: **504 lf**

Frictional Head Loss through 8 inch pipe (fA_1) $fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$

fA1 = 17.94 ft

fA2 = 0.00 ft

Elev at tie-in: 575 Elev at end of extension: 575

where: L = equivalent length (ft)
Q = flow (gpm)
C = 100
d = pipe diameter (in.)

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

HL = 7.78 psi

Residual Pressure (P) at the building:

$P = p_d$ - HL - Loss from pipe

6 " RPZ: 0 psi
6 " Meter: 0 psi

P = 61.03 psi **P > 20 psi**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport hwy		
Job Number:	13027c		
Re:	Water Pressure Calcs		
Calculated By:	dls	**Date:**	03/06/24
Checked By:		**Date:**	

8-inch public water line Road A/B intersection to Road A/D intersection

Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	805	-	805 lf
8 " x 8" TS and valve:	0		0 lf
8 " x 8" tee	1	50	50 lf
8 " x .5"(service)	0	0.8	0 lf
8 " 90° bend*	0	10	0 lf
8 " 45° bend*	0	10	0 lf
8 " 22.5° bend*	1	10	10 lf
8 " 11 1/4° bend*	4	10	40 lf
8 " Valve Box	0		0 lf
8 " Gate Valve	1	2	2 lf
8 " Hydrant Conn	2	35	70 lf

Total Equ. Length of Pipe: **977 lf**

Frictional Head Loss through 8 inch pipe (fA_1) $fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$

fA1 = 34.77 ft

fA2 = 0.00 ft Elev at tie-in: 575 Elev at end of extension: 575

where: L = equivalent length (ft)
Q = flow (gpm)
C = 100
d = pipe diameter (in.)

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

HL = 15.07 psi

Residual Pressure (P) at the building:

$P = p_d$ - HL - Loss from pipe

6 " RPZ: 0 psi
6 " Meter: 0 psi

P = 53.73 psi **P > 20 psi**

8-inch public water line Road A/B intersection to end of Road D

Proposed watermain line size: 8 inch

Equivalent lengths of 8 inch pipe:

	#	Equ. Length	
8 " PVC water line:	1204	-	1204 lf
8 " x 8" TS and valve:	0		0 lf
8 " x 8" tee	1	50	50 lf
8 " x .5"(service)	0	0.8	0 lf
8 " 90° bend*	0	10	0 lf
8 " 45° bend*	1	10	10 lf
8 " 22.5° bend*	12	10	120 lf
8 " 11 1/4° bend*	3	10	30 lf
8 " Valve Box	0		0 lf

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WM SCHUTT ASSOCIATES

Project Name:	4300 Millersport hwy
Job Number:	13027c
Re:	Water Pressure Calcs
Calculated By:	dls **Date:** 03/06/24
Checked By:	**Date:**

8 " Gate Valve	3	2	6 lf
8 " Hydrant Conn	1	35	35 lf

Total Equ. Length of Pipe: **1455 lf**

Frictional Head Loss through 8 inch pipe (fA_1)

$$fA1 = \frac{10.44LQ^{1.85}}{C^{1.85}d^{4.8655}}$$

fA1 = 51.78 ft

fA2 = 0.00 ft

Elev at tie-in: 575 Elev at end of extension: 575

where: L = equivalent length (ft)
Q = flow (gpm)
C = 100
d = pipe diameter (in.)

Total head loss (HL) = (fA1 + fA2) x (0.4335 psi / ft)

HL = 22.45 psi

Residual Pressure (P) at the building:

$P = p_d$ - HL - Loss from pipe

6 " RPZ: 0 psi
6 " Meter: 0 psi

P = 46.35 psi **P > 20 psi**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX L

LETTER FROM NYSDEC – FRESHWATER WETLAND DETERMINATION AND NYSDEC PERMIT

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, Region 9
270 Michigan Avenue, Buffalo, NY 14203-2915
P: (716) 851-7010 I F: (716) 851-7005
www.dec.ny.gov

July 9, 2018

Cimato Enterprises
9220 Transit Road
Amherst, NY 14032

To Whom It May Concern:

Freshwater Wetland Determination
4300 Millersport Highway
Town of Amherst, Erie County

This letter serves as notification that Senior Ecologist Charles Rosenburg completed a field inspection on September 6, 2017 of the wetland boundary delineation completed by Earth Dimensions, Inc., within your property, parcel #16.00-2-20. The objective of this inspection was to determine whether wetlands present within and adjacent to the parcel meet New York State Department of Environmental Conservation (DEC) criteria for state wetlands jurisdiction.

Based on this inspection, Mr. Rosenburg determined that there is currently no state-regulated freshwater wetlands jurisdiction (i.e., freshwater wetland or regulated 100-foot adjacent area) within the 4300 Millersport Highway parcel. The closest state-regulated wetland is mapped approximately 150 feet southeast of the parcel and has no evident extension within 100 feet of the parcel.

Please be aware that any future wetland map revisions by the DEC may add new state-regulated wetlands or expand existing wetlands in this general area. While there are no immediate plans to revise the DEC wetland maps in this area, the field inspection indicated that there is a fair potential that wetlands meeting DEC criteria occur on or adjacent to the parcel. If that were to happen, this parcel would then be subject to DEC wetlands jurisdiction (i.e., wetland and/or regulated 100-foot adjacent area) – see the attached wetlands brochure for more details. The DEC would notify all landowners affected by such map revision via certified mail.

Please be advised that the U.S. Army Corps of Engineers may have wetland jurisdiction irrespective of the Department of Environmental Conservation. For more information, you may contact the Corps at:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

United States Army Corps of Engineers Regulatory Branch
1776 Niagara Street
Buffalo, New York 14207
Telephone: (716) 879-4330

If you have any questions about this wetland determination, please feel free to call me in the Buffalo office at (716) 851-7050.

Sincerely,

Angela G. Driscoll
Fish & Wildlife Technician I
Region 9 - Buffalo

AGD:

Attach: Wetland Information Handout

cc: Mr. Scott Livingstone, Earth Dimensions, Inc.
No Mapped Wetland File

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

A Brief Description of THE FRESHWATER WETLANDS ACT and What It Means for Wetlands Landowners

What Are Freshwater Wetlands?

Wetlands are transition areas between uplands and aquatic habitats. They are known by many names, such as marshes, swamps, bogs, and wet meadows. Standing water is only one clue that a wetland may be present. The Freshwater Wetlands Act identifies wetlands on the basis of vegetation because certain types of plants outcompete others when they are in wet soils, and so are good indicators of wet conditions over time. These characteristic plants include wetland trees and shrubs, such as willows and alders; emergent plants such as cattails and sedges; aquatic plants, such as water-lily, and bog mat vegetation, such as sphagnum moss.

To be protected under the Freshwater Wetlands Act, a wetland must be 12.4 acres (5 hectares) or larger. Wetlands smaller than this may be protected if they are considered of unusual local importance. Around every wetland is an adjacent area of 100 feet that is also protected to provide a buffer for the wetland.

The U.S. Army Corps of Engineers also protects wetlands under Section 404 of the Clean Water Act, irrespective of size. Although the definition is slightly different than the state definition, the Clean Water Act protects basically the same thing -- areas of water or wet soils that support typical wetland plants.

Why Are They Valuable?

For many years, people did not recognize the value of wetlands. Consequently, New York has lost almost half of its wetlands to such activities as filling and draining. However, wetlands are valuable to the people and environment of New York State. These are some of the functions and benefits that wetlands perform:

Flood and Storm Water Control: Wetlands are important in how water moves in a watershed. They absorb, store, and slow down the movement of rain and melt water, minimizing flooding and stabilizing water flow.

Surface and Groundwater Protection: Wetlands often serve as groundwater discharge sites, maintaining base flow in streams and rivers and supporting ponds and lakes. In some places, wetlands are very important in recharging groundwater supplies.

Erosion Control: Wetlands slow water velocity and filter sediments, protecting reservoirs and navigational channels. They also buffer shorelines and agricultural soils from water erosion.

Pollution Treatment and Nutrient Cycling: Wetlands cleanse water by filtering out natural and many man-made pollutants, which are then broken down or immobilized. In wetlands, organic materials are also broken down and recycled back into the environment, where they support the food chain.

Fish and Wildlife Habitat: Wetlands are one of the most productive habitats for feeding, nesting, spawning, resting and cover for fish and wildlife, including many rare and endangered species.

Public Enjoyment: Wetlands provide areas for recreation, education and research. They also provide valuable open space, especially in developing areas where they may be the only green space remaining.

Freshwater Wetlands Act

The State Legislature passed the Freshwater Wetlands Act (Act) in 1975 with the intent to preserve, protect and conserve freshwater wetlands and their benefits, consistent with the general welfare and beneficial economic, social and agricultural development of the state. Certain activities are exempt from regulation; other activities that could have negative impact on wetlands are regulated. To conduct any regulated activity in a protected wetland or its adjacent area, a permit is required. The permit standards in the regulations require that impacts to wetlands be avoided and minimized. If the proposed activity will not seriously affect the wetland, a permit with various conditions is usually issued. If the proposed activity will affect the wetland, the benefits gained by allowing the action to occur must outweigh the wetland benefits lost, in order for a permit to be issued. Compensatory mitigation often is required for significant impacts to wetlands. This may include creating or restoring wetlands to replace the benefits lost by the proposed project.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Wetlands Are Mapped

The Act requires DEC to map all those wetlands protected by the Act so that affected landowners can be notified and as a means for other interested parties to know where jurisdictional wetlands exist. DEC prepares draft maps, notifies landowners whose property may contain protected wetlands, and provides an opportunity for a public hearing on the accuracy of the maps. DEC then reviews the comments received from the hearing, adjusts the maps if necessary, and then officially files the final maps with the clerks of all local governments. Wetlands are a changing resource, and the law makes provisions for amending the maps. However, any changes to the maps are subject to the same notice and review procedures used to prepare the initial maps.

There are no regulatory maps identifying wetlands protected by the U.S. Army Corps of Engineers under the Clean Water Act. Wetlands shown on the DEC maps usually are also protected by the Corps, but there are additional wetlands not shown on the DEC maps that are protected by the Corps but not DEC because they are smaller than 12.4 acres in size. The National Wetlands Inventory, prepared by the U.S. Fish and Wildlife Service, is a good source of information about where these smaller wetland occur, but they are not regulatory maps and landowners should not rely on them exclusively.

Not All Wetlands Are Equal

Different wetlands provide different functions and benefits in varying degrees. The Act requires DEC to rank wetlands in one of four classes ranging from Class 1, which represents the greatest benefits and is the most restrictive, to Class IV. The permit requirements are more stringent for a Class I wetland than for a Class IV wetland. Because of this, wetland classifications are important and are subject to public comment during the map hearing process.

Regulation of Wetlands

According to the Freshwater Wetlands Act, certain activities are specifically exempt from regulation and do not require a permit, whereas other activities specifically require a permit. The following lists describe the regulatory status of some common activities:

Exempt Activities- These activities do not require a wetlands permit, and include, among others:

- normal agricultural practices (except filling and clear cutting)
- recreational activities such as fishing, hunting, hiking, swimming, camping or picnicking
- ordinary, routine maintenance of existing structures, existing lawns, and similar facilities
- selectively cutting trees and harvesting fuel wood, but not clear cutting trees or wetland vegetation

Regulated Activities with minor impacts

- installing utilities to a residence (exempt in an adjacent area)
- drilling an individual water well in an adjacent area
- replacing existing, functional bulkheads
- installing docks, piers, or wharfs

Regulated Activities with major impacts

- filling (including filling for agricultural purposes) and grading
- erecting buildings, including houses, barns, garages, commercial and industrial facilities
- restoring, modifying, or expanding existing structures
- draining, (except for agriculture), dredging, or otherwise changing water levels in wetlands, including breaching of beaver dams, constructing or removing bulkheads, dikes, or dams
- constructing roads
- applying pesticides in wetlands
- clear cutting trees or other vegetation
- mining

The Clean Water Act regulates activities in a similar manner, but has slightly different requirements. Landowners are encouraged to contact the U.S. Army Corps of Engineers if they anticipate undertaking activities in or near wet areas.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 9
700 Delaware Avenue, Buffalo, NY 14209
P: (716) 851-7165 I F: (716) 851-7168
www.dec.ny.gov

March 24, 2023

Fred Cimato
Cimato Enterprises Inc.
9220 Transit Road
East Amherst, New York 14051-1622

Dear Fred Cimato:

PERMIT TRANSMITTAL LETTER
DEC PERMIT No. 9-1422-00452

Enclosed is your permit which was issued in accordance with applicable provisions of the Environmental Conservation Law. The permit is valid for only that project, activity or operation expressly authorized.

The DEC permit number and Program ID number, if applicable, should be retained for your records and should be referenced on all future correspondence and applications related to the permit. If modifications are desired after permit issuance, you must submit the proposed revisions and receive written approval from the Permit Administrator prior to initiating any change. If the Department determines that the modification represents a material change in the scope of the authorized project, activity, operation or permit conditions, you will be required to submit a new application for permit.

Please note the expiration date of the permit. Applications for permit renewal should be made well in advance of the expiration date (minimum of 30 days) and submitted to the Regional Permit Administrator at the above address. For SPDES, Solid and Hazardous Waste Permits, renewal applications must be submitted 180 days in advance of permit expiration.

Please review all permit conditions carefully. In particular, identify your initial responsibilities under this permit in order to assure timely action if required. Since failure to comply precisely with permit conditions may be treated as a violation of the environmental conservation law, you are requested to provide a copy of the permit to the project contractor, facility operator, and other persons directly responsible for permit implementation (if any).

If you have any questions, please contact this office at the above address.

Respectfully,

David S. Denk
Regional Permit Administrator

DSD/slr
Enclosure

ec: Captain Joshua VerHague, Division of Law Enforcement, NYSDEC Region 9
Joe Rowley, U.S. Army Corps of Engineers, Buffalo District
Scott Livingstone, Earth Dimensions

NEW YORK STATE | Department of Environmental Conservation

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Facility DEC ID 9-1422-00452

PERMIT

Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
CIMATO ENTERPRISES INC
9220 TRANSIT RD
EAST AMHERST, NY 14051-1622
(716) 688-3536

Facility:
4300 Millersport Subdivision
4300 MILLERSPORT HWY
AMHERST, NY

Facility Location: in AMHERST in ERIE COUNTY
Facility Principal Reference Point: NYTM-E: 196.342 NYTM-N: 4773.833
Latitude: 43°03'23.2" Longitude: 78°43'43.4"

Authorized Activity: Impacts to approximately 0.76 acres of federal jurisdictional wetland associated with the construction of 38 single family homes and 13 townhouses and two commercial buildings on an approximately 67 acre parcel. The project is located at 4300 Millersport Highway in the Town of Amherst.

Note: Wherever used in this permit, ECL refers to New York State Environmental Conservation Law and 6 NYCRR refers to Title 6 of the New York Code, Rules, and Regulations.

Permit Authorizations

Water Quality Certification - Under Section 401 - Clean Water Act
Permit ID 9-1422-00452/00003
New Permit Effective Date: 3/24/2023 Expiration Date: 3/23/2026

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: LISA M CZECHOWICZ, Deputy Regional Permit Administrator
Address: NYSDEC Region 9 Headquarters
700 Delaware Ave
Buffalo, NY 14209

Authorized Signature: Lisa M Czechowicz Date 3 /24 /2023

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Distribution List

Law Enforcement
Joe Rowley
Scott Livingstone

Permit Components

NATURAL RESOURCE PERMIT CONDITIONS

WATER QUALITY CERTIFICATION SPECIFIC CONDITION

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

NATURAL RESOURCE PERMIT CONDITIONS - Apply to the Following Permits: WATER QUALITY CERTIFICATION

1. **Conformance With Plans** All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such approved plans were prepared by the permittee or their representative(s) and are identified in condition no. 2, which includes the relevant water quality standards and explanation for the condition..

2. **Conformance with Plans List** All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such approved plans include the following:

	Document	Description and Date
a.	Plans	Received on April 22, 2022
b.		
c.		

Water Quality Requirements: 6 NYCRR 608.9 Discharges prohibited without certification.

Explanation: This condition is necessary to identify what discharges are authorized by the certification. Any discharge not identified in the referenced plans is prohibited.

3. **Precautions Against Contamination of Waters** All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4. **Precaution Against Contamination of Waters** All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project.

Water Quality Standards: 6 NYCRR 703.2. Narrative water quality standards related to turbidity, suspended solids, toxic substances, color, and other deleterious subtances.

Explantion: This condition is necessary to ensure that the permittee undertakes whatever additional measures are necessary, and not otherwise specified in the conditions of this permit, to prevent the contravention of water quality standards during the implemenation of the project.

5. **Install and Maintain Erosion Controls** Appropriate soil erosion and sediment controls (such as silt fences, turbidity curtains, straw bales, and other appropriate measures) shall be installed, used, and maintained in effective operating condition during all work. Controls shall be installed prior to ground disturbance, inspected periodically to ensure that they are not damaged, repaired promptly when needed, and remain in place until the site is stabilized by the regrowth of suitable vegetation. Erosion controls shall be removed after the site is stabilized by the regrowth of suitable vegetation.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards for turbidity, suspended solids, and other deleterious substances.

Explanation: This condition is necessary to ensure that upland erosion is minimized and contained during project construction, preventing contravention of the water quality standards.

6. **Construction Access** Construction access shall be by means that avoid aquatic sites, unless specifically authorized on the approved plans.

Water Quality Standards: 6 NYCRR 608.9 Discharges prohibited without certification.

Explanation: This condition is necessary to ensure that the operation of construction equipment does not result in long-term or permanent alteration of waters, creating a discharge beyond the scope of the authorized discharge.

7. **Temporary Work Areas** Temporary causeways and work pads within regulated waters shall be constructed within the confines of a water control structure and shall consist of clean non-erodible material such as stone, timber, or steel. The temporary causeways and work pads shall not be installed until the water control structure is in place and the area has been completely dewatered and shall be removed prior to removal of the water control structure. Equipment staging and lay down areas shall not be located in wetlands, unless specifically authorized on the approved plans.

Water Quality Standards: 6 NYCRR 608.9: Discharges prohibited without certification. 6 NYCRR 703.2: Narrative water quality standardsrelated to turbidity, suspended solids, toxic subtances, and other deleterious substances.

Explanation: This condition is necessary to ensure that the construction of temporary work pads and staging areas do not result in long-term or permanent alteration of waters, creating a discharge beyond the scope of the authorized discharge, or result in a contravention of water quality standards.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

8. **Clean Fill Only** All fill shall consist of clean soil, sand and/or gravel that is free of the following substances: asphalt, slag, flyash, broken concrete, demolition debris, garbage, household refuse, tires, woody materials including tree or landscape debris, and metal objects. The introduction of materials toxic to aquatic life is expressly prohibited.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards related to turbidity, suspended solids, garbage, cinders, ashes, oils, sludge, other refuse, toxic substances, and other deleterious substances.

Explanation: This condition is necessary to ensure that there are no unauthorized materials are discharged, and that those authorized materials do not contain any other materials that are toxic to aquatic life and, thereby, contravene water quality standards.

9. **Heavy Equipment** Heavy equipment working in wetlands must be placed on equipment mats, or other measures must be taken to minimize soil disturbance and compaction to the maximum extent practicable.

Water Quality Standards: 6 NYCRR 608.9 Discharges prohibited without certification.

Explanation: This condition is necessary to ensure that the operation of heavy equipment does not result in long-term or permanent alteration of waters, creating a discharge beyond the scope of the authorized discharge.

10. **Equipment Cleaning** To prevent turbid discharges and the potential introduction of invasive species into regulated waters from other areas, all equipment used in any project work area involving regulated waters will be inspected for, and cleaned of, any visible soils, vegetation, and debris before being used in regulated waters.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards related to turbidity, suspended solids and other deleterious substances.

Explanation: This condition is necessary to ensure that equipment used will not contribute to a contravention of water quality standards.

11. **Temporary Dewatering Structures** Where temporary dewatering is required or specified on the approved plans, temporary dewatering measures shall comply with the following:

a. Temporary dewatering structures shall be constructed of clean material such as prefabricated impervious dikes/berms or sandbags. If stone is used, it shall be protected from erosion by plastic liners or filter fabric.

b. Waters accumulated in isolated work areas shall be discharged to an upland settling basin or well vegetated area to provide for settling and filtering of solids and sediments. Return waters shall be as clear as the flowing water upstream of the work area.

c. Temporary dewatering structures, including any plastic liners or filter fabric, and associated fill shall be completely removed, and the affected waters restored, immediately following the completion of work.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

d. To the maximum extent practicable, any fish trapped within the work area shall be netted and placed, alive and unharmed, in the water outside the work area.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards for turbidity, flow, suspended solids, and other deleterious substances. ECL 11-1301(4): Requires fish unintentionally taken to be returned to water without uneccessary injury.

Explanation: This condition is necessary to ensure that dewatering discharges from the work area do not result in erosion, fish kills, and contravention of the water quality standards.

12. Diversion Channels When the use of a diversion channel is specified on the approved plans, the diversion channel shall be excavated and restored in the dry using channel plugs. Diversion channels through soil, silt, or clay shall be lined with non-erodible material such as stone, or plastic to limit erosion and reduce particle suspension. If a diversion channel through gravel results in continuous turbidity, the use of channel lining material is required.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards for turbidity, suspended solids, and other deleterious substances.

Explanation: This condition is necessary to ensure that when a diversion channel is used to separate flowing water from the work area, erosion from scouring is minimized and contravention of water quality standards is prevented.

13. Stockpiles Fill or other excavated materials shall not be stockpiled in a manner conducive to erosion, or in areas with the potential to cause turbid runoff during storm events. Mats or geotextile fabric shall be placed under any temporary fill or stockpile and shall be removed following construction.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards for turbidity, suspended solids, and other deleterious substances.

Explanation: This condition is necessary to ensure that erosion from stockpiled materials is minimized and contained during project construction, preventing contravention of the water quality standards.

14. Concrete leachate During construction no fresh or wet concrete or leachate shall be allowed to escape into any wetland or water of New York State, nor shall washings from ready-mix concrete trucks, mixers, or other devices be allowed to enter any waters or wetlands. Wet concrete shall not be poured to displace water within the forms. Leakage from forms must be prevented from entering any wetland or water of New York State.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards for turbidity, suspended solids, toxic substances and other deleterious substances.

Explanation: This condition is necessary to ensure that concrete, concrete leachate and other materials contaminated by concrete, which are toxic to aquatic life, are contained during project construction, preventing contravention of the water quality standards.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

15. Seed and Mulch Streambanks and Work Areas Within one week of final grading, all areas of soil disturbance from this project shall be seeded with an appropriate perennial grass seed and mulched with hay or straw, unless hydroseeded.. Mulch shall be maintained until a suitable vegetative cover is established. If seeding is impracticable due to the time of year, a temporary mulch shall be applied and final seeding shall be performed at the earliest opportunity when weather conditions favor germination and growth, but not more than six months after project completion.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards for turbidity, suspended solids, and other deleterious substances.

Explanation: This condition is necessary to ensure that upland erosion is minimized after construction is completed, preventing contravention of the water quality standards.

16. State May Order Removal or Alteration of Work If future operations by the State of New York require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Department of Environmental Conservation it shall cause unreasonable obstruction to the free navigation of said waters or flood flows or endanger the health, safety or welfare of the people of the State, or cause loss or destruction of the natural resources of the State, the owner may be ordered by the Department to remove or alter the structural work, obstructions, or hazards caused thereby without expense to the State, and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the owners, shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may require, remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable and flood capacity of the watercourse. No claim shall be made against the State of New York on account of any such removal or alteration.

17. State May Require Site Restoration If upon the expiration or revocation of this permit, the project hereby authorized has not been completed, the applicant shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may lawfully require, remove all or any portion of the uncompleted structure or fill and restore the site to its former condition. No claim shall be made against the State of New York on account of any such removal or alteration.

18. State Not Liable for Damage The State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

WATER QUALITY CERTIFICATION SPECIFIC CONDITIONS

1. Water Quality Certification The authorized project, as conditioned pursuant to the Certificate, complies with Section 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act, as amended and as implemented by the limitations, standards, and criteria of state statutory and regulatory requirements set forth in 6 NYCRR Section 608.9(a). The authorized project, as conditioned, will also comply with applicable New York State water quality standards, including but not limited to effluent limitations, best usages and thermal discharge criteria, as applicable, as set forth in 6 NYCRR Parts 701, 702, 703, and 704.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. Facility Inspection by The Department The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. Relationship of this Permit to Other Department Orders and Determinations Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. Applications For Permit Renewals, Modifications or Transfers The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Regional Permit Administrator
NYSDEC Region 9 Headquarters
700 Delaware Ave
Buffalo, NY14209

4. Submission of Renewal Application The permittee must submit a renewal application at least 30 days before permit expiration for the following permit authorizations: Water Quality Certification.

5. Permit Modifications, Suspensions and Revocations by the Department The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the permittee to comply with any terms or conditions of the permit;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX M

ACOE JURISDICTION DETERMINATION

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS BUFFALO DISTRICT
478 MAIN STREET
BUFFALO, NY 14202-3278

January 18, 2024

Regulatory Branch

SUBJECT: Approved Jurisdictional Determination and Delineation Verification for Department of the Army Processing No. LRB-LRB-2006-00698

Cimato Enterprises, Inc
Fred Cimato
9220 Transit Road
East Amherst, New York 14051

Dear Mr. Cimato:

I have reviewed your request for an approved jurisdictional determination (JD) for the 66.9-acre review area located at 4300 Millersport Highway, in the Town of Amherst, Erie County, NY.

I have determined that the location and extent of all aquatic resources shown on the attached map(s) accurately represent the review area conditions.

Enclosed is an approved JD which verifies the limits of waters of the U.S. within the review area as depicted on Sheet(s) 1 - 6. This approved JD will remain valid for a period of five (5) years from the date of this correspondence unless new information warrants revision of the approved JD before the expiration date. At the end of this period, a new aquatic resource delineation will be required to support any request for a new JD.

I have determined that the following aquatic resource, Stream 1 and Wetland W1, are waters of the U.S. regulated under Section 404 of the Clean Water Act as noted on the attached Approved Jurisdictional Determination Form: Memorandum for Record. Department of the Army authorization is required if you propose a discharge of dredged or fill material in these water of the U.S.

I have determined that the following aquatic resources, Wetland W2, is not waters of the U.S. as noted on the attached Approved Jurisdictional Determination Form: Memorandum for Record. Therefore, this aquatic resource is not regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Department of the Army authorization is not required if you propose work, installation of structures, or a discharge of dredged or fill material in this aquatic resources.

Further, the delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the review area identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Regulatory Branch

SUBJECT: Approved Jurisdictional Determination and Delineation Verification for Department of the Army Processing No. LRB-LRB-2006-00698

the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Request for Appeal (RFA) form. If you request to appeal the above JD, you must submit a completed RFA form within 60 days of the date on this letter to the Great Lakes/Ohio River Division Office at the following address:

Katherine McCafferty
Regulatory Appeals Officer
US Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10780
Cincinnati, Ohio 45202-3222
Phone: 513-684-2699 Fax: 513-684-2460
e-mail: katherine.a.mccafferty@usace.army.mil

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete; that it meets the criteria for appeal under 33 C.F.R. part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by March 18, 2024.

It is not necessary to submit an RFA to the Division office if you do not object to the determination in this letter.

Questions pertaining to this matter should be directed to me at (716) 879-4279 by writing to the following address: U.S. Army Corps of Engineers Regulatory Branch 478 Main Street, Buffalo, New York 14202 or by e-mail at: Joseph.M.Rowley@usace.army.mil

Sincerely,

Joseph Rowley

Joseph Rowley
Physical Scientist

Enclosures

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Cimato Enterprises, Inc	File Number: LRB-2006-00698	Date: January 18, 2024
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL WITHOUT PREJUDICE	C
	PERMIT DENIAL WITH PREJUDICE	D
X	APPROVED JURISDICTIONAL DETERMINATION	E
	PRELIMINARY JURISDICTIONAL DETERMINATION	F

SECTION I

The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/appeals/ or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

C. PERMIT DENIAL WITHOUT PREJUDICE: Not appealable

You received a permit denial without prejudice because a required Federal, state, and/or local authorization and/or certification has been denied for activities which also require a Department of the Army permit before final action has been taken on the Army permit application. The permit denial without prejudice is not appealable. There is no prejudice to the right of the applicant to reinstate processing of the Army permit application if subsequent approval is received from the appropriate Federal, state, and/or local agency on a previously denied authorization and/or certification.

D: PERMIT DENIAL WITH PREJUDICE: You may appeal the permit denial

You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information for reconsideration

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- RECONSIDERATION: You may request that the district engineer reconsider the approved JD by submitting new information or data to the district engineer within 60 days of the date of this notice. The district will determine whether the information submitted qualifies as new information or data that justifies reconsideration of the approved JD. A reconsideration request does not initiate the appeal process. You may submit a request for appeal to the division engineer to preserve your appeal rights while the district is determining whether the submitted information qualifies for a reconsideration.

F: PRELIMINARY JURISDICTIONAL DETERMINATION: Not appealable

You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision you may contact:	If you have questions regarding the appeal process, or to submit your request for appeal, you may contact:
Joseph Rowley U.S. Army Corps of Engineers 478 Main St Buffalo, NY 14202 Joseph.M.Rowley@usace.army.mil 716-879-4279	Katherine McCafferty Regulatory Appeals Officer US Army Corps of Engineers Great Lakes and Ohio River Division 550 Main Street, Room 10780 Cincinnati, Ohio 45202-3222 Phone: 513-684-2699 Fax: 513-684-2460 e-mail: katherine.a.mccafferty@usace.army.mil

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SECTION II – REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT	
REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. Use additional pages as necessary. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)	
ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.	
RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation and will have the opportunity to participate in all site investigations.	
_____ Signature of appellant or agent.	Date:
Email address of appellant and/or agent:	Telephone number:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

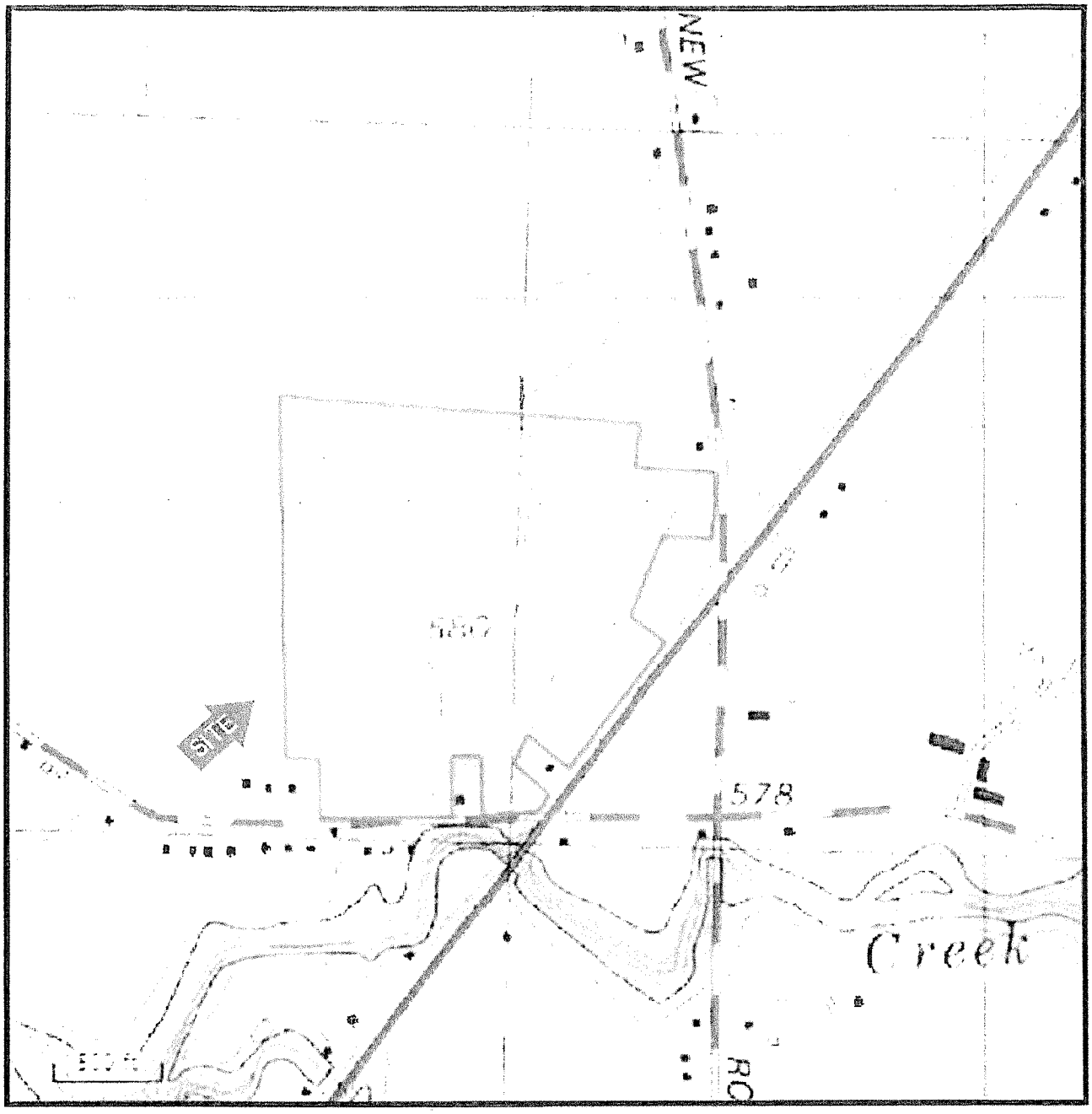


FIGURE 1: USGS 7.5 MINUTE TOPOGRAPHICAL MAP

Clarence Center Quadrangle / U.S. Geological Survey

4300 Millersport Highway

Town of Amherst, Erie County, New York

EARTH DIMENSIONS, INC.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 2: NATIONAL WETLANDS INVENTORY MAP

http://www.fws.gov/wetlands/data/mapper.HTML (Visited 6/21/23)

4300 Millersport Highway

Town of Amherst, Erie County, New York

EARTH DIMENSIONS, INC.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

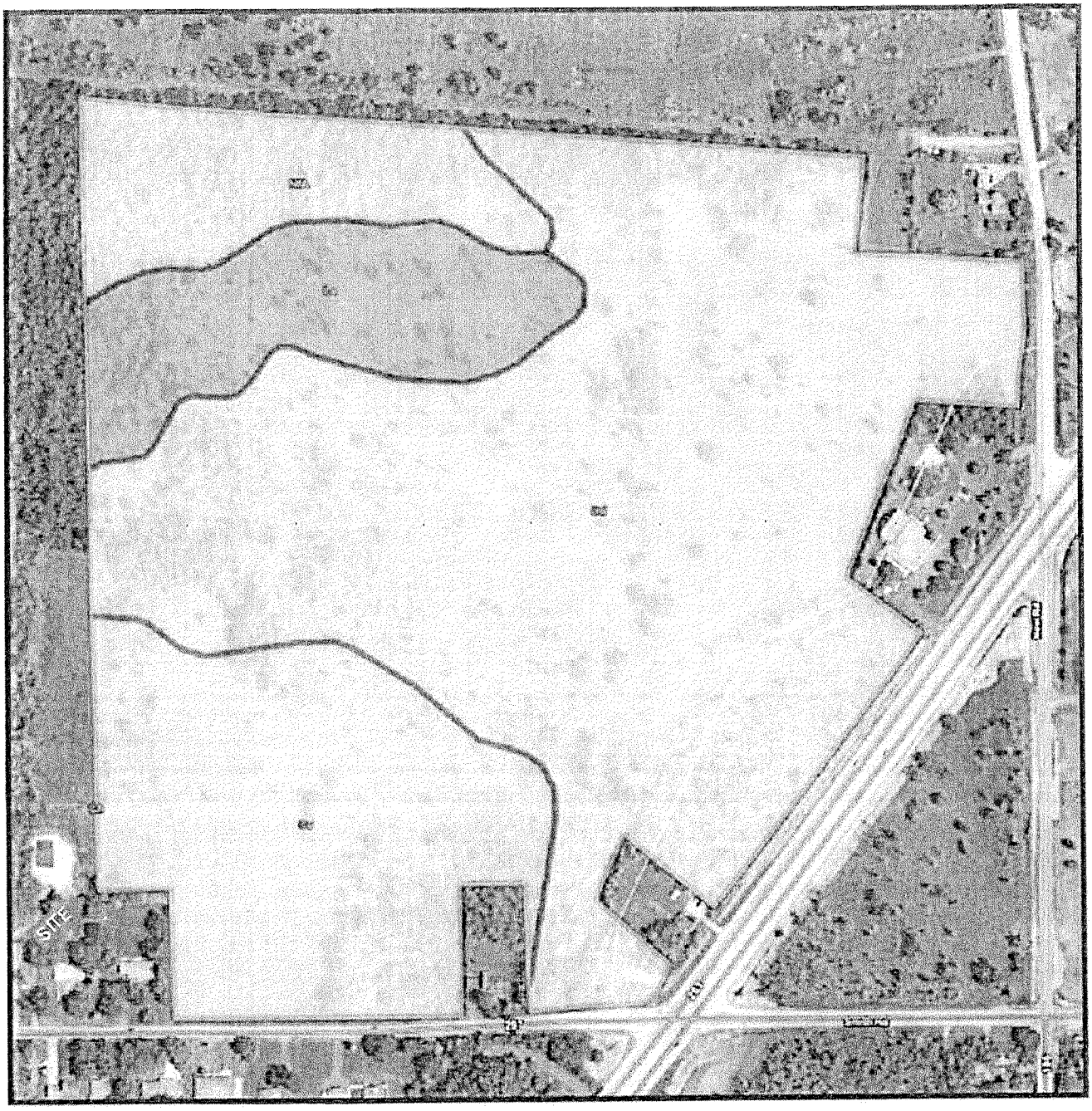


FIGURE 3: NRCS SOIL SURVEY MAP

http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (Visited 6/21/23)

4300 Millersport Highway

Town of Amherst, Erie County, New York

EARTH DIMENSIONS, INC.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 4: NYSDEC ENVIRONMENTAL RESOURCE MAPPER

https://gisservices.dec.ny.gov/gis/erm/ (Visited 6/21/23)

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 7: DRAINAGE MAP

https://streamstats.usgs.gov/ss/ (Visited 6/21/23)

4300 Millersport Highway

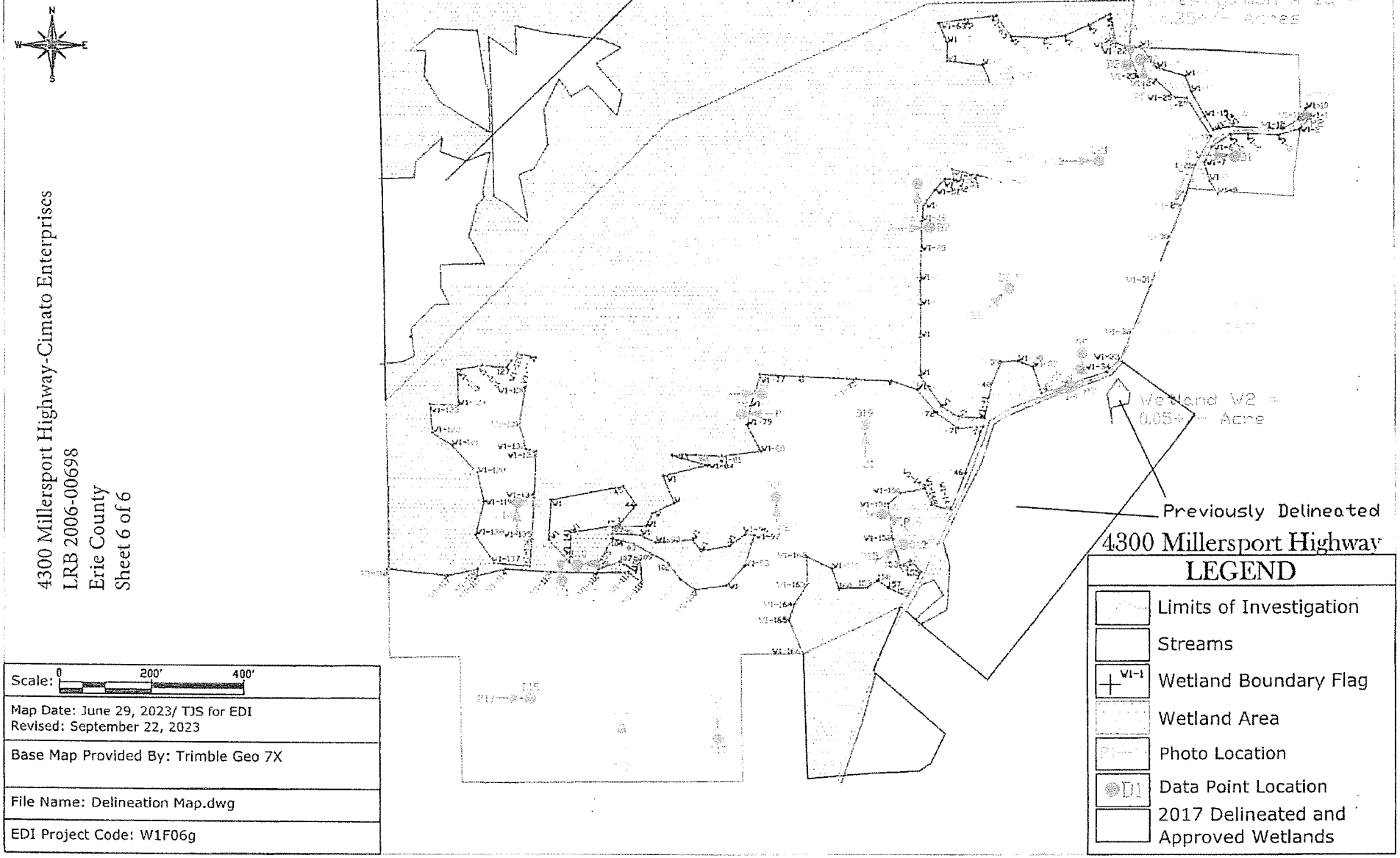
Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 6 - Wetland Delineation Map

Town of Amherst Erie County, New York

EARTH DIMENSIONS, INC.



4300 Millersport Highway-Cimato Enterprises
LRB 2006-00698
Erie County
Sheet 6 of 6

Scale: 0 200' 400'

Map Date: June 29, 2023/ TJS for EDI
Revised: September 22, 2023

Base Map Provided By: Trimble Geo 7X

File Name: Delineation Map.dwg

EDI Project Code: W1F06g

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, BUFFALO DISTRICT
478 MAIN STREET
BUFFALO, NEW YORK 14202

CELRB-TD-R

January 18, 2024

MEMORANDUM FOR RECORD

SUBJECT: US Army Corps of Engineers (Corps) Approved Jurisdictional Determination in accordance with the "Revised Definition of 'Waters of the United States'"; (88 FR 3004 (January 18, 2023) as amended by the "Revised Definition of 'Waters of the United States'; Conforming" (8 September 2023) ,[1]LRB-2006-00698(4300 Millersport Highway)

BACKGROUND. An Approved Jurisdictional Determination (AJD) is a Corps document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. AJDs are clearly designated appealable actions and will include a basis of JD with the document.[2] AJDs are case-specific and are typically made in response to a request. AJDs are valid for a period of five years unless new information warrants revision of the determination before the expiration date or a District Engineer has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.[3]

On January 18, 2023, the Environmental Protection Agency (EPA) and the Department of the Army ("the agencies") published the "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule"). On September 8, 2023, the agencies published the "Revised Definition of 'Waters of the United States'; Conforming", which amended the 2023 Rule to conform to the 2023 Supreme Court decision in *Sackett v. EPA*, 598 U.S., 143 S. Ct. 1322 (2023) ("*Sackett*").

This Memorandum for Record (MFR) constitutes the basis of jurisdiction for a Corps AJD as defined in 33 CFR §331.2. For the purposes of this AJD, we have relied on Section 10 of the Rivers and Harbors Act of 1899 (RHA),[4] the 2023 Rule as amended, as well as other applicable guidance, relevant case law, and longstanding practice in evaluating jurisdiction.

[1] While the Revised Definition of "Waters of the United States"; Conforming had no effect on some categories of waters covered under the CWA, and no effect on any waters covered under RHA, all categories are included in this Memorandum for Record for efficiency.
[2] 33 CFR 331.2.
[3] Regulatory Guidance Letter 05-02.
[4] USACE has authority under both Section 9 and Section 10 of the Rivers and Harbors Act of 1899 but for convenience, in this MFR, jurisdiction under RHA will be referred to as Section 10.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

CELRB TD-R
SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), LRB-2006-00698(4300 Millersport Highway)

1. SUMMARY OF CONCLUSIONS.

   a. Provide a list of each individual feature within the review area and the jurisdictional status of each one (i.e., identify whether each feature is/is not a water of the United States and/or a navigable water of the United States).

      JURISDICTIONAL

      i. LRB 2008-00698 Wetland W1, PFO/PSS 34.84 acres, Section 404
      ii. LRB 2008-00698 Stream 1, Perennial, 1,893 linear feet, Section 404

      NON-JURISDICTIONAL

      iii. LRB 2008-00698 Wetland W2, PEM, 0.05 acres, non-jurisdictional

2. REFERENCES.

   a. "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule")

   b. "Revised Definition of 'Waters of the United States'; Conforming" 88 FR 61964 (September 8, 2023))

   c. *Sackett v. EPA*, 598 U.S. _, 143 S. Ct. 1322 (2023)

3. REVIEW AREA. *The review area consists of approximately 70 acre area located at 4300 Millersport Highway, Town of Amherst, Erie County, New York (43.0561, -78.7284). Figures 1 – 6.*

4. NEAREST TRADITIONAL NAVIGABLE WATER (TNW), THE TERRITORIAL SEAS, OR INTERSTATE WATER TO WHICH THE AQUATIC RESOURCE IS CONNECTED. *The nearest TNW is Tonawanda Creek (Erie Canal) 1.7 miles to the northeast (straight) of the review area.*

5. FLOWPATH FROM THE SUBJECT AQUATIC RESOURCES TO A TNW, THE TERRITORIAL SEAS, OR INTERSTATE WATER. *The jurisdictional aquatic resources below have a continuous surface water connection to an unnamed tributary to Ransom Creek which flows to the South to Ransom Creek then northeast 1.7 miles before entering Tonawanda Creek (Erie Canal), a TNW.*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

6. SECTION 10 JURISDICTIONAL WATERS[5]: Describe aquatic resources or other features within the review area determined to be jurisdictional in accordance with Section 10 of the Rivers and Harbors Act of 1899. Include the size of each aquatic resource or other feature within the review area and how it was determined to be jurisdictional in accordance with Section 10.[6] *N/A*

7. SECTION 404 JURISDICTIONAL WATERS: Describe the aquatic resources within the review area that were found to meet the definition of waters of the United States in accordance with the 2023 Rule as amended, consistent with the Supreme Court's decision in *Sackett*. List each aquatic resource separately, by name, consistent with the naming convention used in section 1, above. Include a rationale for each aquatic resource, supporting that the aquatic resource meets the relevant category of "waters of the United States" in the 2023 Rule as amended. The rationale should also include a written description of, or reference to a map in the administrative record that shows, the lateral limits of jurisdiction for each aquatic resource, including how that limit was determined, and incorporate relevant references used. Include the size of each aquatic resource in acres or linear feet and attach and reference related figures as needed.

   a. Traditional Navigable Waters (TNWs) (a)(1)(i): *N/A*

   b. The Territorial Seas (a)(1)(ii): *N/A*

   c. Interstate Waters (a)(1)(iii): *N/A*

   d. Impoundments (a)(2): *N/A*

   e. Tributaries (a)(3): **LRB 2006-00698 Stream 1** – is a 3-5 foot wide tributary to Ransom Creek with an established bed and banks, ordinary high water mark and is located within hydric soils. According to the delineation report and observations in the field, it was determined Stream 1 has intermittent flow. According to the NYSDEC Environmental Resource mapper, Stream 1 is classified as a Class C Stream to Ransom Creek. The Stream is also shown as an intermittent tributary

[5] 33 CFR 329.9(a) A waterbody which was navigable in its natural or improved state, or which was susceptible of reasonable improvement (as discussed in § 329.8(b) of this part) retains its character as "navigable in law" even though it is not presently used for commerce, or is presently incapable of such use because of changed conditions or the presence of obstructions.
[6] This MFR is not to be used to make a report of findings to support a determination that the water is a navigable water of the United States. The district must follow the procedures outlined in 33 CFR part 329.14 to make a determination that water is a navigable water of the United States subject to Section 10 of the RHA.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

to Ransom Creek on the USGS Topo Map. In addition, this observation in the field is consistent with what was reviewed and confirmed after an in-house review of the USFWS NWI map, the USGS Topo (Clarence Center Quad), aerial imagery and USDA/NRCS Soils Survey. Therefore, Stream 1 is an A(3) water as it is a permanent flowing water that is a tributary to an A(1) water, Tonawanda Creek/Erie Canal.

f. Adjacent Wetlands (a)(4): LRB 2006-00698 Wetland 1 is a delineated 34.84 acre (on-site) wetland consisting of Palustrine forested, scrub-shrub and emergent types that extends off-site to the north, west and south. Shown in the delineation report and observations in the field, it was confirmed Wetland 1 directly abuts Stream 1, an unnamed tributary to Ransom Creek which eventually makes it way to Tonawanda Creek (Erie Canal). A review the USDA/NRCS Web Soil Survey indicates mapped hydric soils underlay both the delineated wetland and abutting tributary. Based on a review of the submitted delineation report, an in-office resource review, and the site visit, it has been determined that LRB-2006-00698 Wetland 1 has a continuous surface connection to another water of the United States, and ultimately contributing flow to Erie Canal, a Section 10 Navigable Waterway and a Traditional Navigable Waterway.

g. Additional Waters (a)(5): *N/A*

8. NON-JURISDICTIONAL AQUATIC RESOURCES AND FEATURES

a. Describe aquatic resources and other features within the review area identified in the 2023 Rule as amended as not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5). Include the type of excluded aquatic resource or feature, the size of the aquatic resource or feature within the review area and describe how it was determined to meet one of the exclusions listed in 33 CFR 328.3(b).[7] *N/A*

b. Describe aquatic resources and features within the review area that were determined to be non-jurisdictional because they do not meet one or more categories of waters of the United States under the 2023 Rule as amended (e.g., tributaries that are non-relatively permanent waters; non-tidal wetlands that do not have a continuous surface connection to a jurisdictional water).

LRB 2006-00698 Wetland 2 – is a 0.05 acre PEM wetland, functioning as a depressional feature located within the review area. Wetland 2 has a closed

[7] 88 FR 3004 (January 18, 2023)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

boundary and no connectivity to a relatively permanent water. Wetland 2 was determined to be a depressional, low spot in the landscape. During the site visit, the entire boundary of Wetland 2 was walked and no evidence of a surface connection could be found to Stream 1, which is located 150 feet to the west. There was no evidence of a berm or similar natural or manmade feature separating Wetland 2 from Stream 1. The USFWS NWI map and the NYSDEC Environmental Resource Mapper do not indicate any wetlands or watercourse at the location of Wetland 2. In addition, the USGS topographic map (Clarence Center) does not show any waters at the location of Wetland 2. Based on the above information, it has been determined that Wetland 2 lacks a continuous surface connection to any other water of the United States or relative permanent water, does not abut another water of the U.S.; is not connected to another water of the U.S. by a discrete feature like a non-jurisdictional ditch, swale, pipe, or culvert; and is not separated from another water of the U.S. by a berm or barrier) and has been determined not to be waters of the United States.

9. DATA SOURCES. List sources of data/information used in making determination. Include titles and dates of sources used and ensure that information referenced is available in the administrative record.

   a. *Corps of Engineers site visit conducted September 20, 2023; In-house review completed November 28, 2023*

   b. *Delineation report titled 4300 Millersport Highway prepared for Cimato Enterprises, Inc. by Earth Dimensions, Inc dated July 5, 2023*

   c. *Aerial Imagery evaluated: Connect Explorer - https://explorer.eagleview.com/; oblique images dated 15 April 2013, 24 April 2016, 25 April 2020. Google Earth October 2020, May 2022, May 2023*

   d. *National wetlands inventory map(s): https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper and included in the delineation report; assessed November 28, 2023.*

   e. *U.S. Geological Survey map(s). Cite scale & quad name: https://ngmdb.usgs.gov/topoview/viewer/ - USGS Quad: f=Fairport-NY, dated 2023, scale 1:24000; accessed November 28, 2023*

   f. *NRCS/USDA soil survey: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx - accessed November 28, 2023.*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

CELRB TD-R
SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), LRB-2006-00698(4300 Millersport Highway)

10. OTHER SUPPORTING INFORMATION: A Preliminary Jurisdictional determination was issued for the site on January 17, 2019.

11. NOTE: The structure and format of this MFR were developed in coordination with the EPA and Department of the Army. The MFR's structure and format may be subject to future modification or may be rescinded as needed to implement additional guidance from the agencies; however, the approved jurisdictional determination described herein is a final agency action.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX N

WASTEWATER PUMP STATION DESIGN

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Proposed Project Design Basis

Average Daily Flows	
PHASE 1	
Patio Homes - 38 homes	
Bedrooms per home =	*2*
*Total number of bedroom (2*38) =*	*76*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow (76*110) =	***8,360 gpd***
Four Unit Town Homes – 7 buildings	
Bedrooms per unit =	*2*
*Total number of bedrooms (7 * 4 *2) =*	*56*
Flow rate per Bedroom =	*110 gpd*
Average Daily Flow (56 *110) =	***6,160 gpd***
Two Unit Town Homes - 6 buildings	
Bedrooms per unit =	*2*
*Total number of bedrooms = (6 *2 *2)*	*24*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow = (24 *110)	***2,640 gpd***
PHASE 2	
MIXED USE BUILDING #1 – 11,000 sf footprint	
First floor commercial space – 11,000 sf	
Average daily flow = (0.1 gpd * 11,000 sf)	***1,100 gpd***
Employees =	*28*
Average daily flow = (15 gpd * 28)	***420 gpd***
Second Floor apartments =	*11*
Bedrooms per apartment =	*2*
*Total number of bedrooms = (11*2)*	*22*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow = (22 *110)	***2,420 gpd***
Third Floor apartments =	*11*
Bedrooms per apartment =	*2*
Total number of bedrooms =	*22*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow = (11* 110)	***2,420 gpd***

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

PHASE 3	
MIXED USE BUILDING #2 – 11,000 sf footprint	
First floor commercial space – 11,000 sf	
Average daily flow = (0.1 gpd * 11,000 sf)	***1,100 gpd***
Employees =	*28*
Average daily flow = (15 gpd * 28)	***420 gpd***
Second Floor apartments =	*11*
Bedrooms per apartment =	*2*
*Total number of bedrooms = (11*2)*	*22*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow = (22 *110)	***2,420 gpd***
Third Floor apartments =	*11*
Bedrooms per apartment =	*2*
Total number of bedrooms =	*22*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow = (11* 110)	***2,420 gpd***

TOTAL AVERAGE DAILY FLOW (Phases 1 thru 3)	***29,880 GPD***
Peak Daily flow	
Population (P) =	*299 people*
P = Population / 1,000 = 299 / 1,000	*0.299*
Peak Factor = Qmax/ Qavg = (18+(P)^1/2) / (4+(P)^1/2)	*4.079*
Peak Daily Flow = Avg. Daily Flow X Peak Factor	***121,880 gpd*** ***84.6 gpm (over 24 hours)***

FUTURE PHASE ESTIMATED DAILY FLOW	***7,000 GPD***
TOTAL AVERAGE DAILY FLOW (All Phases)	***36,880 GPD***
Peak Daily flow	
Population (P) =	*369 people*
P = Population / 1,000 = 369 / 1,000	*0.369*
Peak Factor = Qmax/ Qavg = (18+(P)^1/2) / (4+(P)^1/2)	*4.04*
Peak Daily Flow = Avg. Daily Flow X Peak Factor	***148,995 gpd*** ***103.4 gpm (over 24 hours)***

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Min wet well size = $\sqrt{0.51\ (\text{peak gpm})}$

$= \sqrt{0.51\ (103.4)}$

$= 7.26$ ft, 10 ft Ø propos

10 ft diameter → $78.53\ ft^2$

$= 78.53\ ft^3$ per ft. of depth

$78.53 * 7.481\ gal/ft^3$

$= 587.5\ gal/ft.$

Min. wet well volume = 3 x peak flow

= 3 x 103.4 gpm

= 310.2 gallons

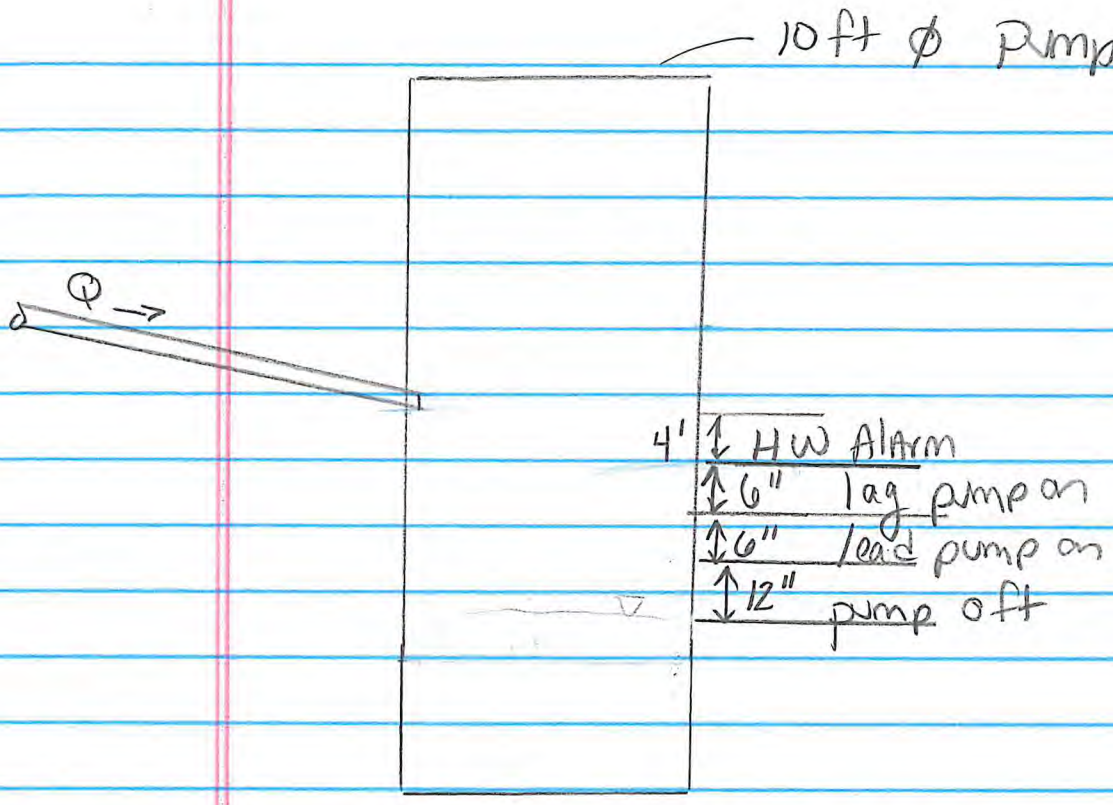
Min. pump cycle = 310.2 gallons

= 310.2 gallons / 587.5 gal/ft

= 0.528 ft

= 6.3 inches

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



* Proposed pump rate = 200 gpm

At Avg. daily flow = 36,850 gpd (25.61 gpm)

Pump cycle time: 12" fill depth to lead pump

∴ 587.5 gal

$587.5 / 25.61$ = 22.94 min fill time

$587.5 / 200\ gpm$ = 2.93 min pump time

22.94 | 2.93 | 22.94 | 2.94

One full cycle = 25.87

pump starts per hour = 2.3

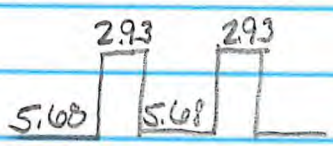
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

At peak flow = 148,995 gpd (103.4 gpm)

cycle time : 12" fill depth to lead pump on
∴ 587.5 gal

587.5 / 103.4 = 5.68 min fill time

587.5 / 200 = 2.93 min pump time



One full cycle = 8.61 min
pump starts per hour = 6.96
≈ 7 starts per

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

PENTAIR

Customer :
Project name :

Pump Performance Datasheet

Encompass 2.0 - 22.0.0

Item number	Default	Size	Myers 4RH/4RHX-M2
Service		Stages	1
Quantity	1	Based on curve number	SUB_S_V_AH_00096_C_2 Rev
Quote number		Date last saved	2012-06-23
			08 Apr 2022 7:50 AM

Operating Conditions

Flow, rated	: 200.0 USgpm
Differential head / pressure, rated (requested)	: 75.00 ft
Differential head / pressure, rated (actual)	: 81.78 ft
Suction pressure, rated / max	: 0.00 / 0.00 psi.g
NPSH available, rated	: Ample
Site Supply Frequency	: 60 Hz

Performance

Speed criteria	: Synchronous
Speed, rated	: 3500 rpm
Impeller diameter, rated	: 6.00 in
Impeller diameter, maximum	: 6.25 in
Impeller diameter, minimum	: 4.75 in
Efficiency	: 27.92 %
NPSH required / margin required	: - / 0.00 ft
nq (imp. eye flow) / S (imp. eye flow)	: 60 / - Metric units
Minimum Continuous Stable Flow	: -
Head, maximum, rated diameter	: 112.9 ft
Head rise to shutoff	: 50.49 %
Flow, best eff. point	: 313.2 USgpm
Flow ratio, rated / BEP	: 63.86 %
Diameter ratio (rated / max)	: 96.00 %
Head ratio (rated dia / max dia)	: 80.00 %
Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00
Selection status	: Acceptable

Liquid

Liquid type	: Water
Additional liquid description	:
Solids diameter, max	: 0.00 in
Solids diameter limit	: 3.00 in
Solids concentration, by volume	: 0.00 %
Temperature, max	: 68.00 deg F
Fluid density, rated / max	: 1.000 / 1.000 SG
Viscosity, rated	: 1.00 cP
Vapor pressure, rated	: 0.34 psi.a

Material

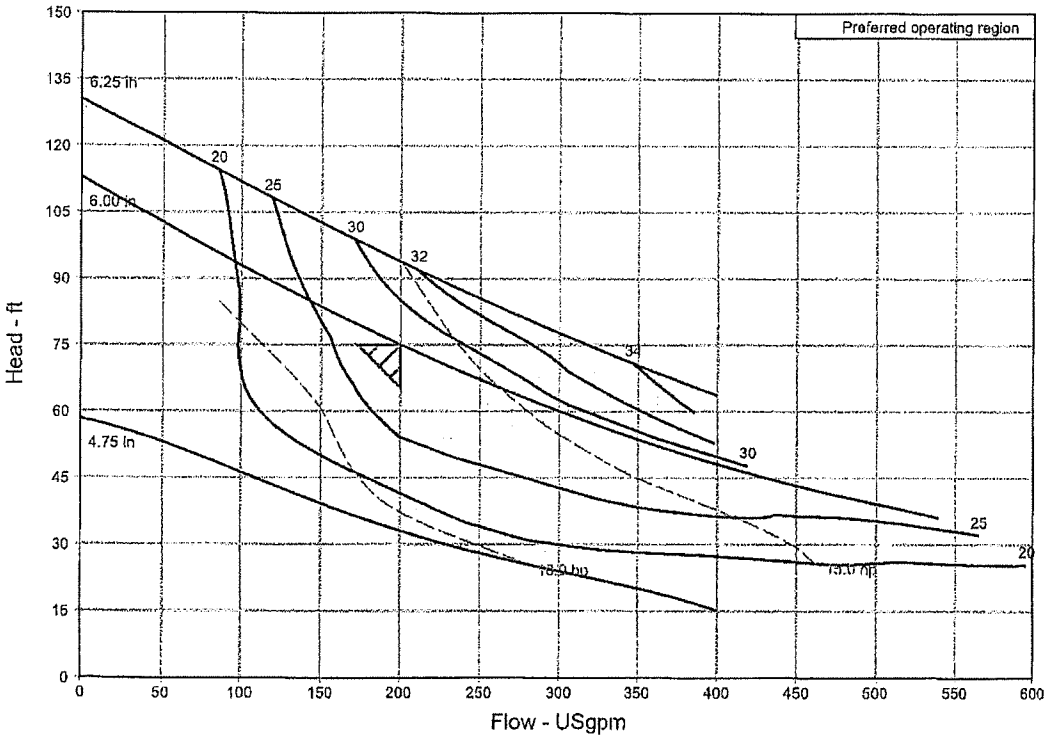
Material selected	: Standard

Pressure Data

Maximum working pressure	: 48.86 psi.g
Maximum allowable working pressure	: N/A
Maximum allowable suction pressure	: N/A
Hydrostatic test pressure	: N/A

Driver & Power Data (@Max density)

Driver sizing specification	: Maximum power
Margin over specification	: 0.00 %
Service factor	: 1.00
Power, hydraulic	: 3.79 hp
Power, rated	: 13.57 hp
Power, maximum, rated diameter	: 17.98 hp
Minimum recommended motor rating	: 20.00 hp / 14.91 kW



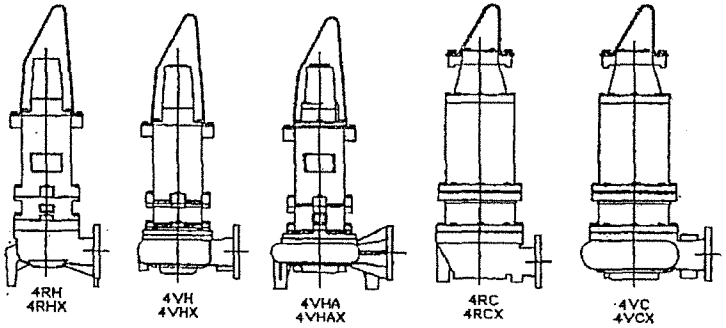
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

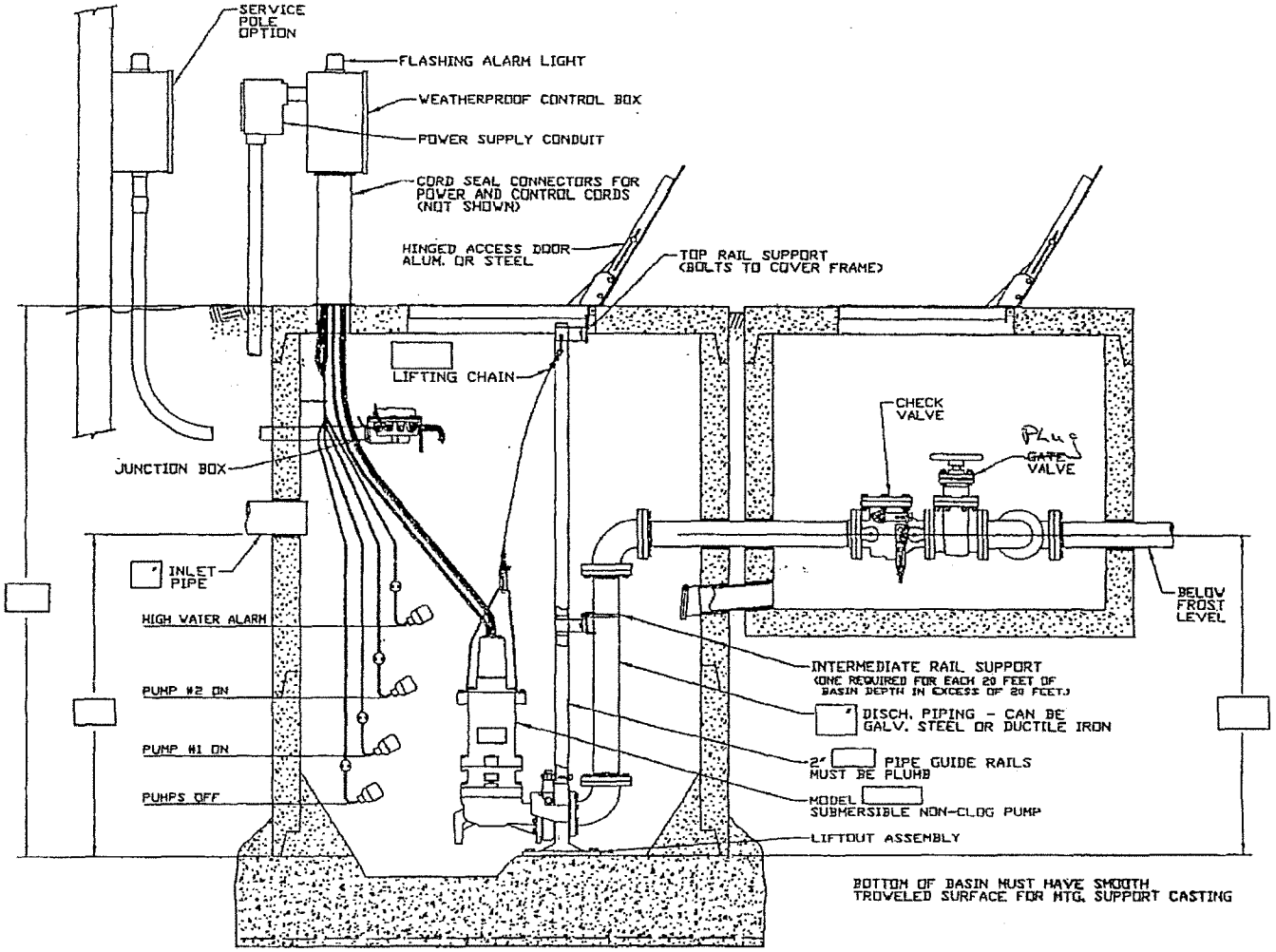
TYPICAL INSTALLATION

DUPLEX 4" SUBMERSIBLE NON-CLOG

PUMP SERIES: 4RH(X), 4VH(X), 4VHA(X), 4RC(X), 4VC(X)

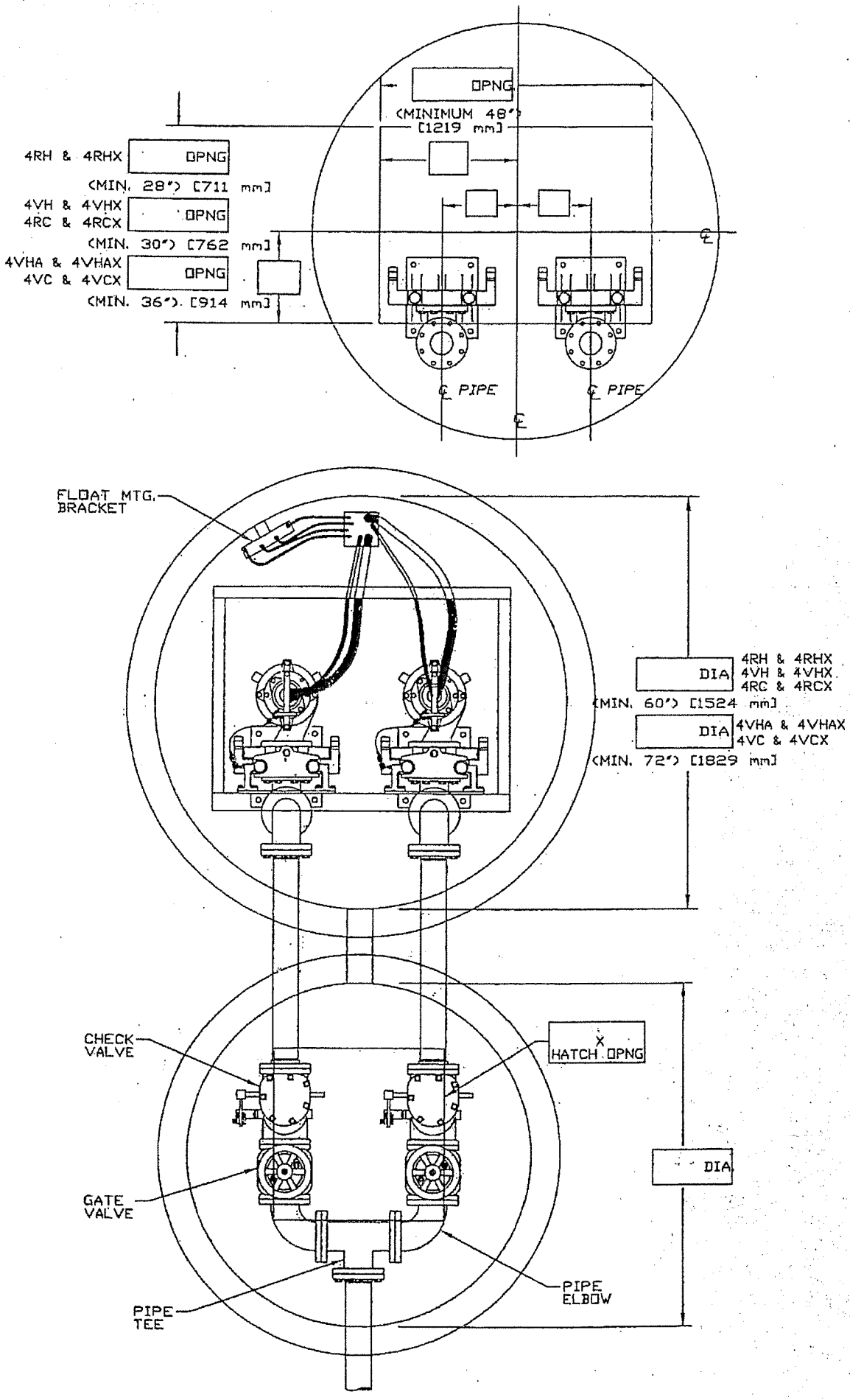
LIFT OUT MODELS: SRA-44
SRAX-44





ES-2230B 31MAY01 SE

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

private pump station

HAZEN WILLIAMS FORMULA - PRESSURE FLOW IN PIPES

ENTER PIPE DIA.(IN.)	4		Rh =	0.083333333	FT
AREA (FT^2)	0.087				
ENTER "C"	110		V =	2.63989916	FT/S
ENTER DEMAND (GPM)	103.4	0.23	CFS		
EQUIV. PIPE LENGTH (FT)	600				

ENTER ELEVATION AT DISCHARGE POINT FROM VALVE PIT	571
ENTER PUMP OFF ELEVATION	557.25
ELEVATION DIFFERENCE	13.75

FLOW RATE (gpm)	STATIC HEAD (ft)	FRICTION HEAD (ft)	VELOCITY (ft/sec)	VELOCITY HEAD (ft)	TOTAL DESIGN HEAD (ft)
0	13.75	0.000	0.000	0.000	13.750
10	13.75	0.087	0.255	0.001	13.838
30	13.75	0.666	0.766	0.009	14.425
50	13.75	1.714	1.277	0.025	15.489
80	13.75	4.089	2.043	0.065	17.904
90	13.75	5.085	2.299	0.082	18.917
103.5	13.75	6.586	2.644	0.109	20.444
120	13.75	8.658	3.065	0.146	22.554
130	13.75	10.040	3.321	0.171	23.962
140	13.75	11.516	3.576	0.199	25.464
150	13.75	13.083	3.831	0.228	27.061
160	13.75	14.743	4.087	0.259	28.752
170	13.75	16.492	4.342	0.293	30.535
180	13.75	18.332	4.598	0.328	32.410
190	13.75	20.260	4.853	0.366	34.376
200	13.75	22.277	5.108	0.405	36.432
210	13.75	24.381	5.364	0.447	38.578
220	13.75	26.573	5.619	0.490	40.813
225.3	13.75	27.769	5.755	0.514	42.033
300	13.75	47.166	7.663	0.912	61.828

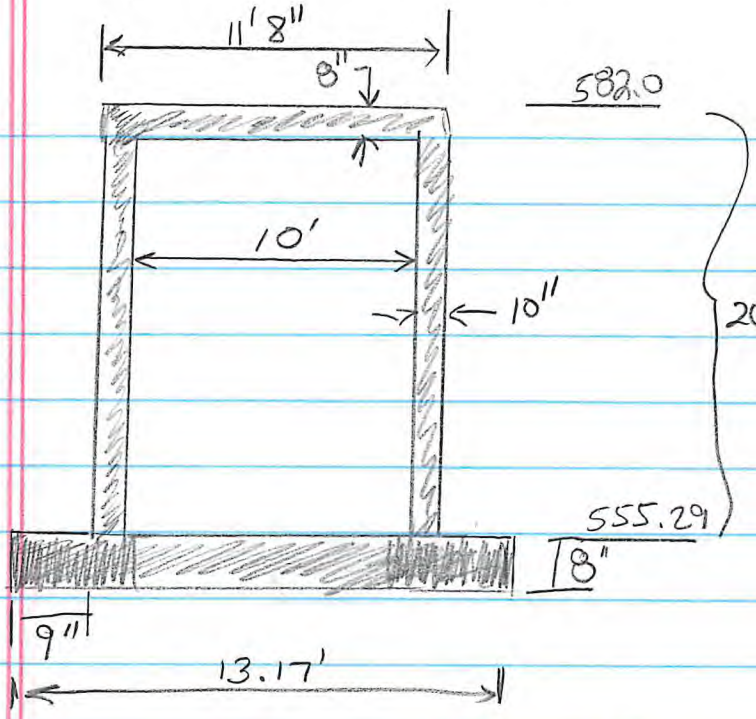
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX O

BUOYANCY CALCULATIONS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Private Pump Station



Densities
water - 62.428 lbs/cf
concrete - 145 lbs/cf
sandy silt - 81.15 lbs/cf

Concrete volume (minus 9" keyway)

top + bottom

$$\left[\frac{(11.67^2)\pi}{4} - \frac{(10^2)\pi}{4}\right](26.71) + \frac{(10^2)\pi}{4} * (0.67) * 2$$

$$= (760.17 + 105.24) * 145 \text{ lbs/cf}$$

$$= 125,484.9 \text{ lbs} \downarrow$$

Concrete volume of keyway

$$\left[\frac{(13.17^2)\pi}{4} - \frac{(11.67^2)\pi}{4}\right] * \frac{9}{12}$$

$$= 29.27(0.75) = 21.95 \text{ cf} * 145$$

$$= 3183 \text{ lbs} \downarrow$$

Soil Volume on keyway

$$\left[\frac{(13.17^2)\pi}{4} - \frac{(11.67^2)\pi}{4}\right] 26.71 \text{ ft}$$

$$= 781.80 \text{ cf} * 81.15$$

$$= 63,443 \text{ lbs} \downarrow$$

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Total weight in downward direction:

$125,484.9 + 3183 + 63,443$

$= 192,110.9$ lbs ↓

Buoyant Force (Minus 9" Keyway)

$= \frac{(11.67)^2 \pi}{4} * 24.71'$

$= 106.96 * 24.71 = 2850.90\ ft^3 * 62.428$ lbs/cf

$= 178,350.5$ lbs ↑

Buoyant Force on Key way

$\left[\frac{(13.17^2)\pi}{4} - \frac{(11.67^2)\pi}{4}\right]\left(\frac{9''}{12}\right)$

$29.27(0.75) = 21.95$ cf $* 62.428$

$= 1370.25$ lbs ↑

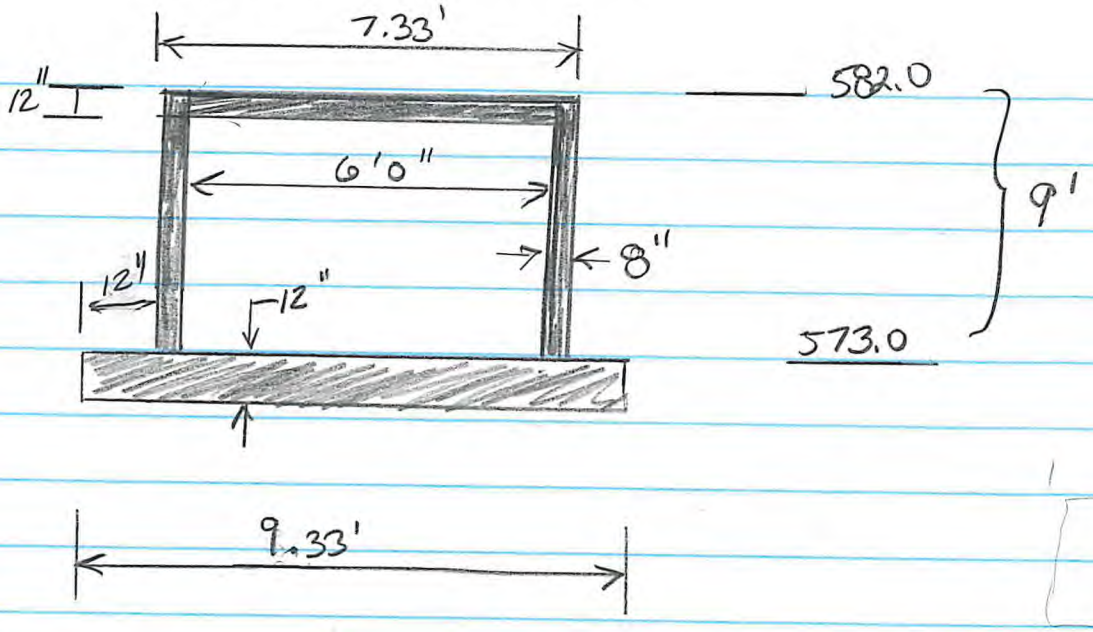
Total Buoyant Force

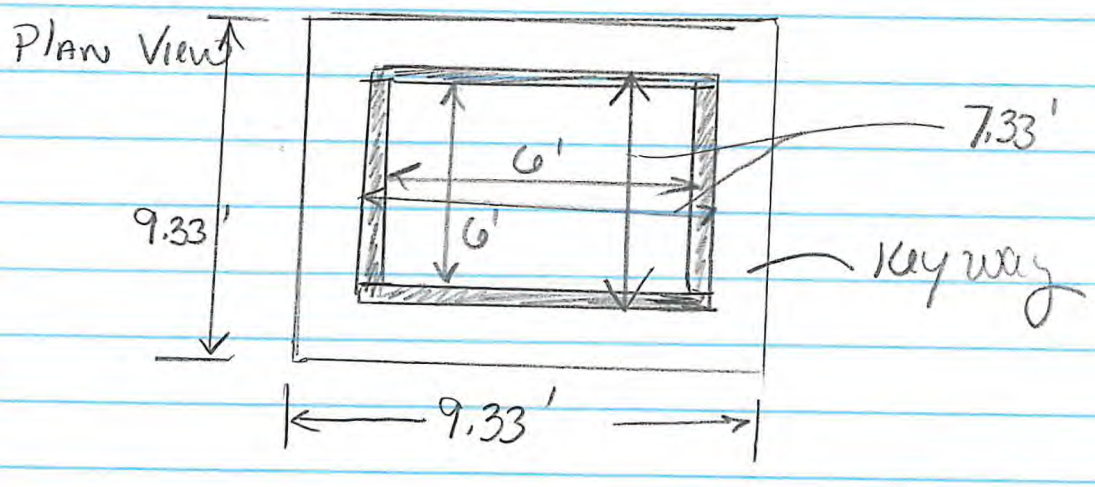
$178,350.5 + 1370.29 = 179,720.79$ lbs ↑

$192,110.9$ lbs ↓ $> 179,720.79$ lbs ↑

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Private Valve Pit





Concrete Volume minus keyway

$[(7.33' * 9') 2\text{ sides} + (6' * 9') 2\text{ sides}] 8" + [7.33^2 * 2]\ 12"$ (top + bottom slabs)

$= 160.75 ft^3 + 107.45\ ft^3$

$= 268.2 ft^3 * 145\ lbs/ft^3$

$= 38,889\ lbs$ ↓

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Concrete Volume of Keyway

$(9.33^2 - 7.33^2) * 12''$

$= 33.32 \text{ cf} * 145 \text{ lbs/cf}$

$= 4831.4 \text{ lbs} \downarrow$

Soil Volume on Keyway

$= (9.33^2 - 7.33^2)\ 9'$

$= 299.88 \text{ cf} * 81.15 \text{ lbs/cf}$

$= 24,335.26 \text{ lbs} \downarrow$

Total weight in downward direction:

$38,889 \text{ lbs} + 4831.4 \text{ lbs} + 24,335.26 \text{ lbs}$

$= 68,055.66 \text{ lbs} \downarrow$

Buoyant Force (minus Keyway)

$(7.33)^2 * 9'$

$= 483.56 \text{ cf} * 62.428 \text{ lbs/cf}$

$= 30,187.68 \text{ lbs} \uparrow$

Buoyant Force on Keyway

$((9.33^2) - (7.33)^2)(12'')$

$= 33.32 \text{ cf} * 62.428 \text{ lbs/cf}$

$= 2080.10 \text{ lbs} \uparrow$

Total Buoyant Force $= 30,187.68 + 2080.10$

$= 32,267.78 \text{ lbs} \uparrow$

$68,055.66 \text{ lbs} \downarrow > 32,267.78 \text{ lbs} \uparrow$

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX P

JM DAVIDSON MEMORANDUM

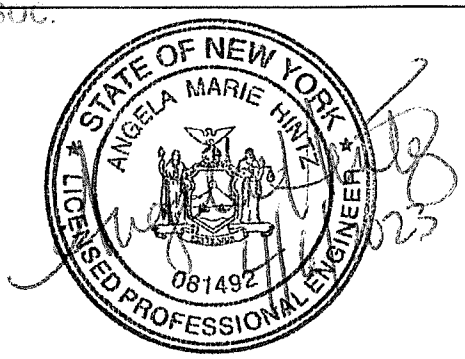
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

JM Davidson Engineering, D.P.C.

935 Sheridan Drive, Suite 120
Tonawanda, New York 14150
Phone: 716.453.1646

APR 10 2023

WM. SCHUTT & ASSOC.



Technical Memorandum

To: Town of Amherst

From: JM Davidson Engineering, D.P.C.

Date: March 31, 2023

Subject: 4300 Millersport Development Project
Sanitary Sewer Pump Station and Force Main Design

WM Schutt Associates (Schutt) contracted with JM Davidson Engineering, DPC (JMD), to develop a third-party engineer's report to include relevant calculations and findings to determine if the proposed sanitary wastewater pumping station proposed for the 4300 Millersport Development will function as intended (based on hydraulic calculations) and not create operational burdens or negative impacts on the existing Dockside Pump Station and force main. The third-party report was requested by the Town Engineering Office's correspondence with their Planning Department, dated February 10, 2023. This technical memorandum provides the requested information.

Background

Cimato Enterprises, LLC, proposed a new development consisting of townhomes and patio homes at 4300 Millersport Highway in the Town of Amherst. Cimato subsequently contracted with Schutt to design sanitary sewers and water lines to service the new development.

The site (4300 Millersport Highway) is located on Millersport Highway in Amherst, between New Road and Smith Road. As designed, gravity sewers would collect sanitary sewage from the development and convey flow to a new pumping station located on the development property (4300 Millersport Pump Station). This pump station would consist of two submersible pumps that would convey flows from the wet well through a 4-inch force main into the existing Dockside Pump Station force main, which runs south along the east side of Millersport Highway.

In this portion of East Amherst, existing sanitary sewer service is provided to the northeast of the 4300 Millersport site. Flows from the sewered area are tributary to the Dockside Pump Station, which is located approximately 3,700 feet north of where the 4300 Millersport force main is proposed to tie into the Dockside force main (refer to Figure 1). The Dockside force main is 10-inches in diameter and runs approximately 8,835 linear feet south along the east right-of-way on Millersport Highway, where it discharges to a gravity sewer manhole located on the Southeast corner of Millersport Highway and Hopkins Road intersection.

Report Objectives

Objectives of this memo include:

- Determining the effect of the proposed 4300 Millersport Pump Station on the Dockside Pump Station pumping capacity.
- Determining the pressure within the Dockside force main that the 4300 Millersport Pump Station will have to overcome, which affects the sizing and operating point of the 4300 Millersport pumps.
- Verifying the size of the 4300 Millersport pumps.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

- Confirming that operating velocities within the force mains are still maintained within 2 and 10 feet per second in accordance with the "Recommended Standards for Wastewater Facilities, 2014", commonly known as Ten States' Standards.

Information Reviewed

Schutt provided JMD with the following information to complete the evaluation:

- Pump curves for both the existing Dockside Pump Station and the proposed 4300 Millersport Pump Station.
- Pumping data for the Dockside Pump Station, including total gallons pumped for six days in 2022 (Feb. 17, Mar. 7, Apr. 26, Jun. 9, Jun. 25, Jul. 4, and Aug. 3)
- Town of Amherst's Engineering Department's responses to Town Planning Department submittal of the proposed development, dated February 10, 2023.
- Proposed Project Design Basis, indicating basis of design for flows tributary to the proposed 4300 Millersport Development
- Drawings SW2, SW5, and SS4, dated February 2, 2023, from the 4300 Millersport Development drawings, prepared by Schutt.
- Record Drawings, submitted May 2, 2004, and prepared by Pratt & Huth Associates, LLP, for the Dockside Village Pump Station and Force Main.

Dockside Pump Station

The existing Dockside Pump Station consists of an 8,835 linear-foot, 10-inch diameter polyvinyl chloride (PVC) force main that runs south along the eastern right-of-way of Millersport Highway to a discharge manhole at the corner of Millersport Highway and Hopkins Road. The Town has indicated that no surcharging occurs at this manhole; therefore, the force main is assumed to have a free discharge into the manhole.

Two Model T61-B-4, 1350 rpm, 30 hp Gorman Rupp Pumps are provided with draw suction from a 10-ft diameter wet well. The pumps are designed to alternate operation, with one in operation at a time and the other serving as a standby. Flow data provided by the Town for select days in 2022 indicated that the pump station conveyed a range of 91,425 gpd to 349,100 gpd for the dates monitored, which corresponded to operating approximately 8% to 29% of the day, using a peak flow rate of 833 gpm, noted by Town staff as the peak flow.

JMD developed calculations for the Dockside Pump Station and force main (Attachment 1), under current conditions (i.e., operating alone) to confirm pump sizing. The calculations indicated a pump operating point of 850 gpm at 64 ft TDH, which is within 2% of the noted 833 gpm maximum flow, suggesting that the assumptions used in calculating headlosses through the force main are representative of actual conditions. Velocities within the force main at this flow range were also adequate, falling in the 2 to 10 fps range indicated in Ten States' Standards as being acceptable.

It was also noted that the original design drawing for the Dockside Pump Station showed that the original design capacity of the Dockside pumps was 750 gpm, so the actual pumps currently have more capacity than originally designed.

4300 Millersport Pump Station

Based on information provided by Schutt, the proposed development would be implemented in 3 phases with average daily flows as follows:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

- Phase 1 - 17,160 gallons per day (gpd)
- Phase 2 – 6,360 gpd
- Phase 3 – 6,360 gpd
- Total – 29,880 gpd
- Future phase – 7,000 gpm
- Total Average Daily Flow for all phases – 36,880 gpd (or 25.6 gpm if spread over 24 hours)

A peaking factor of 4.04 was applied to the average daily flow, based on a served population of 369, in accordance with Ten States' Standards, yielding a projected ultimate peak flow of 148,995 gpd (or 103.4 gpm if spread over 24 hours).

The pumps proposed for this Station are Myers 4RH 20 hp, 3-phase submersible pumps with a preliminary design point of 200 gpm at 75 ft TDH.

Therefore, a flow of 200 gpm was added onto the flows from the Dockside Pump Station at the connection point with the 4300 Millersport force main to account for additional headlosses associated with the additional flow for approximately 5,140 feet of force main length. This additional headloss led to a new design point of 775 gpm at 65-ft TDH (Attachment 2), which is still greater than the original design point of 750 gpm for the Dockside Pumps.

A backpressure of 53 psi of pressure on the 4300 Millersport force main by the Dockside Pump Station at the connection point was calculated. This backpressure was then applied to the 4300 Millersport calculations to yield a revised operating point of 175 gpm at 80-ft TDH for the 4300 Millersport pumps (Attachment 3). This revised design point is capable of being achieved using the Myers pumps initially proposed by Schutt.

Conclusions

The following was concluded from this evaluation:

- Current Dockside pumping capacity of 833 gpm was confirmed with the calculations showing a design point of 850 gpm at 64-ft TDH.
- Dockside flow combined with up to 200 gpm flow from the 4300 Millersport Pump Station dropped the Dockside Pump Station flow to 775 gpm at 68-ft TDH. While less than the 833 gpm maximum observed by the Town of Amherst, note that the capacity is still greater than the 750 gpm pumping capacity that the station was originally designed for. This will result in the Dockside Pump Station running up to 10% more time per day than it is currently.
- The 4300 Millersport Pump Station was originally envisioned with a design point of 200 gpm at 75-ft TDH. When facing the backpressure associated with the Dockside Pump Station, the capacity decreases to 175 gpm, with a total discharge head of 80-ft. This point falls on the proposed pump curve, so the pumps chosen by Schutt will work for this application.

While design points for both pump stations have shifted slightly, it is expected that no adverse effects will be created with the installation of the 4300 Millersport Pump Station, as currently proposed and described in this memo, and using the horizontal and vertical alignments and pipe materials as indicated in the drawings.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

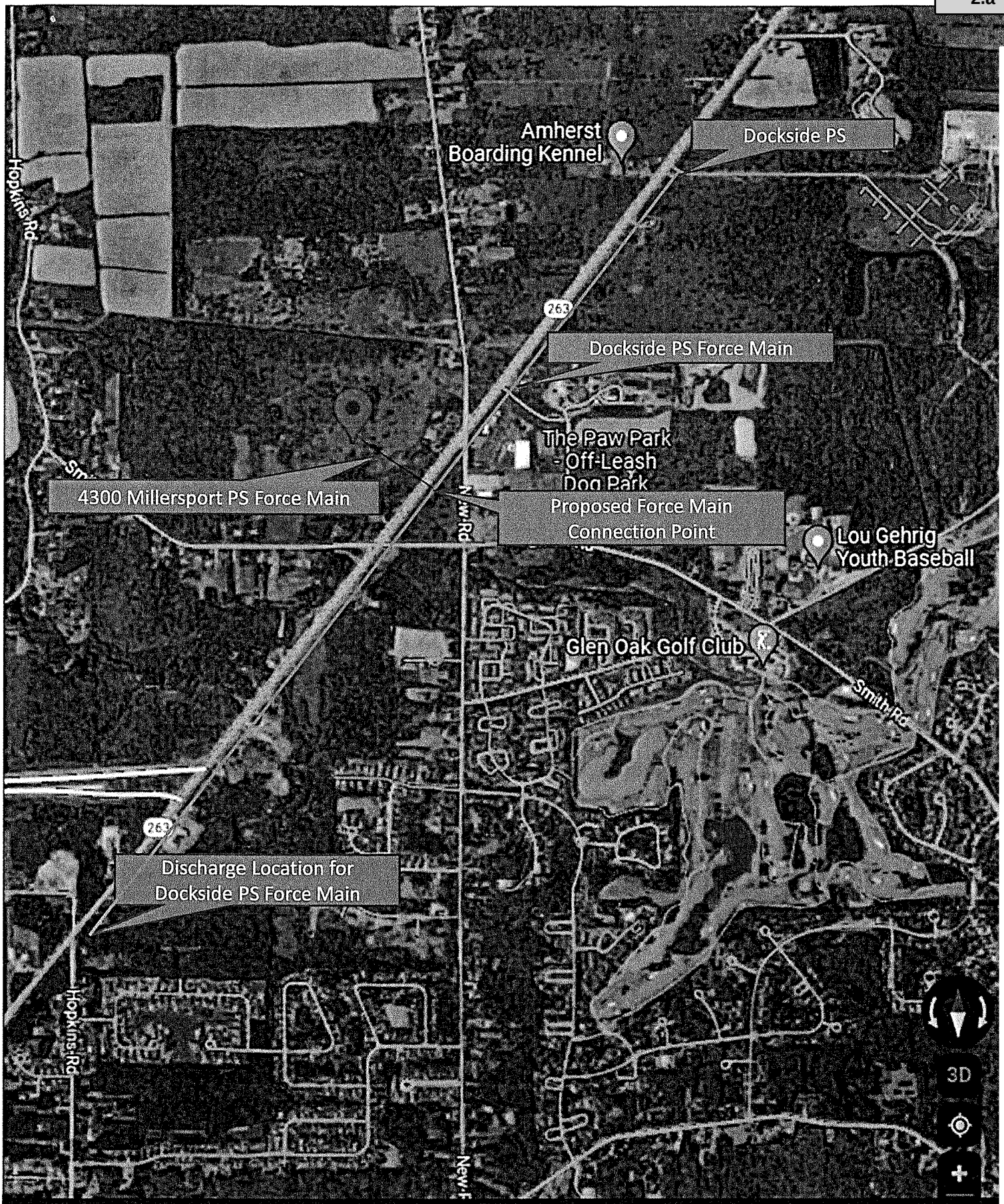


FIGURE 1

JMDavidson
Engineering, D.P.C.

PROJECT LOCATION MAP

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Attachment 1

Dockside Pump Station Calculations and Curves

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SYSTEM HEAD CURVE DETERMINATION

TOWN OF AMHERST/ WM. SCHUTT ASSOCIATES
4300 MILLERSPORT HIGHWAY
JMD Project No. 342301 - calculations for Dockside PS to confirm pump capacity.

JM Davidson Engineering, D.P.C.

The following formulas and assumptions were used in the calculations contained in this spreadsheet:

1. Pump operation scenarios: From Dockside Pump Station to Discharge Point at manhole at corner of Hopkins and Millersport.

2. Information on pumps, force main alignment and proposed flows provided by Wm Schutt on 3/9/2023. One pump operates at a time, with the second pump operating as a standby.

3. Piping head loss calculations use Hazen-Williams Formula for Water
   h=[(4.73*Q^1.85)*L]/(C^1.85*D^4.87) where: h = Head Loss
   Q = Flow (cfs)
   C = Roughness Coefficient
   D = Pipe Diameter (ft.)
   L = Pipe Length (ft.)

4. Fitting, entrance, and exit head loss calculations for water:
   h=KV^2/2g where: h = Head Loss
   K = Resistance Coefficient
   V = Flow Velocity (Q/A)
   g = Gravity (32.2 ft/sec^2)

K-values were obtained from "Cameron Hydraulic Data Handbook, 18th Edition" (1998) by Ingersoll-Dresser Pumps
For reducers, velocity of smaller end is used and for increasers the difference between the small and large end square velocities is used .
For tees with different inlet and outlet diameters, velocity in smaller diameter pipe is used.

A. HEAD LOSS OF SUCTION WELL TO PUMP (WET PIT SUBMERSIBLE)

Pipe assumed to be unlined ductile iron pipe per Pump Station Note No. 6

Fitting	No.	Inlet Dia.	Outlet Dia,	Length ft	C	K	(GPM) 0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Entrance Loss	1	-	10	-	-	0.50	0.00	0.00	0.01	0.01	0.02	0.03	0.05	0.06	0.08	0.10	0.13	0.16	0.19	0.22	0.25
Reducer	1	10	6	2	-	0.084	0.00	0.00	0.01	0.02	0.03	0.04	0.06	0.08	0.11	0.14	0.17	0.20	0.24	0.28	0.33
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
45 deg bend	1	-	6	-	-	0.24	0.00	0.00	0.02	0.04	0.08	0.12	0.17	0.24	0.31	0.39	0.48	0.58	0.69	0.81	0.94
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
Wye, thru	1	-	6	-	-	0.30	0.00	0.01	0.02	0.05	0.10	0.15	0.22	0.29	0.38	0.49	0.60	0.73	0.86	1.01	1.18
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
45 deg bend	1	-	6	-	-	0.24	0.00	0.00	0.02	0.04	0.08	0.12	0.17	0.24	0.31	0.39	0.48	0.58	0.69	0.81	0.94
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
Gate Valve	1	-	6	-	-	0.12	0.00	0.00	0.01	0.02	0.04	0.06	0.09	0.12	0.15	0.19	0.24	0.29	0.35	0.41	0.47
Pump																					
						Subtotal:	**0.00**	**0.06**	**0.23**	**0.50**	**0.87**	**1.33**	**1.89**	**2.54**	**3.27**	**4.10**	**5.01**	**6.02**	**7.11**	**8.28**	**9.54**

Dockside System Curve (C=140)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

B. HEAD LOSS CALCULATION FOR 4-INCH DISCHARGE FORCE MAIN FROM PUMP TO DOCKSIDE FORCE MAIN DISCHARGE POINT (DOCKSIDE OPERATING ALONE)

Fitting	No.	Inlet Dia.*	Outlet Dia,*	Length ft	C	K	(GPM) 0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Check Valve	1	-	6	-	-	1.50	0.00	0.03	0.12	0.27	0.48	0.75	1.08	1.47	1.92	2.43	3.00	3.63	4.32	5.07	5.88
90 deg bend	1	-	6	-	-	0.45	0.00	0.01	0.04	0.08	0.14	0.22	0.32	0.44	0.58	0.73	0.90	1.09	1.30	1.52	1.76
Piping Friction (FRP)	-	-	6	6	140	-	0.00	0.01	0.02	0.04	0.07	0.11	0.15	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73
Plug Valve (3-way)	1	-	6	-	-	0.45	0.00	0.01	0.04	0.08	0.14	0.22	0.32	0.44	0.58	0.73	0.90	1.09	1.30	1.52	1.76
Piping Friction (FRP)	-	-	6	6	140	-	0.00	0.01	0.02	0.04	0.07	0.11	0.15	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73
45 deg bend	2	-	4	-	-	0.24	0.00	0.05	0.19	0.44	0.78	1.21	1.75	2.38	3.11	3.94	4.86	5.88	7.00	8.21	9.52
Piping Friction (FRP)	-	-	6	6	140	-	0.00	0.01	0.02	0.04	0.07	0.11	0.15	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73
Increaser	1	6	10	2	-	0.175	0.00	0.00	0.01	0.03	0.05	0.08	0.11	0.15	0.19	0.25	0.30	0.37	0.44	0.51	0.60
Piping Friction (PVC) to connection	-	-	10	3696	140	-	0.00	0.28	1.02	2.16	3.68	5.55	7.78	10.35	13.25	16.48	20.02	23.89	28.06	32.54	37.32
Piping Friction (PVC) to discharge	-	-	10	5139	140	-	0.00	0.39	1.42	3.00	5.11	7.72	10.82	14.39	18.43	22.91	27.84	33.21	39.01	45.24	51.89
Pipe Exit	1	-	10	-	-	1.00	0.00	0.00	0.01	0.02	0.04	0.06	0.09	0.13	0.17	0.21	0.26	0.31	0.37	0.44	0.51
Subtotal (for total force main length):							**0.00**	**0.79**	**2.91**	**6.21**	**10.64**	**16.16**	**22.74**	**30.36**	**39.00**	**48.64**	**59.26**	**70.87**	**83.43**	**96.96**	**111.43**
Subtotal (to point of connection with 4300 Millersport PS force main):							**0.00**	**0.40**	**1.48**	**3.18**	**5.49**	**8.37**	**11.83**	**15.84**	**20.41**	**25.51**	**31.16**	**37.34**	**44.05**	**51.28**	**59.03**

SUMMARY TABLE

FLOW (GPM)			0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
PUMP STATION																	
WET WELL LOW WATER LEVEL (from drawing)			556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60
WET WELL HIGH WATER LEVEL (from drawing)			559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10
FORCE MAIN																	
VELOCITY IN FORCE MAIN (fps)*	DIAMETER (inch):	6	0.00	1.12	2.27	3.41	4.55	5.68	6.82	7.95	9.09	10.23	11.36	12.50	13.64	14.77	15.91
(recommended to operate between 2 and 10 fps per 10SS)		10	0.00	0.41	0.82	1.23	1.64	2.05	2.45	2.86	3.27	3.68	4.09	4.50	4.91	5.32	5.73
HEAD LOSSES IN FORCE MAIN (sum of suction losses and discharge losses)			0.00	0.86	3.14	6.71	11.51	17.49	24.63	32.89	42.27	52.73	64.28	76.88	90.54	105.24	120.97
HEAD LOSSES IN FORCE MAIN (to point of connection)			0.00	0.46	1.71	3.69	6.36	9.70	13.71	18.37	23.68	29.61	36.17	43.36	51.15	59.56	68.58
Discharge Pressure (assumes free discharge)			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PUMP DISCHARGE PIPE EXIT ELEVATION			574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80
MIN SYSTEM CURVE			15.7	16.6	18.8	22.4	27.2	33.2	40.3	48.6	58.0	68.4	80.0	92.6	106.2	120.9	136.7
MAX SYSTEM CURVE			18.2	19.1	21.3	24.9	29.7	35.7	42.8	51.1	60.5	70.9	82.5	95.1	108.7	123.4	139.2

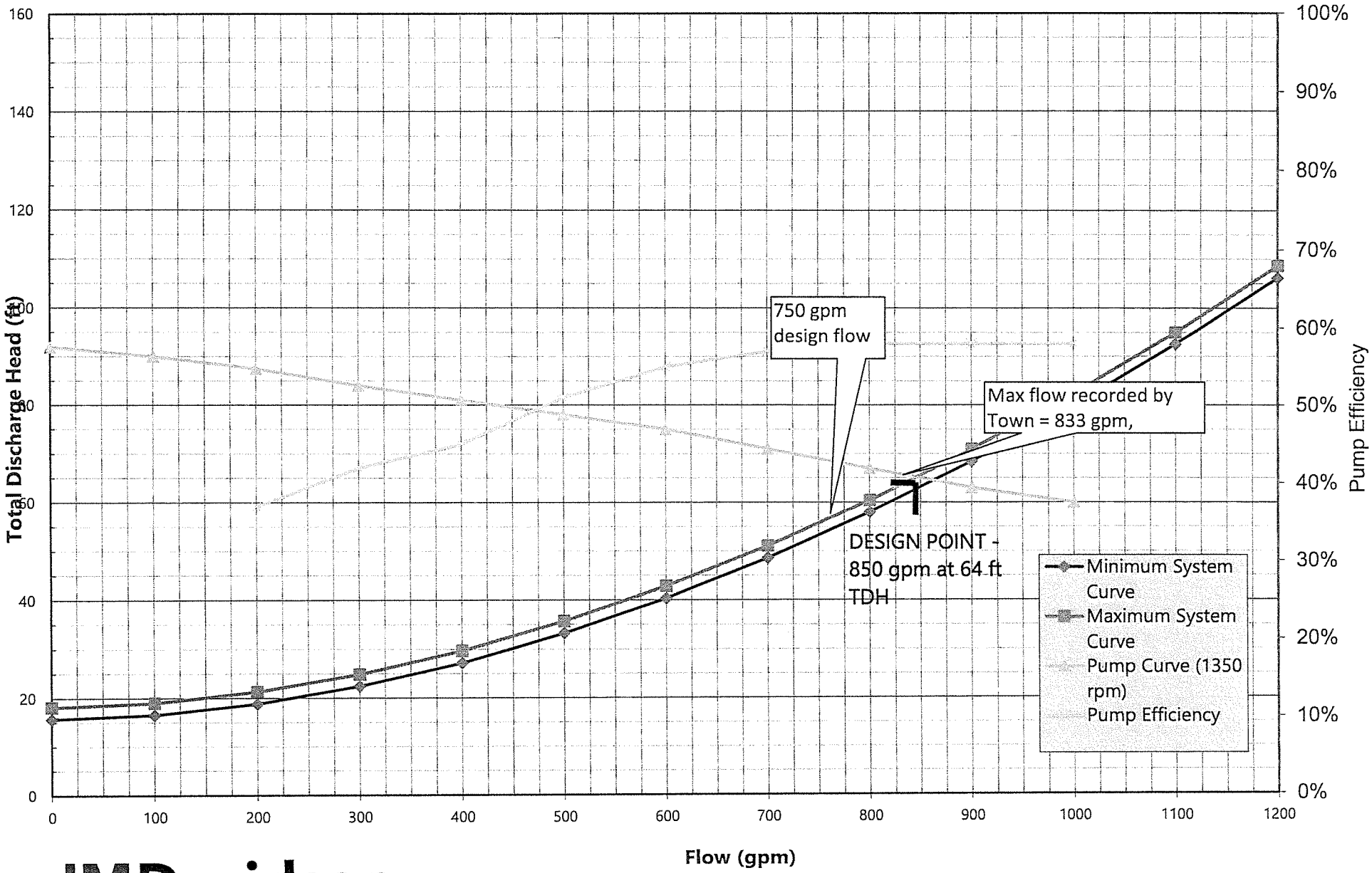
Calculations Completed 3/15/2023 *by* A. Hintz
Calculations Checked 3/21/2023 *by* C. Goerss-Murphy

*Red highlighted cells indicate those velocities outside of the normal operating range of 2-8 fps.
However, the operation of the Dockside PS is outside of the scope of this work, but only needed to calculate pressure on 4300 Millersport PS force main.

Max flow recorded by Town = 833 gpm
Based on Dockside Alone curve, design point should be 850 gpm.
Delta = 17 gpm
Calc within 2.0%
i.e., assumptions made during this evaluation are valid.

Dockside System Curve (C=140)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



JM Davidson Engineering, D.P.C.

Dockside Alone Graph

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Attachment 2

Dockside + 4300 Millersport Pump Station Calculations and Curves

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SYSTEM HEAD CURVE DETERMINATION

TOWN OF AMHERST/ WM. SCHUTT ASSOCIATES
4300 MILLERSPORT HIGHWAY
JMD Project No. 342301 - calculations for Dockside PS to feed into calculations for 4300 Millersport

JMDavidson Engineering, D.P.C.

The following formulas and assumptions were used in the calculations contained in this spreadsheet:

1. Pump operation scenarios: From Dockside Pump Station to Discharge Point.

2. Information on pumps, force main alignment and proposed flows provided by Wm Schutt on 3/9/2023. Pu

3. Piping head loss calculations use Hazen-Williams Formula for Water

   $h=[(4.73*Q^1.85)*L]/(C^1.85*D^4.87)$

   where: h = Head Loss
   Q = Flow (cfs)
   C = Roughness Coefficient
   D = Pipe Diameter (ft.)
   L = Pipe Length (ft.)

4. Fitting, entrance, and exit head loss calculations for water:

   $h=KV^2/2g$

   where: h = Head Loss
   K = Resistance Coefficient
   V = Flow Velocity (Q/A)
   g = Gravity (32.2 ft/sec^2)

K-values were obtained from "Cameron Hydraulic Data Handbook, 18th Edition" (1998) by Ingersoll-Dresser Pumps
For reducers, velocity of smaller end is used and for increasers the difference between the small and large end square velocities is used .
For tees with different inlet and outlet diameters, velocity in smaller diameter pipe is used.

A. HEAD LOSS OF SUCTION WELL TO PUMP (WET PIT SUBMERSIBLE)

Pipe assumed to be unlined ductile iron pipe per Pump Station Note No. 6

Fitting	No.	Inlet Dia.	Outlet Dia,	Length ft	C	K	(GPM) 0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Entrance Loss	1	-	10	-	-	0.50	0.00	0.00	0.01	0.01	0.02	0.03	0.05	0.06	0.08	0.10	0.13	0.16	0.19	0.22	0.25
Reducer	1	10	6	2	-	0.084	0.00	0.00	0.01	0.02	0.03	0.04	0.06	0.08	0.11	0.14	0.17	0.20	0.24	0.28	0.33
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
45 deg bend	1	-	6	-	-	0.24	0.00	0.00	0.02	0.04	0.08	0.12	0.17	0.24	0.31	0.39	0.48	0.58	0.69	0.81	0.94
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
Wye, thru	1	-	6	-	-	0.30	0.00	0.01	0.02	0.05	0.10	0.15	0.22	0.29	0.38	0.49	0.60	0.73	0.86	1.01	1.18
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
45 deg bend	1	-	6	-	-	0.24	0.00	0.00	0.02	0.04	0.08	0.12	0.17	0.24	0.31	0.39	0.48	0.58	0.69	0.81	0.94
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
Gate Valve	1	-	6	-	-	0.12	0.00	0.00	0.01	0.02	0.04	0.06	0.09	0.12	0.15	0.19	0.24	0.29	0.35	0.41	0.47
Pump																					
						Subtotal:	**0.00**	**0.06**	**0.23**	**0.50**	**0.87**	**1.33**	**1.89**	**2.54**	**3.27**	**4.10**	**5.01**	**6.02**	**7.11**	**8.28**	**9.54**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

B. HEAD LOSS CALCULATION FOR 6-INCH DISCHARGE FORCE MAIN FROM PUMP TO CONNECTION WITH NEW 4300 FORCE MAIN

Fitting	No.	Inlet Dia.*	Outlet Dia,*	Length ft	C	K	(GPM) 0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Check Valve	1	-	6	-	-	1.50	0.00	0.03	0.12	0.27	0.48	0.75	1.08	1.47	1.92	2.43	3.00	3.63	4.32	5.07	5.88
90 deg bend	1	-	6	-	-	0.45	0.00	0.01	0.04	0.08	0.14	0.22	0.32	0.44	0.58	0.73	0.90	1.09	1.30	1.52	1.76
Piping Friction (FRP)	-	-	6	6	140	-	0.00	0.01	0.02	0.04	0.07	0.11	0.15	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73
Plug Valve (3-way)	1	-	6	-	-	0.45	0.00	0.01	0.04	0.08	0.14	0.22	0.32	0.44	0.58	0.73	0.90	1.09	1.30	1.52	1.76
Piping Friction (FRP)	-	-	6	6	140	-	0.00	0.01	0.02	0.04	0.07	0.11	0.15	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73
45 deg bend	2	-	4	-	-	0.24	0.00	0.05	0.19	0.44	0.78	1.21	1.75	2.38	3.11	3.94	4.86	5.88	7.00	8.21	9.52
Piping Friction (FRP)	-	-	6	6	140	-	0.00	0.01	0.02	0.04	0.07	0.11	0.15	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73
Increaser	1	6	10	2	-	0.175	0.00	0.00	0.01	0.03	0.05	0.08	0.11	0.15	0.19	0.25	0.30	0.37	0.44	0.51	0.60
Piping Friction (PVC) to connection	-	-	10	3696	140	-	0.00	0.28	1.02	2.16	3.68	5.55	7.78	10.35	13.25	16.48	20.02	23.89	28.06	32.54	37.32
Subtotal (to point of connection with 4300 Millersport PS force main):							**0.00**	**0.40**	**1.48**	**3.18**	**5.49**	**8.37**	**11.83**	**15.84**	**20.41**	**25.51**	**31.16**	**37.34**	**44.05**	**51.28**	**59.03**

C. HEAD LOSS CALCULATION FOR 6-INCH DISCHARGE FORCE MAIN FROM DOCKSIDE AND 200 GPM FLOW FROM 4300 MILLERSPORT (DESIGN FLOW OF 4300 MILLERSPORT PS PUMPS)

Fitting	No.	Inlet Dia.*	Outlet Dia,*	Length ft	C	K	(GPM) 200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
Piping Friction (PVC) to discharge	-	-	10	5139	140	-	1.42	3.00	5.11	7.72	10.82	14.39	18.43	22.91	27.84	33.21	39.01	45.24	51.89	58.95	66.43
Pipe Exit	1	-	10	-	-	1.00	0.01	0.02	0.04	0.06	0.09	0.13	0.17	0.21	0.26	0.31	0.37	0.44	0.51	0.58	0.66
Subtotal (for total force main length):							**1.43**	**3.03**	**5.15**	**7.79**	**10.92**	**14.52**	**18.59**	**23.12**	**28.10**	**33.53**	**39.39**	**45.68**	**52.39**	**59.53**	**67.09**

SUMMARY TABLE

FLOW (GPM)			0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
PUMP STATION																	
WET WELL LOW WATER LEVEL (from drawing)			556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60
WET WELL HIGH WATER LEVEL (from drawing)			559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10
FORCE MAIN																	
VELOCITY IN FORCE MAIN (fps)	DIAMETER (inch):	6	0.00	1.14	2.27	3.41	4.55	5.68	6.82	7.95	9.09	10.23	11.36	12.50	13.64	14.77	15.91
(recommended to operate between 2 and 8 fps per 10SS)		10	0.00	0.41	0.82	1.23	1.64	2.05	2.45	2.86	3.27	3.68	4.09	4.50	4.91	5.32	5.73
HEAD LOSSES IN FORCE MAIN (sum of suction losses and discharge losses)			1.43	3.49	6.86	11.47	17.27	24.22	32.31	41.50	51.78	63.14	75.56	89.03	103.55	119.10	135.67
HEAD LOSSES IN FORCE MAIN (to point of connection)			0.00	0.46	1.71	3.69	6.36	9.70	13.71	18.37	23.68	29.61	36.17	43.36	51.15	59.56	68.58
Discharge Pressure (assumes free discharge)			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PUMP DISCHARGE PIPE EXIT ELEVATION***			574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80
MIN SYSTEM CURVE			17.1	19.2	22.6	27.2	33.0	39.9	48.0	57.2	67.5	78.8	91.3	104.7	119.2	134.8	151.4
MAX SYSTEM CURVE			19.6	21.7	25.1	29.7	35.5	42.4	50.5	59.7	70.0	81.3	93.8	107.2	121.7	137.3	153.9

Now to determine pressure at point of interconnection, assume pipe elevation at point of interconnection is the same as ultimate discharge
Use existing pump curve and subtract headloss from Dockside PS to connection point.

Pump curve	92.0	90.0	87.5	84.0	81.0	78.0	75.0	71.0	67.0	63.0	60.0
Pump curve minus headloss	92.0	89.5	85.8	80.3	74.6	68.3	61.3	52.6	43.3	33.4	23.8

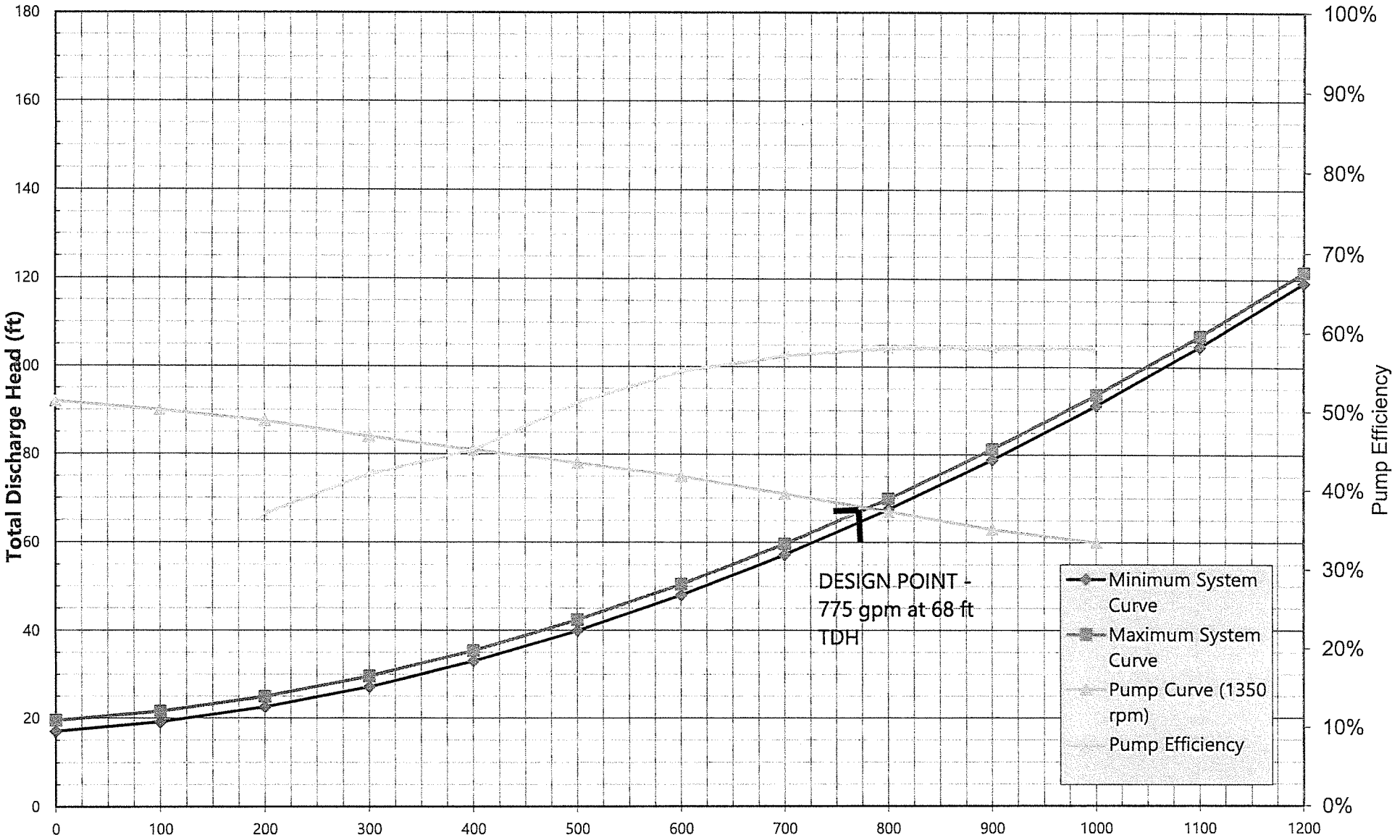
At flow of approximately 800 gpm, pressure is approximately 53 ft. That pressure was added into the calculations for 4300 Millersport.

Calculations Completed 3/16/2023 *by* A. Hintz
Calculations Checked 3/21/2023 *by* C. Goerss-Murphy

Conclusion: Adding the flow from 4300 Millersport will decrease the Dockside Pump Station capacity from 833 gpm to approximately 775 gpm

Dockside + 4300 Curve (max)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



JM Davidson
Engineering, D.P.C.

Dockside + 4200 Graph

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Attachment 3

4300 Millersport Pump Station Calculations and Curves

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SYSTEM HEAD CURVE DETERMINATION

TOWN OF AMHERST/ WM. SCHUTT ASSOCIATES
4300 MILLERSPORT HIGHWAY
JMD Project No. 342301 - calculations of new 4300 Millersport Pump Station (designed by Wm Schutt Associates)

JM Davidson Engineering, D.P.C.

The following formulas and assumptions were used in the calculations contained in this spreadsheet:

1. Pump operation scenarios: From Pump Suction Well to Discharge at Dockside Pump Station Force Main, assumes one pump in operation, 2nd pump as standby only (per Ten States' Standards)

2. Information on pumps, force main alignment and proposed flows provided by Wm Schutt on 3/9/2023.

3. Piping head loss calculations use Hazen-Williams Formula for Water
   $h=[(4.73*Q^{1.85})*L]/(C^{1.85}*D^{4.87})$ where: h = Head Loss
   Q = Flow (cfs)
   C = Roughness Coefficient
   D = Pipe Diameter (ft.)
   L = Pipe Length (ft.)

4. Fitting, entrance, and exit head loss calculations for water:
   $h=KV^2/2g$ where: h = Head Loss
   K = Resistance Coefficient
   V = Flow Velocity (Q/A)
   g = Gravity (32.2 ft/sec^2)

K-values were obtained from "Cameron Hydraulic Data Handbook, 18th Edition" (1998) by Ingersoll-Dresser Pumps
For reducers, velocity of smaller end is used and for increasers the difference between the small and large end square velocities is used .
For tees with different inlet and outlet diameters, velocity in smaller diameter pipe is used.

A. HEAD LOSS FROM SUCTION TO EACH PUMP (WET PIT SUBMERSIBLE)

Pump design point is 200 gpm at 75' TDH (from info provided by Wm Schutt)

Fitting	No.	Inlet Dia.	Outlet Dia,	Length ft	C	K	(GPM) 0	20	40	60	80	100	120	140	160	180	200	220	240	260	280
Entrance Loss	1	-	4	-	-	0.50	0.00	0.00	0.01	0.02	0.03	0.05	0.07	0.10	0.13	0.16	0.20	0.24	0.29	0.34	0.40
Pump																					
						Subtotal:	**0.00**	**0.00**	**0.01**	**0.02**	**0.03**	**0.05**	**0.07**	**0.10**	**0.13**	**0.16**	**0.20**	**0.24**	**0.29**	**0.34**	**0.40**

B. HEAD LOSS CALCULATION FOR 4-INCH DISCHARGE FORCE MAIN FROM PUMP TO DOCKSIDE FORCE MAIN

Fitting	No.	Inlet Dia.*	Outlet Dia,*	Length ft	C	K	(GPM) 0	20	40	60	80	100	120	140	160	180	200	220	240	260	280
90 deg bend	1	-	4	-	-	0.51	0.00	0.00	0.01	0.02	0.03	0.05	0.07	0.10	0.13	0.17	0.21	0.25	0.30	0.35	0.40
Piping Friction	-	-	4	6	100	-	0.00	0.00	0.01	0.03	0.05	0.07	0.10	0.14	0.18	0.22	0.27	0.32	0.37	0.43	0.50
90 deg bend	1	-	4	-	-	0.51	0.00	0.00	0.01	0.02	0.03	0.05	0.07	0.10	0.13	0.17	0.21	0.25	0.30	0.35	0.40
Piping Friction	-	-	4	6	100	-	0.00	0.00	0.01	0.03	0.05	0.07	0.10	0.14	0.18	0.22	0.27	0.32	0.37	0.43	0.50
Gate Valve	1	-	4	-	-	0.14	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.10	0.11
Check Valve	1	-	4	-	-	1.70	0.00	0.01	0.03	0.06	0.11	0.17	0.25	0.34	0.44	0.56	0.69	0.83	0.99	1.16	1.35

4300 System Curve (C=140)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Plug Valve	1	-	4	-	-	0.31	0.00	0.00	0.01	0.01	0.02	0.03	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.21	0.25
90 deg bend	1	-	4	-	-	0.51	0.00	0.00	0.01	0.02	0.03	0.05	0.07	0.10	0.13	0.17	0.21	0.25	0.30	0.35	0.40
Cross, Branch Flow	1	-	4	-	-	1.02	0.00	0.00	0.02	0.04	0.07	0.10	0.15	0.20	0.26	0.33	0.41	0.50	0.59	0.70	0.81
Gate Valve	1	-	4	-	-	0.14	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.10	0.11
Piping Friction	-	-	4	600	140	-	0.00	0.20	0.73	1.55	2.63	3.98	5.58	7.42	9.50	11.81	14.35	17.12	20.11	23.32	26.74
45 deg bend	2	-	4	-	-	0.27	0.00	0.00	0.01	0.02	0.03	0.05	0.08	0.11	0.14	0.18	0.22	0.26	0.31	0.37	0.43
46 deg bend	2	-	4	-	-	0.27	0.00	0.00	0.01	0.02	0.03	0.05	0.08	0.11	0.14	0.18	0.22	0.26	0.31	0.37	0.43
45 deg bend	4	-	4	-	-	0.27	0.00	0.00	0.02	0.04	0.07	0.11	0.16	0.21	0.28	0.35	0.44	0.53	0.63	0.74	0.86
Gate Valve	1	-	4	-	-	0.14	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.10	0.11
45 deg bend	6	-	4	-	-	0.27	0.00	0.01	0.03	0.06	0.10	0.16	0.24	0.32	0.42	0.53	0.66	0.79	0.94	1.11	1.29
Wye (10" x 10" x 4")	1	-	4	-	-	1.02	0.00	0.00	0.02	0.04	0.07	0.10	0.15	0.20	0.26	0.33	0.41	0.50	0.59	0.70	0.81
Pipe Exit	1	-	4	-	-	1.00	0.00	0.00	0.02	0.04	0.06	0.10	0.15	0.20	0.26	0.33	0.40	0.49	0.58	0.68	0.79
						Subtotal:	**0.00**	**0.25**	**0.93**	**2.00**	**3.43**	**5.22**	**7.36**	**9.83**	**12.64**	**15.78**	**19.25**	**23.04**	**27.14**	**31.56**	**36.29**

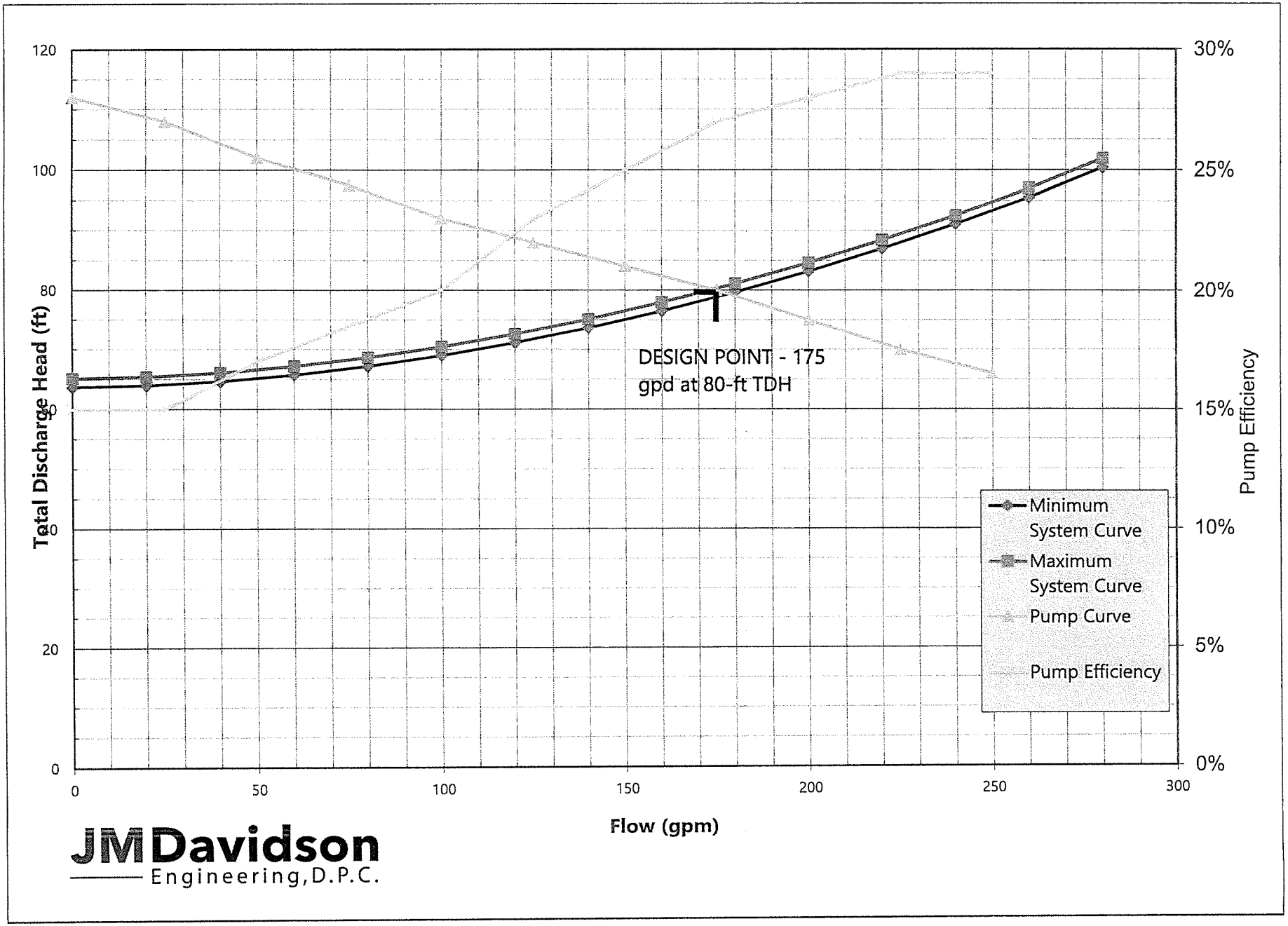
SUMMARY TABLE

FLOW (GPM)	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280
PUMP STATION															
WET WELL LOW WATER LEVEL (from drawing)	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79
WET WELL HIGH WATER LEVEL (from drawing)	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29
FORCE MAIN															
VELOCITY IN FORCE MAIN (fps) DIAMETER (inch): 4	0.00	0.51	1.02	1.53	2.05	2.56	3.07	3.58	4.09	4.60	5.11	5.62	6.14	6.65	7.16
(recommended to operate between 2 and 10 fps per 10SS)															
HEAD LOSSES IN FORCE MAIN (sum of suction losses and discharge losses)	0.00	0.26	0.94	2.02	3.46	5.27	7.43	9.93	12.77	15.95	19.45	23.28	27.43	31.90	36.69
Discharge Pressure (see Dockside PS Calcs)	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00
PUMP DISCHARGE PIPE EXIT ELEVATION***	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00
MIN SYSTEM CURVE	63.7	64.0	64.7	65.7	67.2	69.0	71.1	73.6	76.5	79.7	83.2	87.0	91.1	95.6	100.4
MAX SYSTEM CURVE	65.2	65.5	66.2	67.2	68.7	70.5	72.6	75.1	78.0	81.2	84.7	88.5	92.6	97.1	101.9

Calculations Completed 3/15/2023 *by* A. Hintz
Calculations Checked 3/21/2023 *by* C. Goerss-Murphy

4300 System Curve (C=140)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



4300 Graph

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX Q

SEQR NEGATIVE DECLARATION

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Amherst

Town of Amherst Planning Department *Erie County, New York*

Brian J. Kulpa
Supervisor

Daniel C. Howard, Al
Planning Director

Daniel J. Ulatowski, Al
Assistant Planning Dire

FEB 28 2023

W.M. SCHUTT & ASSOC.

SEQR
Negative Declaration

NOTICE OF DETERMINATION OF NON-SIGNIFICANCE

Lead Agency:	Town of Amherst Planning Board	**Project:**	SP-2022-03
Address:	5583 Main Street Williamsville, NY 14221 (716) 631-7051	**Date:**	February 16, 2023

This notice is issued pursuant to Part 617 and Local Law #3-82, as amended, of the implementing regulations pertaining to Article 8 (State Environmental Quality Review) of the Environmental Conservation Law.

The Lead Agency has determined that the proposed action described below will not have a significant adverse effect on the environment.

Title of Action: Site Plan Review - Mixed-Use Development 4300 Millersport Hwy.

SEQR Status: Type 1 Action

Description of Action: Construction of a mixed-use development project consisting of 38 patio homes and 40 townhomes in the 14.18-acre first phase. Future Phases 2 and 3 will include two 11,000 s. f. 3-story apartment/commercial structures on 4.16± acres of a 67.2± acre site. Phase 1 is not dependent on the approval of, or completion of, future Phases 2 and 3. Phase 4 (8.66 acres) is excluded from this determination of significance. Work will include the site improvements not specifically stated above, including, stormwater, utilities, grading, lighting, paving, and landscaping.

Location: 4300 Millersport Highway, Amherst, Erie County

Petitioner: Cimato Enterprises LLC

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Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

REASONS SUPPORTING THIS DETERMINATION

Based on information submitted by the applicant including a Full Environmental Assessment Form (EAF) - Part I, (as amended) and a complete site plan application, a preliminary staff analysis was undertaken. Compared to the criteria listed in Section 617.7, all indications are that this action and phases will not have a significant impact on the environment, as follows:

1. The project is not expected to cause a substantial adverse change in existing air quality, ground or surface water quality or quantity, or noise levels; a substantial increase in solid waste production; or a substantial increase in the potential for erosion, flooding, leaching or drainage problems. The Engineering Department on February 10, 2023 reviewed the Grading, Drainage and Utility Plans submitted on February 3, 2023; Engineer's Report submitted on December 16, 2022; Erosion Control Plan submitted on February 3, 2022 and Geotechnical Report prepared by July 29, 2022.

   The Stormwater Pollution Prevention Plan (SWPPP) submitted on December 16, 2022 was also reviewed. Based on its review of these documents, on February 16, 2023 the Department has determined that the project has or will have met all applicable requirements and has no objection to its approval.

2. The project will not result in the unnecessary removal or destruction of large quantities of vegetation or fauna; or in significant adverse impacts to fish or wildlife species, habitats or other natural resources. Earth Dimensions, Inc. prepared a Wetland Mitigation Plan, dated January 17, 2023, which indicates 1.71 acres of wetlands will be created to mitigate for the 0.76 acre loss of wetlands. The Planning Department reviewed a Landscape Plan submitted on February 3, 2023 and determined that it meets or exceeds Zoning Ordinance requirements for greenspace. The Landscape Plan has or will have met all Zoning Ordinance and Town requirements for landscaping.

3. The project is not expected to create any substantive conflict with the Town Comprehensive Plan. The Planning Department in their review of February 9, 2023 has reviewed the application documents and Building Department in their review of January 6, 2023 has reviewed the application documents along with the Geotechnical Report submitted on July 29, 2023, and determined that the subject project has or will have met all International Building Code – 2018 and Zoning Ordinance regulations.

4. The project is located within an area identified by the State as having potential archaeological or historical significance. The NYS Office of Parks, Recreation and Historic Preservation has reviewed the project and as stated in their letter of July 27, 2022, determined that this project will have No Effect upon cultural resources in or eligible for inclusion in the National Registers of Historic Places because the project sponsor has committed to implement avoidance measures to protect the PCI/Smith Road-1 Historic Site (USN 02902.000856).

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

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5. The project will not impair the character or quality of important aesthetic resources or of existing community or neighborhood character. The project is located in the TND zoning district; neighboring uses are vacant lands, child care facility, recreation and single family residential and zoned TND, SA, MS and GB; therefore, the project is consistent with surrounding land use.

6. The proposed subject development will include multi-family residential (patio homes, town homes and a mix of apartments and commercial uses which will increase energy usage over the existing undeveloped site, however, it will not cause a major change in the use of either the quantity or type of energy, over what is anticipated in this TND district or exceed the capacity of suppliers.

7. The project will not create any hazard to human health. The Fire Chief's Association on December 30, 2022 has reviewed the project and has no objection to the approval of the site plan, as all requirements of this agency has or will have been met.

8. The project will cause a change in the use, or intensity of use, of land. However, it is not anticipated that the project will result in potential significant impact to agricultural, open space or recreational resources, or the lands capacity to support existing uses over what is expected in the TND District and therefore, will be consistent with the scale of surrounding land uses or those uses anticipated by the Comprehensive Plan.

9. The function of the proposed mixed-use development will increase the number of people using the site over its previous level of use, but is not anticipated to create significant adverse impacts as all required transportation and utility infrastructure improvements have been or will have been met.

10. Reviews of the Traffic Impact Study (TIS) prepared by SRF Associates, submitted to the Planning Department on August 25, 2022 by the Town Traffic Safety Board dated February 2, 2022, Erie County Dept. of Public Works - Highways Division dated September 14, 2023, and NYSDOT dated October 3, 2022 indicate that significant negative traffic impacts are not expected to result from the proposed project.

11. A coordinated review of the project has been undertaken by Town Departments, in addition to those mentioned above, Highway on January 24, 2023, Assessor on April 26, 2022, Plumbing Division on December 23, 2022, and Right-of-Way Agent on February 9, 2023 along with outside agencies including New York State Department of Transportation on October 23, 2022, New York State Department of Environmental Conservation on August 25, 2022, and the New York State Office of Parks, Recreation and Historic Preservation on July 27, 2022. These reviews have not identified any significant environmental issues and indicate that the proposal will not have a significant damaging impact on the environment.

12. Issues not specifically mentioned above and/or those not specifically reviewed were not raised by Town departments, outside agencies or the public and are not determined to cause significant negative environmental impacts.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Planning Board Approval
Moved by: Penberthy; Seconded by: Chmiel Ayes 7; Noes 0

Gary Palumbo, Associate Planner — Date: 2-23-2023

Robert J. Gilmour, Planning Board Chair — Date: 2.23.23.

GP/ac
X:\Current_Planning\Files\Site Plans\2022\SP-2022-03_(4300_Millersport_Hwy)_2022\SP-2022-03_neg_dec_021623.doc.docx
cc: Commissioner of Building
Town Engineer
Fire Chiefs'
Highway
Traffic/Safety
ECDEP
NYSDEC
NYSDOT
Cimato Enterprises LLC, 9220 Transit Rd., E. Amherst, NY 14051
Patricia Bittar, Wm. Schutt & Associates, 37 Central Ave., Lancaster, NY 14086
Sean Hopkins, Hopkins Sorgi & McCarthy, 5500 Main St., Suite 343, Williamsville, NY 14221

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Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TRAFFIC IMPACT REPORT

April 18, 2024

20243846.0001

4300 MILLERSPORT HIGHWAY

TOWN OF AMHERST, NY

PREPARED FOR:
Cimato Brothers Construction Inc.
9220 Transit Road
East Amherst, NY, 14

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 2
2.0 INTRODUCTION 4
2.1 Study Purpose and Objectives 4
2.2 Project Location 4
2.3 Study Area 4
3.0 TRANSPORTATION SETTING 4
3.1 Description of Study Area Roadways 4
Table 1: *Existing Highway System* 5
3.2 Pedestrian and Bicycle Facilities 5
3.3 Transit Facilities 5
3.4 Planned/Programmed Highway Improvements 5
4.0 EXISTING CONDITIONS ANALYSIS 5
4.1 Peak Intervals for Analysis 5
4.2 Existing Traffic Volume Data 5
4.3 Field Observations 6
4.4 Existing Crash Investigation 6
Table 2: *Intersection Crash Rate Analysis* 6
5.0 BACKGROUND (NO BUILD) CONDITIONS 7
6.0 PROPOSED DEVELOPMENT CONDITIONS 7
6.1 Project Description 7
6.2 Proposed Traffic Generation 7
Table 3: *Site Generated Trips* 8
6.3 Trip Distribution 8
6.4 Full Development Volumes 9
7.0 TRAFFIC OPERATIONS AND ANALYSIS 9
7.1 Description of Capacity Analysis 9
Table 4: *Level of Service Criteria* 9
7.2 Capacity Analysis Results 10
Table 5: *Capacity Analysis Results* 11
8.0 CONCLUSIONS AND RECOMMENDATIONS 13
9.0 REFERENCES 14
10.0 FIGURES 14

APPENDICES

APPENDIX A: EXISTING TRAFFIC COUNT DATA
APPENDIX B: MISCELLANEOUS CALCULATIONS
APPENDIX C: LOS CALCULATIONS – EXISTING CONDITIONS
APPENDIX D: LOS CALCULATIONS – BACKGROUND CONDITIONS
APPENDIX E: LOS CALCULATIONS – FULL BUILD CONDITIONS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

1.0 EXECUTIVE SUMMARY

The purpose of this updated report is to evaluate the potential traffic impacts related to the currently proposed mixed-use project at 4300 Millersport Highway. This study is an update to the original traffic impact study prepared by SRF Associates (now a Passero Associates company) in August 2022. On April 4, 2024, Christopher Schregel issued a Memorandum on behalf of the Town of Amherst Traffic Safety Board ("ATSB") requesting an updated traffic impact study. It is important to mention that Comment No. 3 contained in the Memorandum issued on behalf of ATSB requested the installation of a roundabout at the internal intersection of Local Roads "A" and "B". The installation of a roundabout is not feasible at this location since it would result in an increase of impacts to jurisdictional federal wetlands subject to the jurisdiction of the United States Army Corps of Engineers.

Within this report, the operating characteristics of the proposed access points and impacts to the adjacent roadway network are evaluated. Mitigating measures, if needed, are identified to minimize operational concerns. To define traffic impact, this analysis establishes existing baseline traffic conditions, projects background traffic flow including area growth, and determines the traffic operations that would result from the proposed project. All figures and supporting calculations are included at the end and within the Appendices of this report.

Project Location and Description

The proposed project will be located at 4300 Millersport Highway in the Town of Amherst, Erie County, NY. The project site is bounded by undeveloped lands to the north; portions of existing development, New Road, and Millersport Highway to the east; portions of residential development and Smith Road to the south; and undeveloped lands to the west. Land uses in the vicinity of the proposed project include residential, recreational, and service. The project site is currently undeveloped.

The first phase of the mixed-use project will consist of the patio home and townhome units and the second phase will consist of the two mixed-use buildings along the Millersport Highway frontage. The residential mix will consist of 38 units of patio homes and 40 units of townhomes. There will be an additional ±22,080 SF of commercial space. This study analyzes the project as a single development phase. Access to the site will be provided via a proposed public roadway with new driveways along Smith Road, Millersport Highway, and New Road as shown on the Site Plan prepared by WM Schutt Associates included at the end of this report.

Existing Conditions

To ensure a comprehensive analysis of potential traffic impacts, a geographically broad study area was selected consisting of the following intersections. **Figure 1** illustrates the project site location and study area.

- Millersport Highway at New Road (signalized)
- New Road at Smith Road (unsignalized)
- Millersport Highway at Smith Road (signalized)
- Millersport Highway at I-990 SB Ramp (unsignalized)
- Millersport Highway at I-990 NB Ramp (signalized)

SRF Associates, now Passero Associates, collected turning movement traffic counts on Wednesday, February 9, 2022. Traffic counts were conducted from 7:00 to 9:00 AM and 4:00 to 6:00 PM to determine peak hour traffic volumes at the study intersections. The peak hour traffic periods generally occurred from 7:00-8:00 AM and 4:15-5:15 PM. All traffic counts were collected on a typical weekday while local schools were in session. No significant adverse weather conditions impacted data collection. The traffic volumes were reviewed to confirm accuracy, seasonality, and relative balance between intersections. The 2022 turning movement data was grown for two years using a 1.5% growth rate.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

This exceeds the calculated background growth rate discussed in Section 5 to account for potential impacts from COVID-19 occurring at the time of data collection.

Background Conditions

Background traffic volumes represent the traffic conditions during the proposed build year without development of the project. Construction of the proposed project is anticipated to reach full build-out within three years. Local municipal personnel were contacted to discuss any other specific projects that are currently approved or under construction that would generate additional traffic in the study area. Two projects were identified. Traffic generated by both projects was included as part of the background growth rate.

- Residential project at 50 CrossPoint Parkway.
- Residential project at 3325 & 3275 Millersport Highway.

To account for normal increases in background traffic growth, including any unforeseen developments in the study area aside from the identified projects, a growth rate of 1.0% per year was applied to the existing traffic volumes.

Conclusions and Recommendations

This report identified and evaluated the potential traffic impacts that can be expected from the proposed mixed-use project at 4300 Millersport Highway. The results of this comprehensive study determined that the existing transportation network can adequately accommodate the projected traffic volumes and resulting minor impacts to study area intersections. The following sets forth the study's conclusions and recommendations:

1. The proposed project is expected to generate approximately 36 entering/55 exiting vehicle trips during the AM peak hour and 108 entering/96 exiting vehicle trips during the PM peak hour. When considering ITE published pass-by trip rates and professional judgement, the resulting new trips added to the highway system is approximately 36 entering/55 exiting during the AM peak hour and 90 entering/78 exiting during the PM peak hour.
2. A southbound right-turn lane is warranted per NYSDOT feedback and guidelines at the proposed Millersport Highway/Proposed Access intersection. The right-turn lane should be up to 325 feet in length, including the taper.
3. The proposed access intersections are projected to operate at LOS B or better during the AM and PM peak hours. No capacity improvements are warranted nor recommended under full build conditions.
4. With the recommended improvement in place, there are no potentially significant adverse traffic impacts projected due to the development of the proposed project.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

2.0 INTRODUCTION

2.1 Study Purpose and Objectives

The purpose of this report is to evaluate the potential traffic impacts related to the proposed mixed-use project at 4300 Millersport Highway. Within this report, the operating characteristics of the proposed access points and impacts to the adjacent roadway network are evaluated. Mitigating measures, if needed, are identified to minimize operational concerns. To define traffic impact, this analysis establishes existing baseline traffic conditions, projects background traffic flow including area growth, and determines the traffic operations that would result from the proposed project. All figures and supporting calculations are included at the end and within the Appendices of this report.

This study is an update to the original traffic impact study prepared by SRF Associates (now a Passero Associates company) in August 2022.

2.2 Project Location

The proposed project will be located at 4300 Millersport Highway in the Town of Amherst, Erie County, NY. The project site is bounded by undeveloped lands to the north; portions of existing development, New Road, and Millersport Highway to the east; portions of residential development and Smith Road to the south; and undeveloped lands to the west. Land uses in the vicinity of the proposed project include residential, recreational, and service. The project site is currently undeveloped.

2.3 Study Area

To ensure a comprehensive analysis of potential traffic impacts, a geographically broad study area was selected consisting of the following intersections. **Figure 1** illustrates the project site location and study area.

- Millersport Highway at New Road (signalized)
- New Road at Smith Road (unsignalized)
- Millersport Highway at Smith Road (signalized)
- Millersport Highway at I-990 SB Ramp (unsignalized)
- Millersport Highway at I-990 NB Ramp (signalized)

3.0 TRANSPORTATION SETTING

3.1 Description of Study Area Roadways

Table 1 provides a description of the existing roadway network within the study area. **Figure 2** illustrates the lane geometry and traffic controls at each of the study intersections and the Annual Average Daily Traffic (AADT) volumes on the study roadways. The AADTs, in vehicles per day (vpd), reflect the most recently collected data obtained from the New York State Department of Transportation (NYSDOT).

Functional classification of roadways is determined by the NYSDOT and the Federal Highway Administration (FHWA). Both the NYSDOT and FHWA groups roads, streets, and highways into different classes based on how they are used. Roads and streets do not work alone to move traffic. Instead, they form a network. Functional classification defines how each road or street fits into this network, how it provides access to nearby properties, and whether it is in an urban or rural area. The primary functional classifications within the study area:

- Urban Principal Arterial – Interstate (Class 11)
- Urban Principal Arterial - Other (Class 14)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

- Urban Major Collector (Class 17)
- Urban Local (Class 19)

Table 1: *Existing Highway System*

Roadway	Class[1]	Agency[2]	Speed	Typical Cross Section[3]	AADT
New Road (CH-186)	17	ECDPW	40 mph	2-lane undivided	4,066 (NYSDOT 2017)
Millersport Highway (NY-263)	14	NYSDOT	55 mph	4-lane w/ TWLTL	22,592 (NYSDOT 2019)
Smith Road (CH-297)	19	ECDPW	35 mph	2-lane undivided	637 (NYSDOT 2015)
I-990	11	NYSDOT	65 mph	4-lane divided	24,086 (NYSDOT 2018)

1. Functional Classification.
2. Roadway ownership. ECDPW = Erie County Department of Public Works.
3. Excludes turning lanes at intersections. TWLTL = Two-way left-turn lane.

3.2 Pedestrian and Bicycle Facilities

There are no sidewalk facilities within the study area. However, the signalized intersection of Millersport Highway at New Road features pedestrian countdown signals and crosswalk striping. There are no dedicated bicycle lanes or trails, although cyclists are permitted to share the road with motorists on all roadways within the study area.

3.3 Transit Facilities

The Niagara Frontier Transportation Authority (NFTA) provides regional bus and metro rail service. The nearest bus stops are at the intersections of Millersport Highway/New Road and Millersport Highway/Smith Road and are serviced via Route 44 (Lockport) and Route 64 (Lockport Express).

3.4 Planned/Programmed Highway Improvements

There are no planned/programmed highway improvement projects in the study area.

4.0 EXISTING CONDITIONS ANALYSIS

4.1 Peak Intervals for Analysis

Given the functional characteristics of the corridors, adjacent land uses, and the proposed land uses for the project site, the peak hours selected for analysis are the weekday commuter AM and PM peak periods. The combination of site traffic and adjacent through traffic produces the greatest demand during these time periods.

4.2 Existing Traffic Volume Data

SRF Associates, now Passero Associates, collected turning movement traffic counts on Wednesday, February 9, 2022. Traffic counts were conducted from 7:00 to 9:00 AM and 4:00 to 6:00 PM to determine peak hour traffic volumes at the study intersections. The peak hour traffic periods generally occurred from 7:00-8:00 AM and 4:15-5:15 PM. All traffic counts were collected on a typical weekday while local schools were in session. No significant adverse weather conditions impacted data collection. The traffic volumes were reviewed to confirm accuracy, seasonality, and relative balance between intersections. The 2022 turning movement data was grown for two years using a 1.5% growth rate. This exceeds the calculated background growth rate discussed in Section 5 to account for potential impacts from COVID-19 occurring at the time of data collection. **Figure 3** illustrates the existing base peak hour traffic conditions.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4.3 Field Observations

The study intersections were observed during peak intervals to assess current traffic operations. Signal timing and phasing information was obtained from the NYSDOT to determine peak hour phasing plans and phase durations during each interval at the signalized intersections. This information was used to support and/or calibrate capacity analysis models described in detail later in this report.

4.4 Existing Crash Investigation

The purpose of this crash analysis is to identify inherent safety issues by studying and quantifying historical crashes at the study intersections and identifying potential crash patterns and clusters. A crash cluster is defined as an abnormal occurrence of similar crash types occurring at approximately the same location or involving the same geometric features. The severity of the crashes should also be considered. A history of crashes is an indication that further analysis is required to determine the cause(s) of the crash(es) and to identify what actions, if any, could be taken to mitigate the crashes.

Crash history data was obtained from MV-104A Police Accident Reports provided by the NYSDOT. Intersection rates are listed as accidents (crashes) per million entering vehicle (Acc/MEV). This study conducted the evaluation from January 1, 2017, through December 31, 2019. Given that the COVID-19 pandemic influenced daily travel in 2020, any reported crashes in 2020 were dismissed from the study. **Table 2** summarizes the crashes that occurred at the study intersections.

Table 2: *Intersection Crash Rate Analysis*

Intersection	Total Crashes	ADT	Actual Crash Rate	Statewide Average Crash Rate
Millersport Highway at New Road	6	25,147	0.22	0.26
New Road at Smith Road	3	6,778	0.40	0.31
Millersport Highway at Smith Road	7	26,757	0.24	0.26
Millersport Highway at I-990 SB	3	26,178	0.10	0.07
Millersport Highway at I-990 NB	14	20,231	0.63	0.17

Millersport Highway/New Road

The study intersection has a crash rate that is lower than the statewide average crash rate for similar intersections. Four of the six (67%) reported crashes were attributed to rear end collisions; three of which occurred in the southbound direction. This is characteristic of moderate to heavily trafficked signalized intersections. The causes of the rear end crashes were generally due to driver error. No geometric improvements are recommended.

New Road/Smith Road

The study intersection has a crash rate that is approximately 1.3 times higher than the statewide average crash rate for similar intersections. No discernible crash patterns exist; thus, no geometric improvements are recommended.

Millersport Highway/Smith Road

The study intersection has a crash rate that is lower than the statewide average crash rate for similar intersections. Five of the seven (71%) of the reported crashes were attributed to rear end collisions; four of which occurred in the southbound direction. The causes of the rear end crashes were generally due to driver error. No geometric improvements are recommended.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Millersport Highway/I-990 On-ramp
The study intersection has a crash rate that is approximately 1.4 times higher than the statewide average crash rate for similar intersections. No discernible crash patterns exist; thus, no geometric improvements are recommended.

Millersport Highway/I-990 Off-ramp
The study intersection has a crash rate that is approximately 3.7 times higher than the statewide average crash rate for similar intersections. 10 of the 14 (71%) of the reported crashes were attributed to rear end collisions. Five rear end crashes occurred in the northbound direction and three occurred in the southbound direction. The remaining two occurred in the eastbound direction. The causes of the rear end crashes were generally due to driver error. No geometric improvements are recommended.

5.0 BACKGROUND (NO BUILD) CONDITIONS

Background traffic volumes represent the traffic conditions during the proposed build year without development of the project. Construction of the proposed project is anticipated to reach full build-out within three years depending on market conditions. The widely accepted methodology for preparing traffic impact studies requires that any projects in the study area that are currently approved and/or under construction must be considered in the traffic analysis. Projects that are contemplated but not yet approved are not included in a traffic analysis. Local municipal personnel were contacted to discuss any other specific projects that are currently approved or under construction that would generate additional traffic in the study area. Two projects were identified. Traffic generated by both projects was included as part of the background growth rate.

- Residential project at 50 CrossPoint Parkway.
- Residential project at 3325 & 3275 Millersport Highway.

A review of available historical NYSDOT traffic volume data in the vicinity of the site indicates that traffic has grown between 2011 and 2017. To account for normal increases in background traffic growth, including any unforeseen developments in the study area aside from the identified projects, a growth rate of 1.0% per year was applied to the existing traffic volumes. **Figure 4** illustrates the background traffic conditions.

6.0 PROPOSED DEVELOPMENT CONDITIONS

6.1 Project Description

The first phase of the mixed-use project will consist of the patio home and townhome units and the second phase will consist of the two mixed-use buildings along the Millersport Highway frontage. The residential mix will consist of 38 units of patio homes and 40 units of townhomes. There will be an additional ±22,080 SF of commercial space. This study analyzes the project as a single development phase. Access to the site will be provided via a proposed public roadway with new driveways along Smith Road, Millersport Highway, and New Road as shown on the Site Plan prepared by WM Schutt Associates included at the end of this report.

6.2 Proposed Traffic Generation

The volume of traffic generated by a site is dependent on the intended land use and size of the development. Trip generation is an estimate of the number of trips generated by a specific building or land use. These trips represent the volume of traffic entering and exiting the development. *Trip Generation Manual (11th Edition)* published by the Institute of Transportation Engineers (ITE) is used as a reference for this information. The trip rate for the peak hour of the generator may or may not coincide in time or volume with the trip rate for the peak hour of adjacent street traffic. Volumes generated during the peak hour of the adjacent street traffic and proposed land use, in this case, the weekday

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

commuter AM and PM peak hours, represent a more critical volume when analyzing the capacity of the system; those intervals will provide the basis of this analysis.

Additionally, for certain types of developments, the total number of trips generated is different from the amount of new traffic added to the adjacent highway network by the generator. Service-oriented developments (i.e., shopping centers, restaurants, car washes, gas stations, and coffee shops) often locate adjacent to busy streets to attract the motorists already passing the site on the adjacent street(s). These sites attract a portion of their trips from traffic passing the site. The "pass-by" traffic refers to the amount of existing traffic already on the roadway adjacent to the site that, as it "passes by" the site, will enter the site driveways to patronize the project site. The quantifying of "pass-by" trips has the net result of reducing the volume of new traffic that is added to the site driveways and/or adjacent roadways.

For retail storefronts (shopping centers), the ITE data reports a range of rates during the PM peak period from 12% to 74% with an average pass-by rate of 34%.%. This study used a 25% pass-by rate during the PM peak hour. The ITE does not have data during the AM peak hour. Given the volume of projected trips, no adjustments were made for pass-by-rates for the AM peak hour.

Table 3 shows the total site generated trips, pass-by trips, and resulting primary (new) trips that are added to the existing highway system.

Table 3: *Site Generated Trips*

Description	Size	AM Peak Hour		PM Peak Hour	
		Enter	Exit	Enter	Exit
Patio Homes (ITE 210)	38 units	7	20	23	13
Townhomes (ITE 215)	40 units	5	14	13	10
Retail (ITE 822)	±22,080 SF	31	21	72	73
Total Trip Generation		**36**	**55**	**108**	**96**
Pass-by Trips		*-0*	*-0*	*-18*	*-18*
Total New Trips		**36**	**55**	**90**	**78**

The proposed project is expected to generate approximately 36 entering/55 exiting vehicle trips during the AM peak hour and 108 entering/96 exiting vehicle trips during the PM peak hour. When considering ITE published pass-by trip rates and professional judgement, the resulting new trips added to the highway system is approximately 36 entering/55 exiting during the AM peak hour and 90 entering/78 exiting during the PM peak hour.

6.3 Trip Distribution

The cumulative effect of site-generated traffic on the transportation network is dependent on the origins and destinations of that traffic and the location of the access drives serving the site. The proposed arrival/departure distribution of traffic generated by the proposed project is considered a function of several parameters, including:

- Employment and residential centers using the U.S. Census Data *OnTheMap* application.
- Nearby commercial centers.
- Site access locations.
- Existing traffic patterns.
- Existing traffic conditions and controls.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figures 5A and **5B** show the anticipated trip distribution pattern percentage for the residential and commercial components, respectively. **Figure 6** shows the total site generated trips based on the distribution patterns.

6.4 Full Development Volumes

The proposed design hour traffic volumes were developed for the peak hours by combining the background traffic conditions (**Figure 4**) and the new site generated traffic volumes (**Figure 6**) to yield the traffic volumes under full development conditions. **Figure 7** illustrates the full build traffic conditions.

7.0 TRAFFIC OPERATIONS AND ANALYSIS

7.1 Description of Capacity Analysis

Capacity analysis is a technique used for determining a measure of effectiveness for a section of roadway and/or intersection based on the number of vehicles during a specific time period. The measure of effectiveness used for the capacity analysis is referred to as a Level of Service (LOS). Levels of service are calculated to provide an indication of the amount of delay that a motorist experiences while traveling along a roadway or through an intersection. Since the most amount of delay to motorists usually occurs at intersections, capacity analysis focuses on intersections, as opposed to highway segments.

The standard procedure for capacity analysis of signalized and unsignalized intersections is outlined in the *Highway Capacity Manual (HCM) 7th Edition* published by the TRB. Traffic analysis software, Synchro 12, which is based on procedures and methodologies contained in the HCM, was used to analyze operating conditions at study area intersections. The procedure yields a level of service based on the HCM as an indicator of how well intersections operate.

Six levels of service are defined for analysis purposes. They are assigned letter designations, from "A" to "F", with LOS "A" representing the conditions with little to no delay, and LOS "F" conditions with very long delays. LOS “C” or better is desirable, but LOS “D” for signalized locations and LOS “E” for unsignalized locations are generally thresholds of acceptable operation during peak periods so long as the volume to capacity ratio (v/c) is below 1.0. **Table 4** depicts level of service criteria for both signalized and unsignalized intersections.

Table 4: *Level of Service Criteria*

Level of Service	Signalized Control Delay per Vehicle (seconds)	Stop Control Delay per Vehicle (seconds)
A	< 10	< 10
B	10 – 20	10 – 15
C	20 – 35	15 – 25
D	35 – 55	25 – 35
E	55 – 80	35 – 50
F	> 80	> 50

LOS for signalized intersections is defined in terms of delay specifically, average total delay per vehicle for a 15-minute analysis period. LOS for unsignalized intersections, however, are different from a signalized intersection. The primary reason for this is driver expectation that a signalized intersection is designed to carry higher volumes than an unsignalized intersection. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable than they are at signals.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

The v/c ratio, also referred to as degree of saturation, represents the sufficiency of an intersection to accommodate the vehicular demand. A v/c ratio less than 0.85 generally indicates that adequate capacity is available, and vehicles are not expected to experience significant queues and delays. As the v/c ratio approaches 1.0, traffic flow may become unstable, and delay and queuing conditions may occur.

7.2 Capacity Analysis Results

Existing and background operating conditions during the peak study periods are evaluated to determine a basis for comparison with the projected future conditions. Future traffic conditions generated by the project are analyzed to assess the operation of the study area intersections. **Table 5** describes the capacity results for existing, background, and full development conditions. The discussion following the table summarizes capacity conditions.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Table 5: *Capacity Analysis Results*

Intersection	2024 Existing Base Conditions				2027 Background Conditions				2027 Full Build Conditions			
	AM		PM		AM		PM		AM		PM	
1. New Road at Proposed Access (U)												
EB - Proposed Access	N/A		N/A		N/A		N/A		B	10.7	A	9.9
NB - New Road									A	7.9	A	7.5
2. Millersport Highway at New Road (S)												
NB - New Road	B	15.5	C	25.9	B	15.3	C	26.1	B	14.9	C	26.4
SB - New Road	C	22.4	B	14.4	C	24.3	B	14.3	C	25.7	B	16.1
NE Left - Millersport Highway	A	7.6	A	7.4	A	8.0	A	7.8	A	8.3	A	8.1
NE Thru/Right - Millersport Highway	B	12.1	B	14.5	B	13.4	B	15.0	B	13.9	B	15.3
SW Left - Millersport Highway	A	6.1	A	5.5	A	6.2	A	5.7	A	6.6	A	5.7
SW Thru/Right - Millersport Highway	B	19.3	B	13.9	C	22.8	B	14.2	C	24.3	B	14.4
Overall LOS	**B**	**17.2**	**B**	**14.3**	**B**	**19.7**	**B**	**14.7**	**C**	**20.9**	**B**	**15.0**
v/c Ratio	**0.75**		**0.66**		**0.82**		**0.68**		**0.84**		**0.69**	
3. New Road at Smith Road (U)												
EB - Smith Road	A	9.2	B	10.1	A	9.3	B	10.3	A	9.4	B	10.1
WB - Smith Road	B	11.1	A	9.5	B	11.3	A	9.6	B	11.4	B	10.4
NB - New Road	B	10.6	A	9.9	B	10.9	B	10.0	B	10.9	A	9.7
SB - New Road	A	10.0	A	9.2	B	10.1	A	9.3	B	10.2	A	9.3
4. Millersport Highway at Smith Road (S)												
EB Left/Thru - Smith Road	B	19.4	C	21.9	B	19.5	C	22.1	B	19.5	C	22.2
EB Right - Smith Road	A	3.2	A	1.7	A	3.4	A	1.7	A	5.5	A	3.5
WB Left/Thru - Smith Road	D	40.1	C	28.6	D	42.3	C	30.6	D	42.8	C	31.1
WB Right - Smith Road	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.1
NB Left - Millersport Highway	A	0.0	A	5.8	A	0.0	A	6.0	A	9.0	A	6.2
NB Thru/Right - Millersport Highway	A	9.9	A	10.0	B	10.0	B	12.1	B	10.1	B	12.5
SB Left - Millersport Highway	A	8.2	A	6.6	A	8.2	A	7.0	A	8.3	A	7.7
SB Thru/Right - Millersport Highway	B	18.2	A	6.0	B	19.3	A	6.6	B	19.8	A	6.7
Overall LOS	**B**	**18.7**	**A**	**9.9**	**B**	**19.7**	**B**	**11.5**	**B**	**19.9**	**B**	**11.7**
v/c Ratio	**0.82**		**0.69**		**0.84**		**0.77**		**0.85**		**0.78**	
5. Millersport Highway at Proposed Access (U)												
EB Left - Proposed Access	N/A		N/A		N/A		N/A		E	38.5	D	27.0
EB Right - Proposed Access									C	16.9	B	11.6
NB Left - Millersport Highway									B	14.2	A	9.9
6. Smith Road at Proposed Access (U)												
EB Left - Smith Road	N/A		N/A		N/A		N/A		A	0.0	A	7.3
SB - Proposed Access									A	9.0	A	9.1
7. Millersport Highway at I-990 SB (U)												
NB Left - Millersport Highway	C	18.3	B	10.2	C	19.1	B	10.3	C	19.6	B	10.5
8. Millersport Highway at I-990 NB (S)												
EB Left - I-990 Off-Ramp	D	36.3	C	26.4	D	36.1	C	25.8	D	35.6	C	25.8
EB Right - I-990 Off-Ramp	C	30.6	C	23.8	C	30.5	C	23.3	C	30.0	C	23.2
NB - Millersport Highway	A	8.7	C	22.8	A	8.9	C	23.7	A	9.2	C	24.3
SB - Millersport Highway	A	9.1	C	21.4	A	9.4	C	22.2	A	9.7	C	22.6
Overall LOS	**C**	**21.4**	**C**	**24.2**	**C**	**21.5**	**C**	**24.2**	**C**	**21.4**	**C**	**24.3**
v/c Ratio	**0.68**		**0.82**		**0.68**		**0.82**		**0.69**		**0.83**	

A(2.8) = Level of Service (Delay in seconds per vehicle)
(S) = Signalized; (U) = Unsignalized
NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound
N/A = Approach does not exist and/or was not analyzed during this condition
Green shaded cells indicate low delays, yellow shaded cells indicate moderate delays, red shaded cells indicate long delays.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

1. New Road at Proposed Access

All movements operate at LOS B or better under projected full build conditions during both peak hours studied. No capacity improvements are warranted nor recommended.

2. Millersport Highway at New Road

All movements operate at LOS C or better under existing, projected background, and full build conditions during both peak hours studied. No changes in LOS are projected between background and full build conditions. The intersection can accommodate the projected new traffic volumes resulting from the project; thus, no capacity improvements are warranted nor recommended.

3. New Road at Smith Road

All movements operate at LOS B or better under existing, projected background, and full build conditions during both peak hours studied. The intersection can accommodate the projected new traffic volumes resulting from the project; thus, no capacity improvements are warranted nor recommended.

4. Millersport Highway at Smith Road

All movements generally operate at LOS C or better under existing, projected background, and full build conditions during both peak hours studied. The exception is the westbound left/thru movement during the AM peak hour, which operates at LOS D. However, the condition is on the low end of the LOS D spectrum as the threshold between LOS C and D occurs at 35.0 seconds of delay per vehicle. The intersection can accommodate the projected new traffic volumes resulting from the project; thus, no capacity improvements are warranted nor recommended.

5. Millersport Highway at Proposed Access

The eastbound left movement is projected to operate at LOS E during the AM peak hour and LOS D during the PM peak hour. The LOS E is on the low end of the delay spectrum, as the threshold occurs at 35.0 seconds of delay per vehicle. Additionally, there are multiple access driveways enabling traffic to disperse throughout the site via the internal roadway. Based upon feedback received by the NYSDOT regarding the March 2022 TIS submitted for the project, a southbound right-turn lane is required under full build-out of the project and has been modeled as part of the full development analysis. The right-turn lane should be up to 325 feet in length, including the taper. No further capacity improvements are recommended.

6. Smith Road at Proposed Access

All movements are projected to operate at LOS A during both peak hours under full build conditions. No capacity improvements are warranted nor recommended.

7. Millersport Highway at I-990 On-Ramp

All movements generally operate at LOS C or better under existing, projected background, and full build conditions during both peak hours studied. The intersection can accommodate the projected new traffic volumes resulting from the project; thus, no capacity improvements are warranted nor recommended.

8. Millersport Highway at I-990 Off-Ramp

All movements generally operate at LOS C or better under existing, projected background, and full build conditions during both peak hours studied. The exception is the eastbound left movement during the AM peak hour, which operates at LOS D. However, the condition is on the low end of the LOS D spectrum. The intersection can accommodate the projected new traffic volumes resulting from the project; thus, no capacity improvements are warranted nor recommended.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

8.0 CONCLUSIONS AND RECOMMENDATIONS

This report identified and evaluated the potential traffic impacts that can be expected from the proposed mixed-use project at 4300 Millersport Highway. The results of this comprehensive study determined that the existing transportation network can adequately accommodate the projected traffic volumes and resulting minor impacts to study area intersections. The following sets forth the study's conclusions and recommendations:

1. The proposed project is expected to generate approximately 36 entering/55 exiting vehicle trips during the AM peak hour and 108 entering/96 exiting vehicle trips during the PM peak hour. When considering ITE published pass-by trip rates and professional judgement, the resulting new trips added to the highway system is approximately 36 entering/55 exiting during the AM peak hour and 90 entering/78 exiting during the PM peak hour.
2. A southbound right-turn lane is warranted per NYSDOT feedback and guidelines at the proposed Millersport Highway/Proposed Access intersection. The right-turn lane should be up to 325 feet in length, including the taper.
3. The proposed access intersections are projected to operate at LOS B or better during the AM and PM peak hours. No capacity improvements are warranted nor recommended under full build conditions.
4. With the recommended improvement in place, there are no potentially significant adverse traffic impacts projected due to the development of the proposed project.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

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- Highway Functional Classification Concepts, Criteria, and Procedures. Federal Highway Administration (FHWA). 2023.
- Accident Location Information System. New York State Department of Transportation. 2022.
- Niagara Frontier Transportation Authority (NFTA). 2024.

10.0 FIGURES

Figures 1 through 7 are included on the following pages.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TND ZONING	
PHASE 1	
PATIO HOME UNITS (50'X50')	38 UNITS
4–UNIT TOWNHOMES	7 STRUCTURES (28 UNITS)
2–UNIT TOWNHOMES	6 STRUCTURES (12 UNITS)
TOTAL PROPOSED RESIDENTIAL UNITS IN PHASE 1 = 78 UNITS	

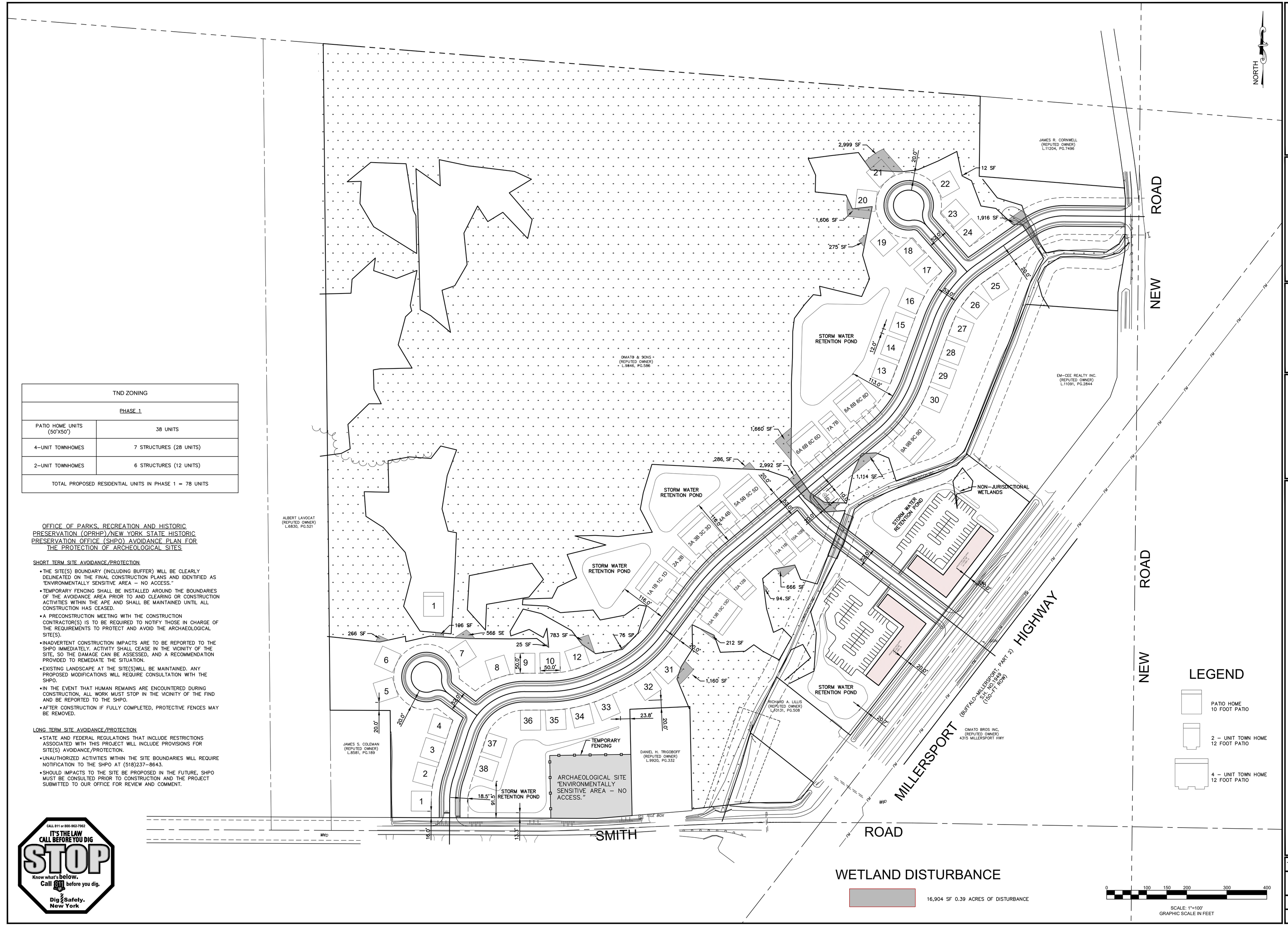
OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION (OPRHP)/NEW YORK STATE HISTORIC PRESERVATION OFFICE (SHPO) AVOIDANCE PLAN FOR THE PROTECTION OF ARCHEOLOGICAL SITES

SHORT TERM SITE AVOIDANCE/PROTECTION

- THE SITE(S) BOUNDARY (INCLUDING BUFFER) WILL BE CLEARLY DELINEATED ON THE FINAL CONSTRUCTION PLANS AND IDENTIFIED AS "ENVIRONMENTALLY SENSITIVE AREA – NO ACCESS."
- TEMPORARY FENCING SHALL BE INSTALLED AROUND THE BOUNDARIES OF THE AVOIDANCE AREA PRIOR TO AND CLEARING OR CONSTRUCTION ACTIVITIES WITHIN THE APE AND SHALL BE MAINTAINED UNTIL ALL CONSTRUCTION HAS CEASED.
- A PRECONSTRUCTION MEETING WITH THE CONSTRUCTION CONTRACTOR(S) IS TO BE REQUIRED TO NOTIFY THOSE IN CHARGE OF THE REQUIREMENTS TO PROTECT AND AVOID THE ARCHAEOLOGICAL SITE(S).
- INADVERTENT CONSTRUCTION IMPACTS ARE TO BE REPORTED TO THE SHPO IMMEDIATELY. ACTIVITY SHALL CEASE IN THE VICINITY OF THE SITE, SO THE DAMAGE CAN BE ASSESSED, AND A RECOMMENDATION PROVIDED TO REMEDIATE THE SITUATION.
- EXISTING LANDSCAPE AT THE SITE(S)WILL BE MAINTAINED. ANY PROPOSED MODIFICATIONS WILL REQUIRE CONSULTATION WITH THE SHPO.
- IN THE EVENT THAT HUMAN REMAINS ARE ENCOUNTERED DURING CONSTRUCTION, ALL WORK MUST STOP IN THE VICINITY OF THE FIND AND BE REPORTED TO THE SHPO.
- AFTER CONSTRUCTION IF FULLY COMPLETED, PROTECTIVE FENCES MAY BE REMOVED.

LONG TERM SITE AVOIDANCE/PROTECTION

- STATE AND FEDERAL REGULATIONS THAT INCLUDE RESTRICTIONS ASSOCIATED WITH THIS PROJECT WILL INCLUDE PROVISIONS FOR SITE(S) AVOIDANCE/PROTECTION.
- UNAUTHORIZED ACTIVITIES WITHIN THE SITE BOUNDARIES WILL REQUIRE NOTIFICATION TO THE SHPO AT (518)237–8643.
- SHOULD IMPACTS TO THE SITE BE PROPOSED IN THE FUTURE, SHPO MUST BE CONSULTED PRIOR TO CONSTRUCTION AND THE PROJECT SUBMITTED TO OUR OFFICE FOR REVIEW AND COMMENT.



LEGEND

- PATIO HOME 10 FOOT PATIO
- 2 – UNIT TOWN HOME 12 FOOT PATIO
- 4 – UNIT TOWN HOME 12 FOOT PATIO

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

WARNING:
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STATE OF NEW YORK · WILLIAM E. SCHUTT · 058840 · LICENSED PROFESSIONAL ENGINEER

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LANCASTER, NY 14086-2143
PH. 716-683-5961
FAX 716-683-0169
WWW.WMSCHUTT.COM

4300 MILLERSPORT DEVELOPMENT

TOWN OF AMHERST
ERIE COUNTY - NEW YORK

OVERALL SITE PLAN

THIS SHEET ISSUED FEBRUARY 01, 2024

OP

DRAWING SCALE: 1"=100'

WSA PROJECT NO. 13027C

CALL 811 or 800-962-7962
IT'S THE LAW
CALL BEFORE YOU DIG
STOP
Know what's below. Call 811 before you dig.
Dig Safely. New York

FIGURE 1: SITE LOCATION AND STUDY AREA



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Key

- 1 Study Intersection
- 1 Proposed Intersection
- Study Area
- Site Location

PROPOSED 4300 MILLERSPORT HIGHWAY MIXED-USE PROJECT

TOWN OF AMHERST, ERIE COUNTY, NEW YORK

N

0 800 1600 2400

Feet

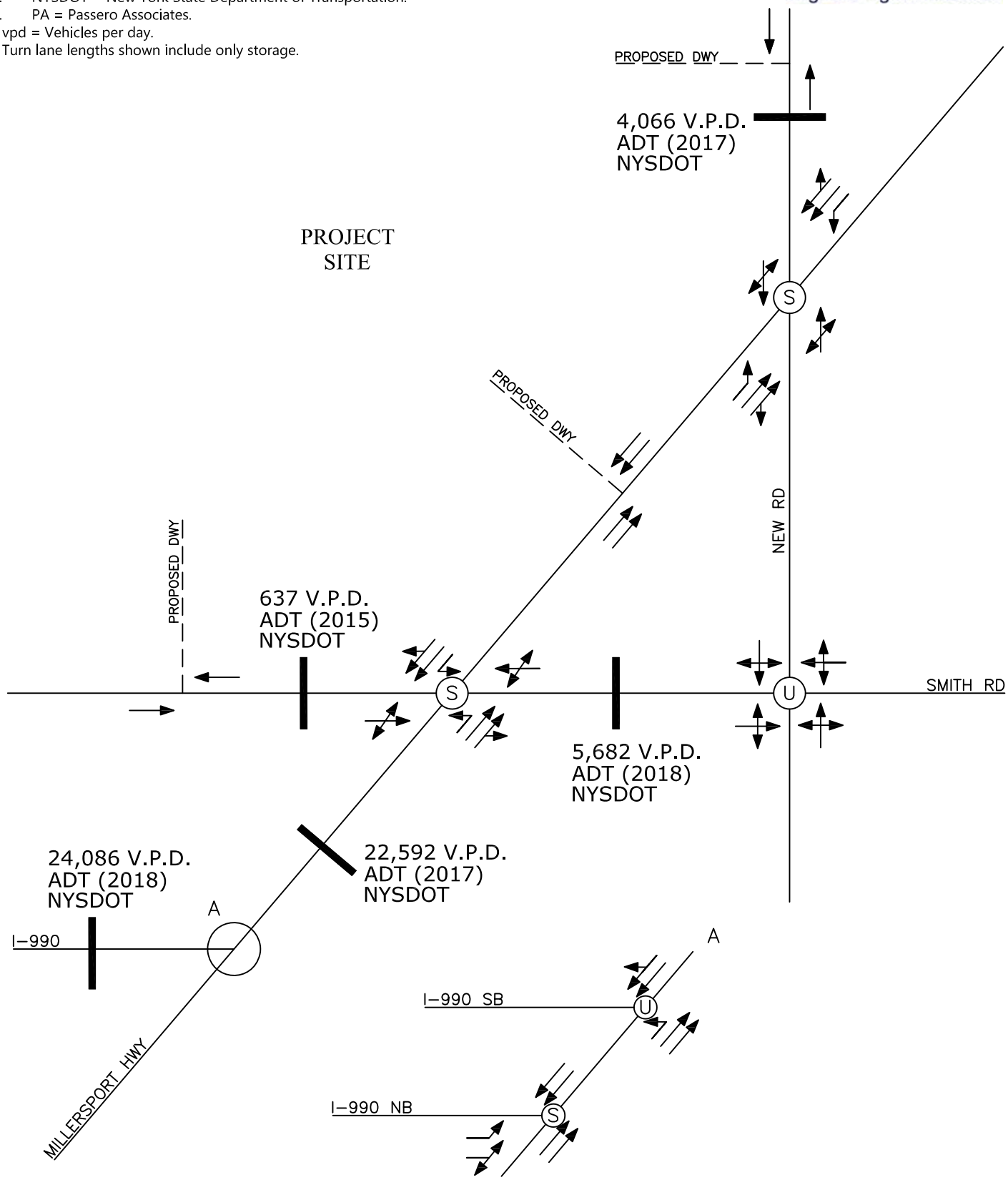
PA

Project

Figure 2

PASSERO engineering architecture

Notes:
1. All AADT volumes by those noted:
   1.1. NYSDOT = New York State Department of Transportation.
   1.2. PA = Passero Associates.
2. vpd = Vehicles per day.
3. Turn lane lengths shown include only storage.



4300 Millersport Highway | Town of Amherst, NY

N
NOT TO SCALE

Lane Geometry and Average Daily Traffic

KEY:

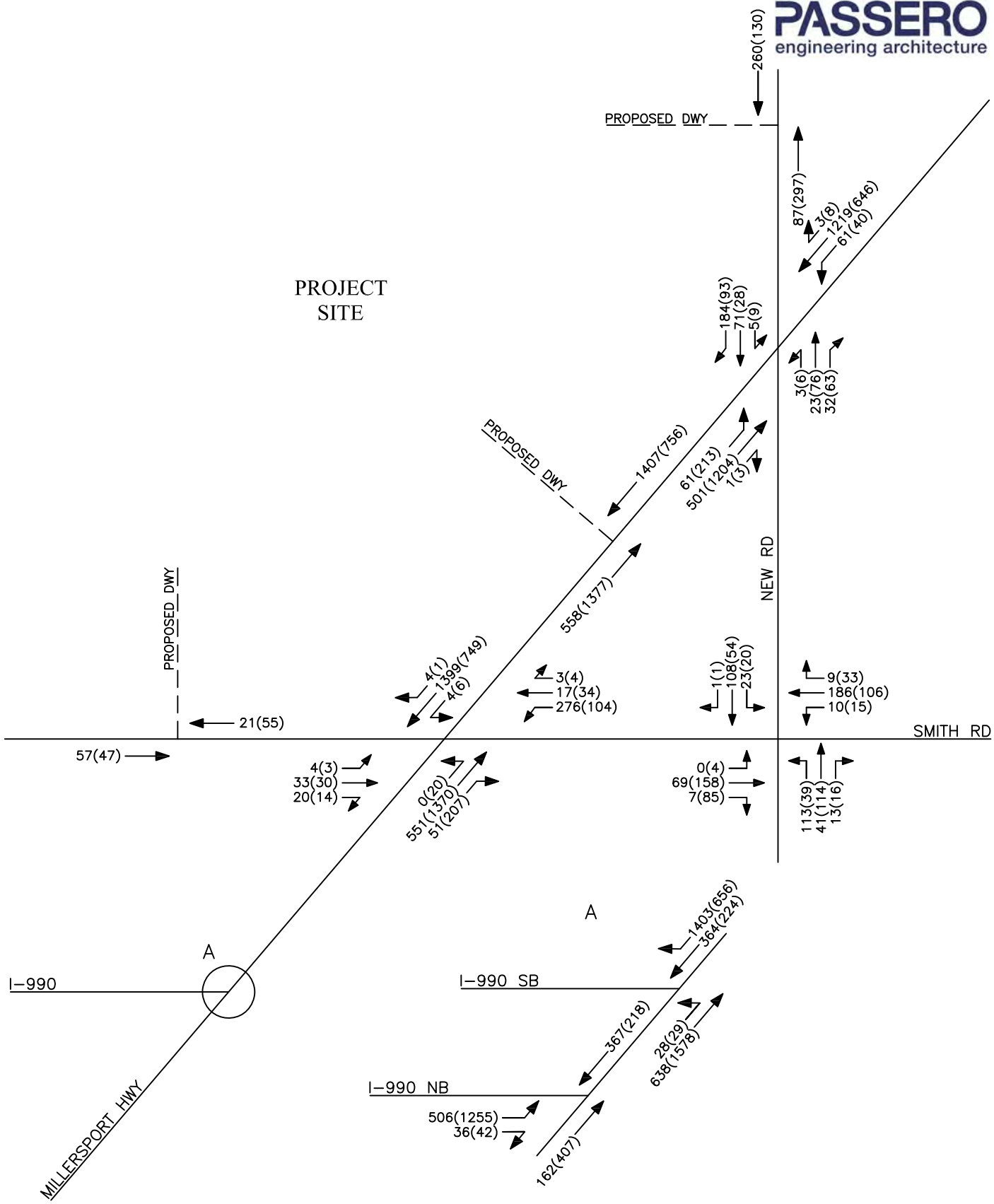
– – – Proposed Roadway
U = Unsignalized
S = S

Project Number: 20243846.0001

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 3A

PASSERO engineering architecture



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4300 Millersport Highway | Town of Amherst, NY

N
NOT TO SCALE

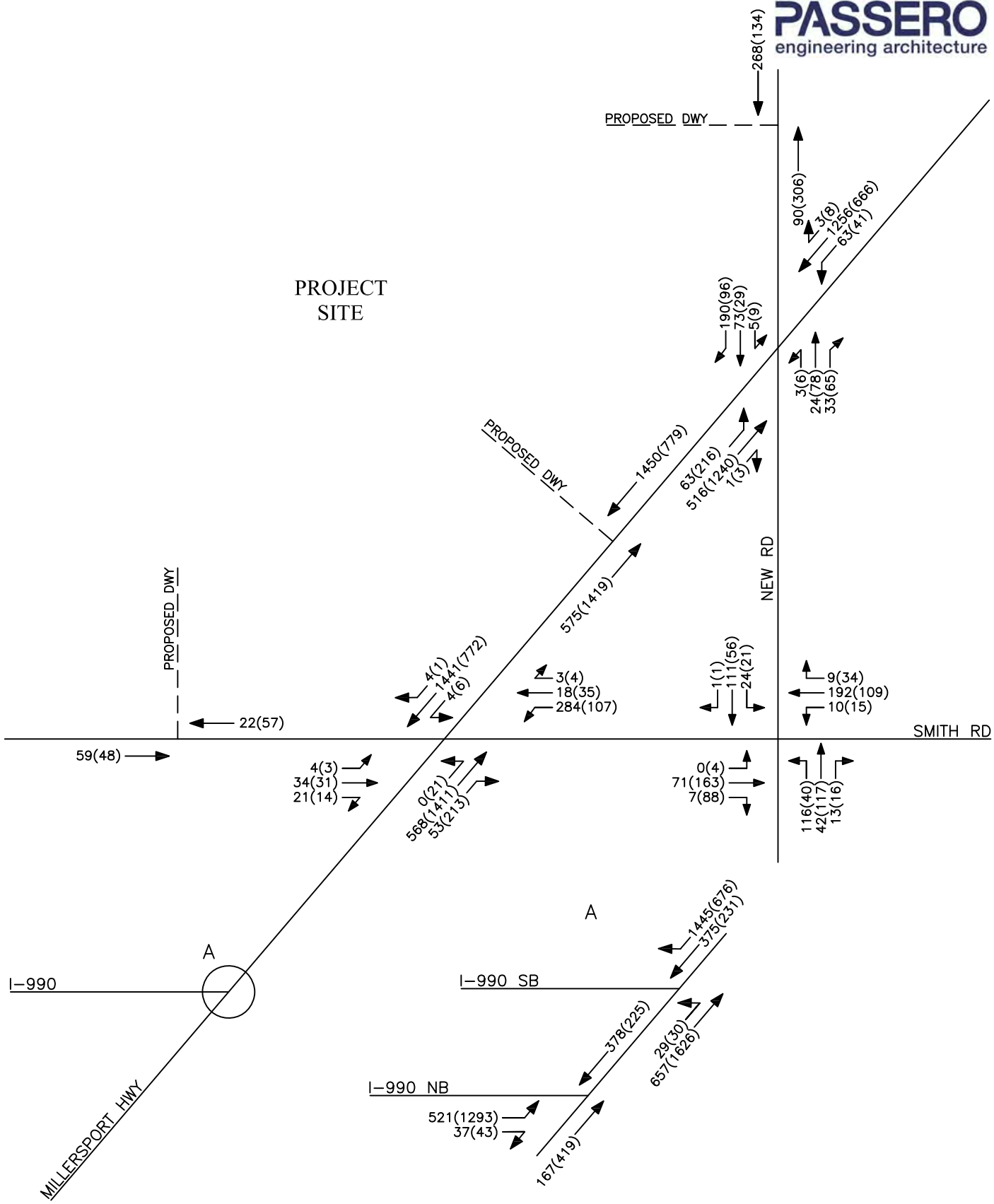
Peak Hour Volumes
2022 Existing Conditions

KEY:
00(00) = AM(PM)
– – – Proposed Roadway

Project Number: 20243846.0001

Figure 3B

PASSERO engineering architecture



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4300 Millersport Highway | Town of Amherst, NY

N
NOT TO SCALE

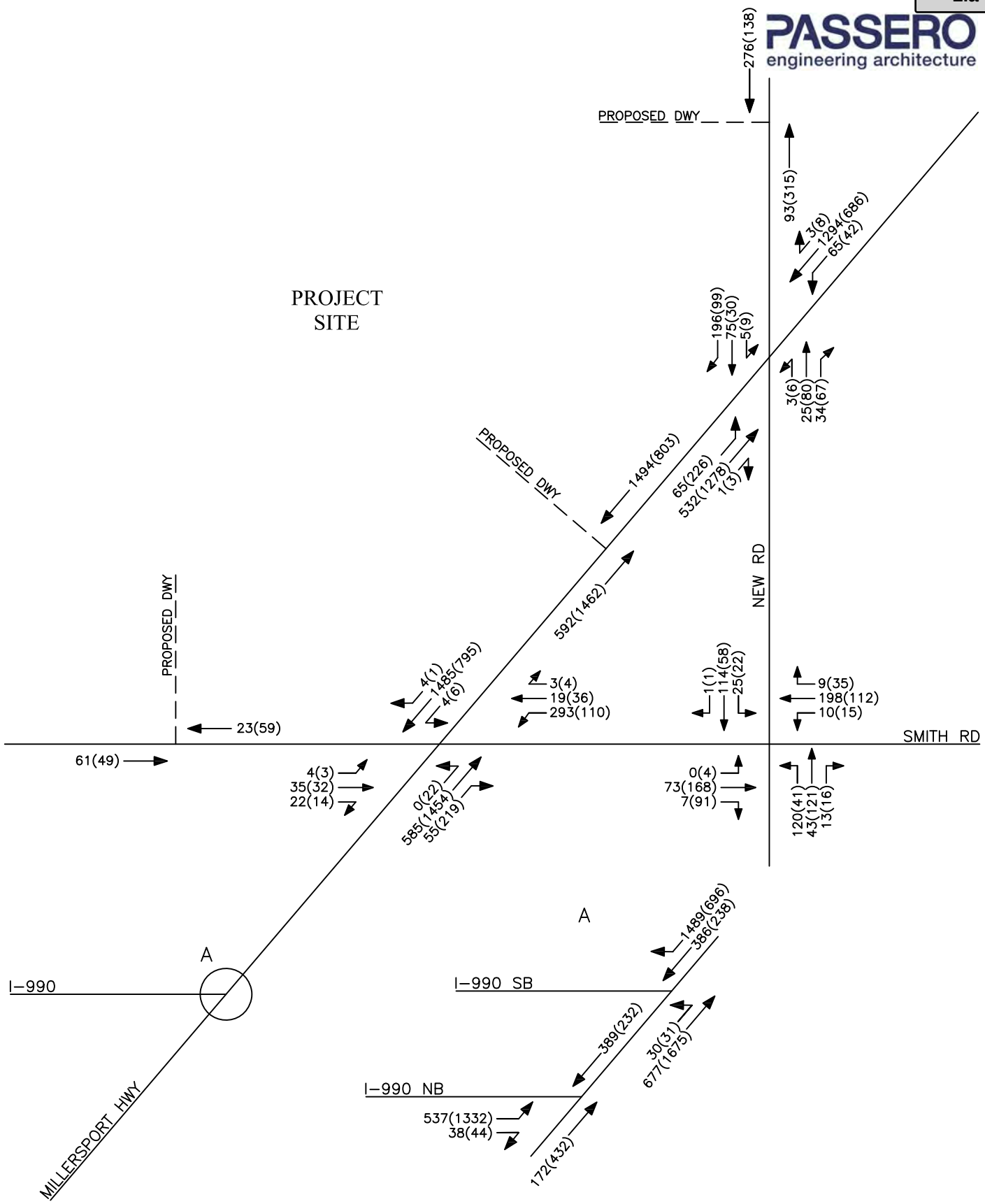
Peak Hour Volumes
2024 Existing Conditions

KEY:
00(00) = AM(PM)
– – – Proposed Roadway

Project Number: 20243846.0001

Figure 4

PASSERO engineering architecture



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4300 Millersport Highway | Town of Amherst, NY

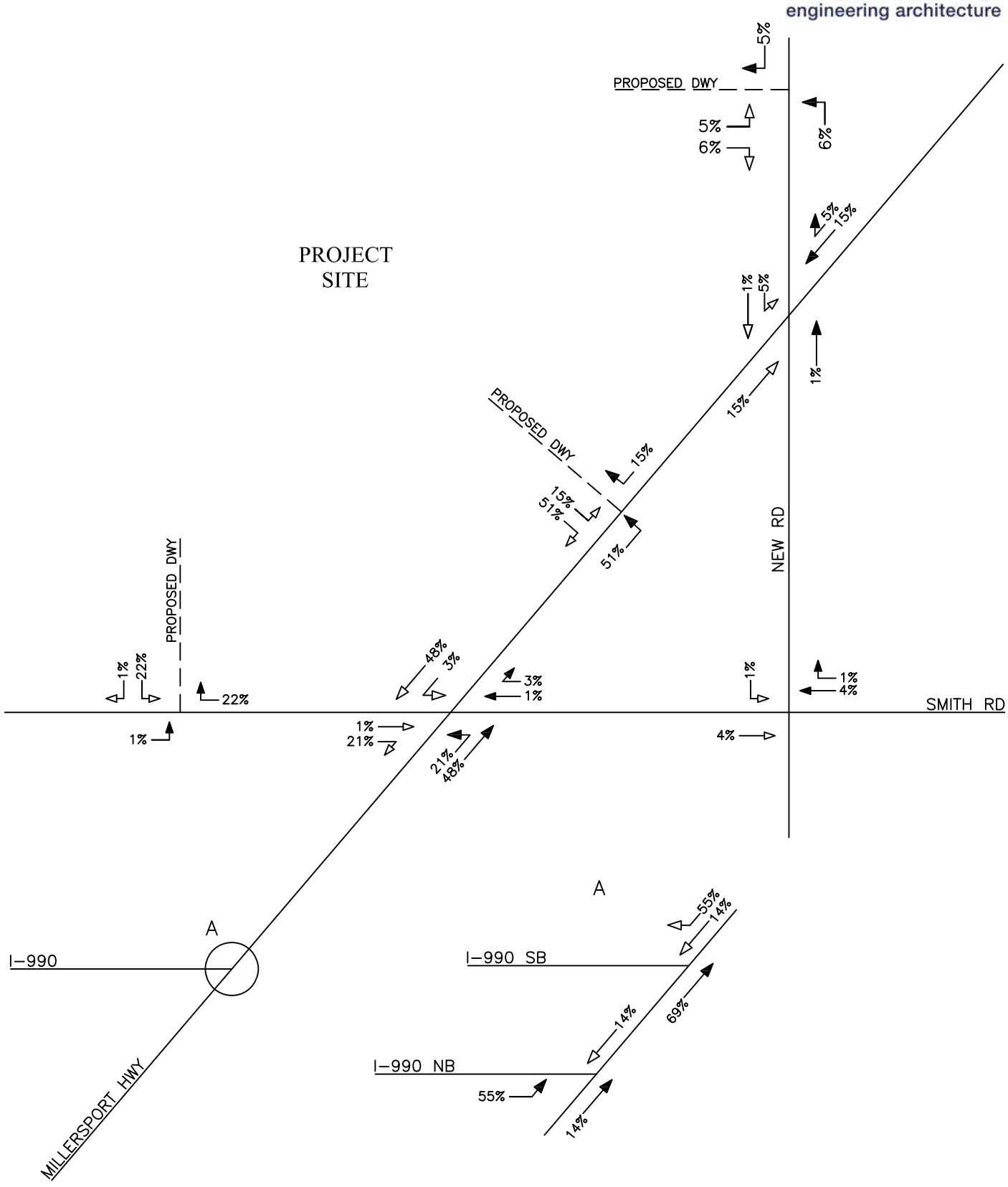
N
NOT TO SCALE

Peak Hour Volumes
2027 Background Conditions

KEY:
00(00) = AM(PM)
– – – Proposed Roadway

Figure 5A

PASSERO engineering architecture



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4300 Millersport Highway | Town of Amherst, NY

N
NOT TO SCALE

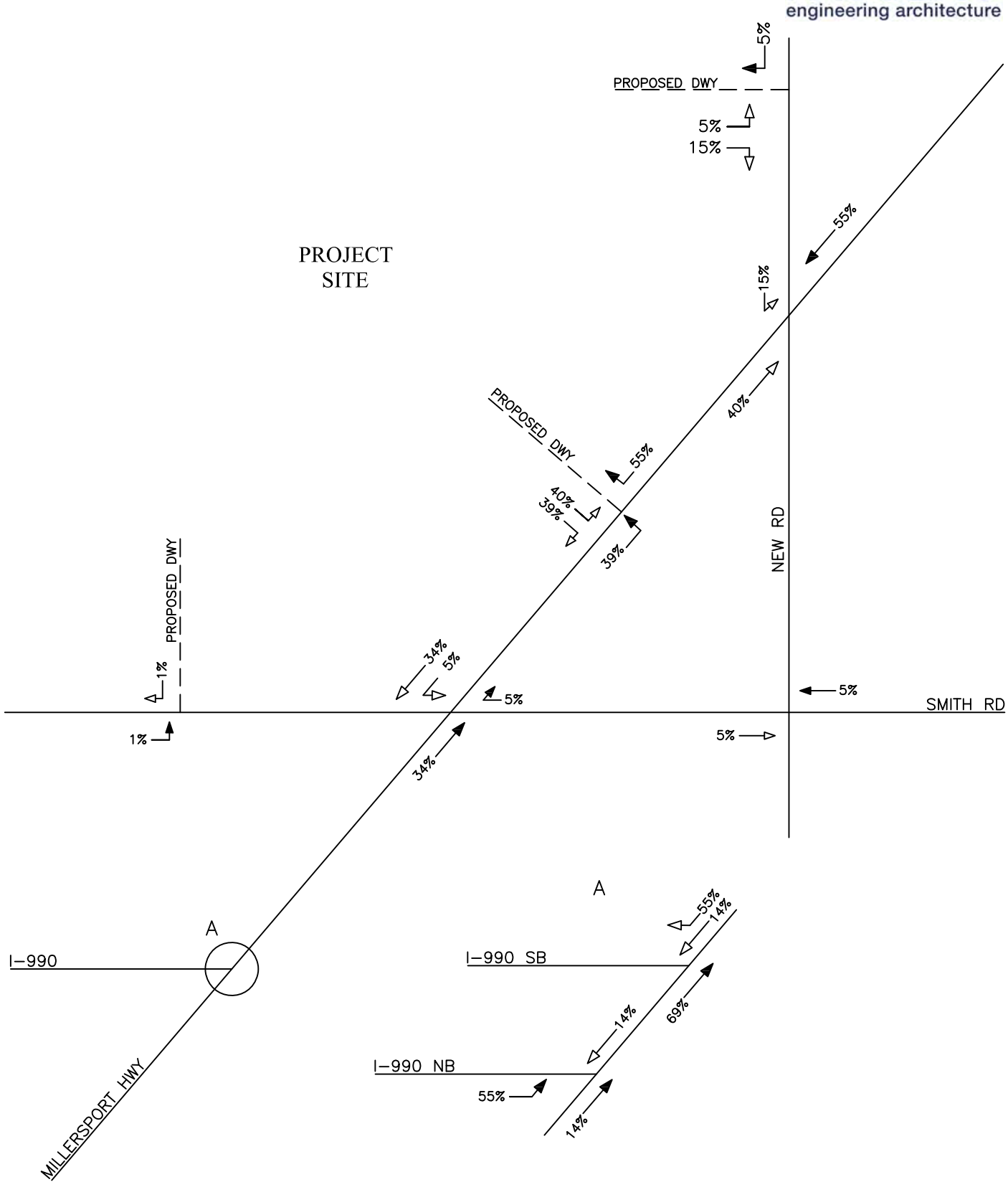
Trip Distribution
Residential

KEY:
00(00) = AM(PM)
Entering Trip

Project Number: 20243846.0001

Figure 5B

PASSERO engineering architecture



4300 Millersport Highway | Town of Amherst, NY

N
NOT TO SCALE

Trip Distribution
Commercial

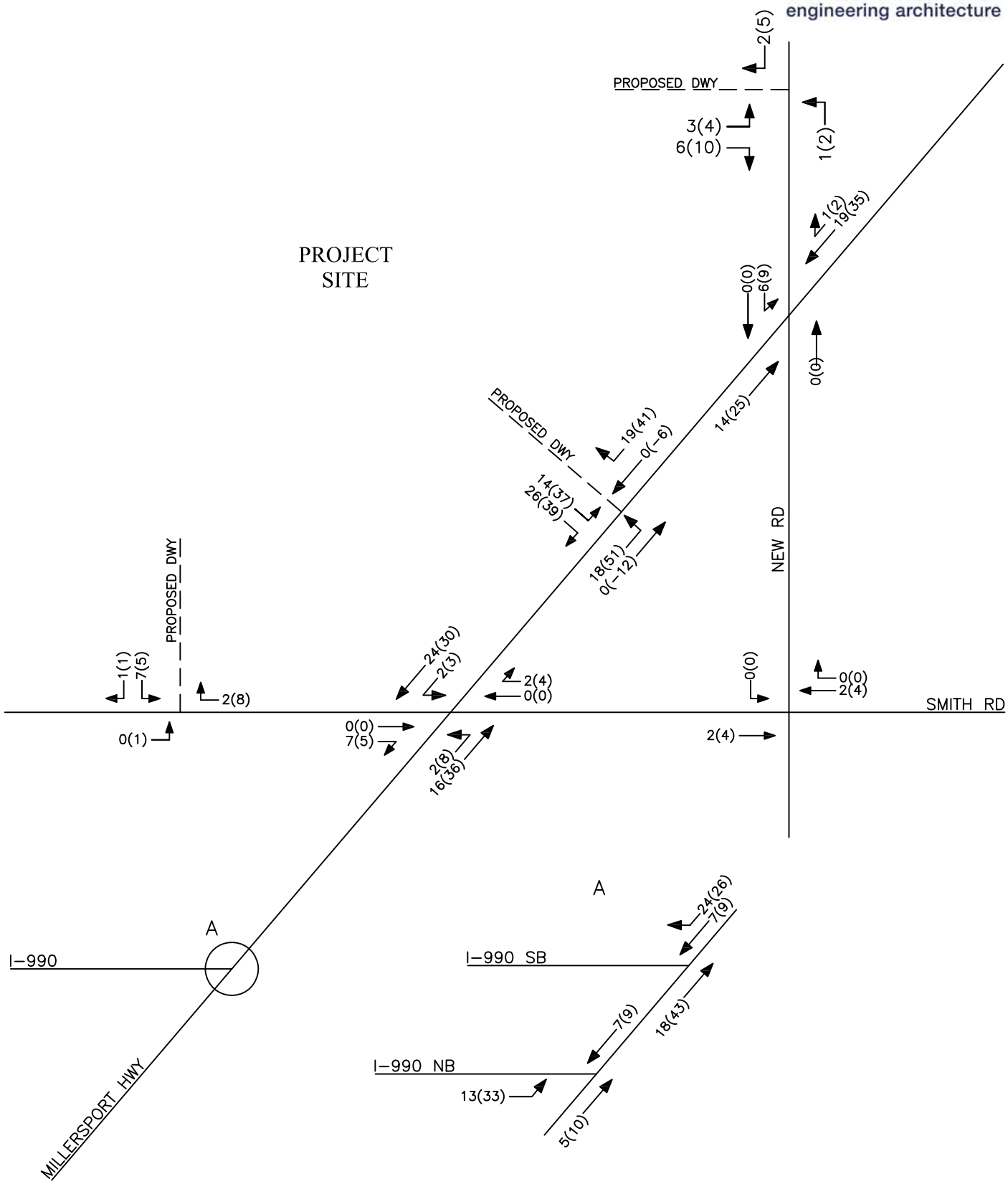
KEY:
00(00) = AM(PM)
Entering Trip

Project Number: 20243846.0001

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 6

PASSERO engineering architecture



4300 Millersport Highway | Town of Amherst, NY

N
NOT TO SCALE

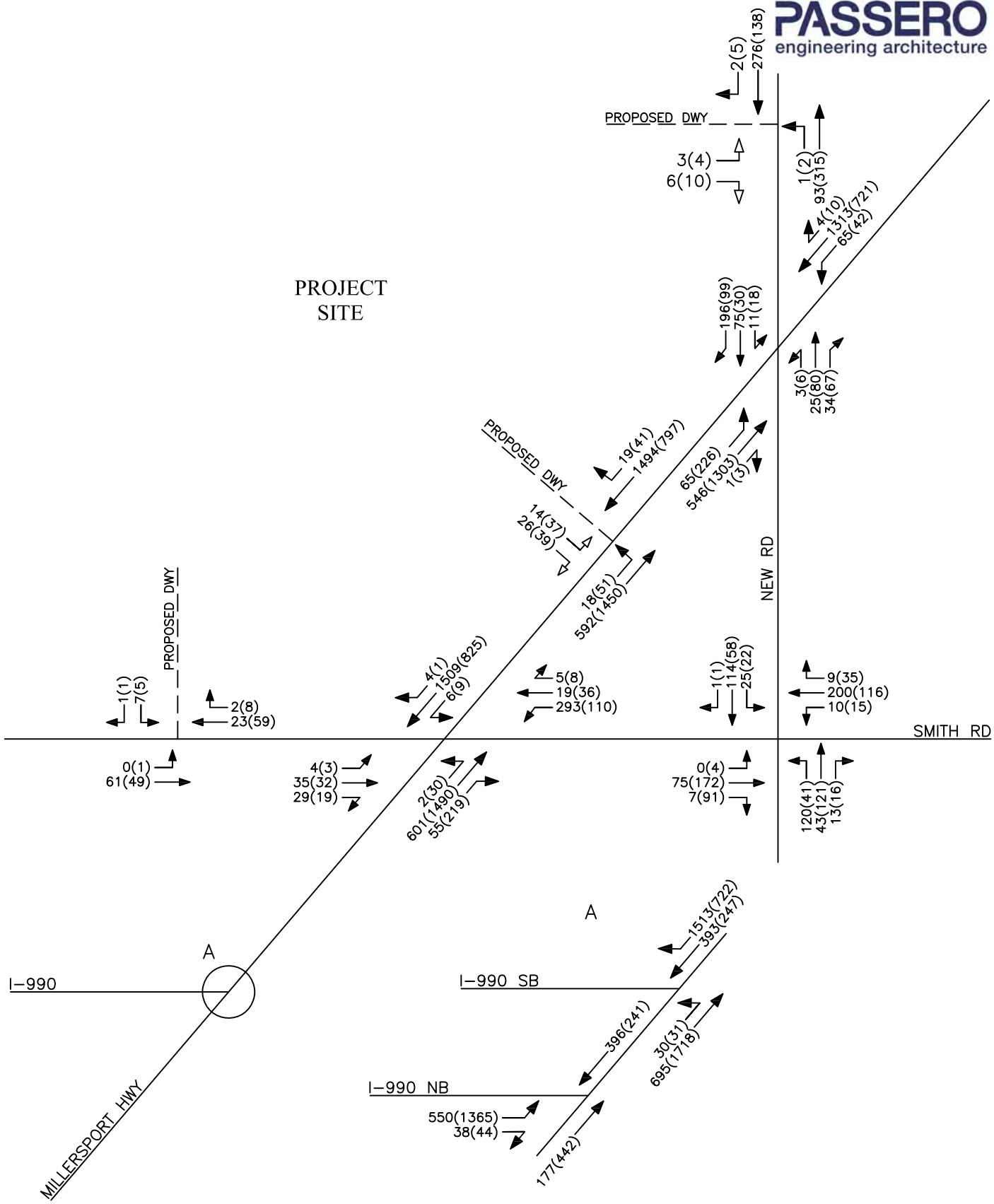
Total Site Trips

KEY:
00(00) = AM(PM)
Entering Trip

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 7

PASSERO engineering architecture



4300 Millersport Highway | Town of Amherst, NY

N
NOT TO SCALE

Full Build Volumes

KEY:
00(00) = AM(PM)
– – – Proposed Roadway

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDICES

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX A: EXISTING TRAFFIC COUNT DATA

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

New Rd/Smith Rd - TMC

Wed Feb 9, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921941, Location: 43.053465, -78.724563



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

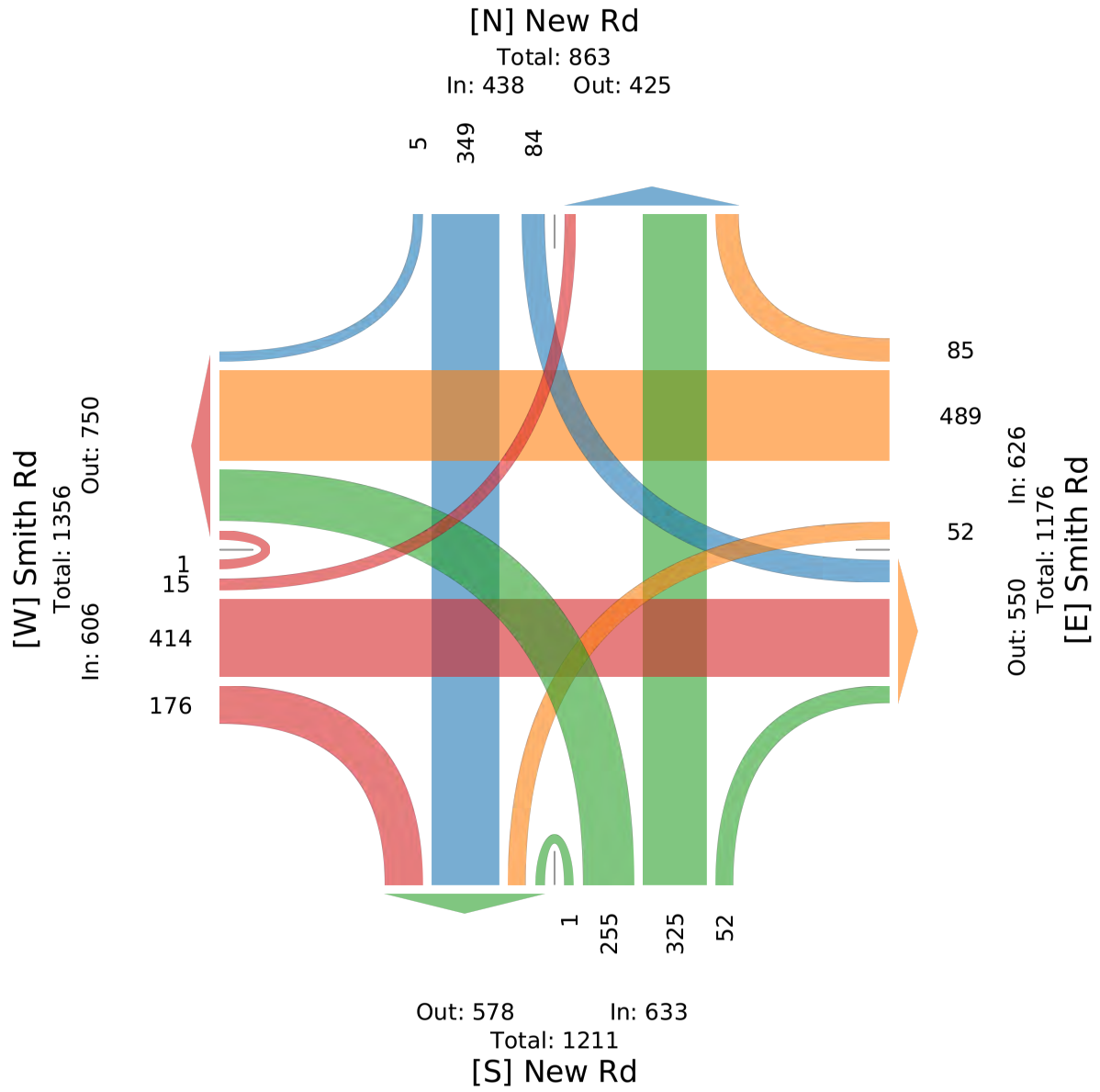
Leg / Direction	Smith Rd Eastbound						Smith Rd Westbound						New Rd Northbound						New Rd Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2022-02-09 7:00AM	0	12	1	0	**13**	0	1	44	1	0	**46**	0	25	5	1	0	**31**	0	9	14	0	0	**23**	0	**113**
7:15AM	0	21	3	0	**24**	0	2	35	2	0	**39**	0	24	8	1	1	**34**	0	3	27	0	0	**30**	0	**127**
7:30AM	0	16	1	0	**17**	0	5	54	5	0	**64**	0	36	11	8	0	**55**	0	7	38	1	0	**46**	0	**182**
7:45AM	0	20	2	0	**22**	0	2	53	1	0	**56**	0	27	17	3	0	**47**	0	4	29	0	0	**33**	0	**158**
Hourly Total	0	69	7	0	**76**	0	10	186	9	0	**205**	0	112	41	13	1	**167**	0	23	108	1	0	**132**	0	**580**
8:00AM	1	13	1	0	**15**	0	2	34	5	0	**41**	0	14	21	2	0	**37**	0	5	31	0	0	**36**	0	**129**
8:15AM	0	10	3	0	**13**	0	2	31	2	0	**35**	0	20	11	6	0	**37**	0	3	35	0	0	**38**	0	**123**
8:30AM	0	14	3	0	**17**	0	10	45	3	0	**58**	0	24	12	3	0	**39**	0	7	18	0	0	**25**	0	**139**
8:45AM	0	14	2	0	**16**	0	5	21	4	0	**30**	0	19	11	2	0	**32**	0	3	15	0	0	**18**	0	**96**
Hourly Total	1	51	9	0	**61**	0	19	131	14	0	**164**	0	77	55	13	0	**145**	0	18	99	0	0	**117**	0	**487**
9:00AM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	**0**
Hourly Total	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0	**0**
4:00PM	1	36	14	0	**51**	0	1	21	11	0	**33**	0	6	29	6	0	**41**	0	7	15	0	0	**22**	0	**147**
4:15PM	2	48	19	0	**69**	0	4	15	9	0	**28**	0	11	35	2	0	**48**	0	6	12	0	0	**18**	0	**163**
4:30PM	0	30	26	0	**56**	0	3	30	10	0	**43**	0	8	24	5	0	**37**	0	6	14	0	0	**20**	0	**156**
4:45PM	0	37	18	0	**55**	0	4	30	6	0	**40**	0	11	25	5	0	**41**	0	5	12	1	0	**18**	0	**154**
Hourly Total	3	151	77	0	**231**	0	12	96	36	0	**144**	0	36	113	18	0	**167**	0	24	53	1	0	**78**	0	**620**
5:00PM	2	43	22	0	**67**	0	4	31	8	0	**43**	0	9	30	4	0	**43**	0	3	16	0	0	**19**	0	**172**
5:15PM	0	39	18	0	**57**	0	3	15	8	0	**26**	0	8	32	1	0	**41**	0	6	20	1	0	**27**	0	**151**
5:30PM	1	37	22	1	**61**	0	3	18	6	0	**27**	0	11	27	3	0	**41**	0	5	23	0	0	**28**	0	**157**
5:45PM	8	24	21	0	**53**	0	1	12	4	0	**17**	0	2	27	0	0	**29**	0	5	30	2	0	**37**	0	**136**
Hourly Total	11	143	83	1	**238**	0	11	76	26	0	**113**	0	30	116	8	0	**154**	0	19	89	3	0	**111**	0	**616**
Total	15	414	176	1	**606**	0	52	489	85	0	**626**	0	255	325	52	1	**633**	0	84	349	5	0	**438**	0	**2303**
% Approach	2.5%	68.3%	29.0%	0.2%	**-**	-	8.3%	78.1%	13.6%	0%	**-**	-	40.3%	51.3%	8.2%	0.2%	**-**	-	19.2%	79.7%	1.1%	0%	**-**	-	-
% Total	0.7%	18.0%	7.6%	0%	**26.3%**	-	2.3%	21.2%	3.7%	0%	**27.2%**	-	11.1%	14.1%	2.3%	0%	**27.5%**	-	3.6%	15.2%	0.2%	0%	**19.0%**	-	-
Motorcycles	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Lights	15	405	174	1	**595**	-	50	483	84	0	**617**	-	252	316	49	1	**618**	-	82	343	5	0	**430**	-	2260
% Lights	100%	97.8%	98.9%	100%	**98.2%**	-	96.2%	98.8%	98.8%	0%	**98.6%**	-	98.8%	97.2%	94.2%	100%	**97.6%**	-	97.6%	98.3%	100%	0%	**98.2%**	-	98.1%
Heavy	0	9	2	0	**11**	-	2	6	1	0	**9**	-	3	9	3	0	**15**	-	2	6	0	0	**8**	-	43
% Heavy	0%	2.2%	1.1%	0%	**1.8%**	-	3.8%	1.2%	1.2%	0%	**1.4%**	-	1.2%	2.8%	5.8%	0%	**2.4%**	-	2.4%	1.7%	0%	0%	**1.8%**	-	1.9%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

New Rd/Smith Rd - TMC
Wed Feb 9, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921941, Location: 43.053465, -78.724563

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

New Rd/Smith Rd - TMC

Wed Feb 9, 2022
Forced Peak (7 AM - 8 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921941, Location: 43.053465, -78.724563



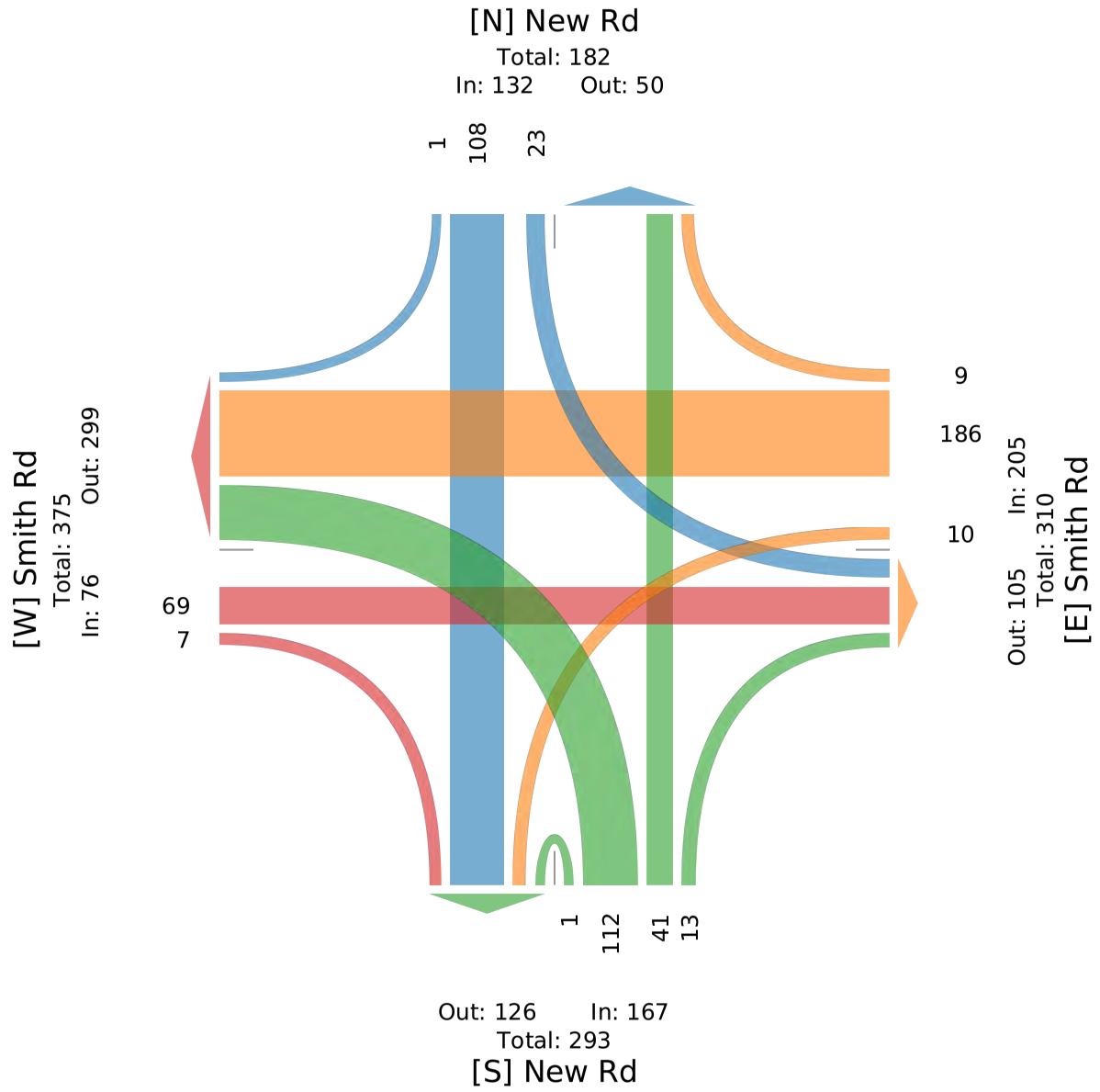
Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg	Smith Rd						Smith Rd						New Rd						New Rd						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2022-02-09 7:00AM	0	12	1	0	**13**	0	1	44	1	0	**46**	0	25	5	1	0	**31**	0	9	14	0	0	**23**	0	**113**
7:15AM	0	21	3	0	**24**	0	2	35	2	0	**39**	0	24	8	1	1	**34**	0	3	27	0	0	**30**	0	**127**
7:30AM	0	16	1	0	**17**	0	5	54	5	0	**64**	0	36	11	8	0	**55**	0	7	38	1	0	**46**	0	**182**
7:45AM	0	20	2	0	**22**	0	2	53	1	0	**56**	0	27	17	3	0	**47**	0	4	29	0	0	**33**	0	**158**
Total	0	69	7	0	**76**	0	10	186	9	0	**205**	0	112	41	13	1	**167**	0	23	108	1	0	**132**	0	**580**
% Approach	0%	90.8%	9.2%	0%	**-**	-	4.9%	90.7%	4.4%	0%	**-**	-	67.1%	24.6%	7.8%	0.6%	**-**	-	17.4%	81.8%	0.8%	0%	**-**	-	-
% Total	0%	11.9%	1.2%	0%	**13.1%**	-	1.7%	32.1%	1.6%	0%	**35.3%**	-	19.3%	7.1%	2.2%	0.2%	**28.8%**	-	4.0%	18.6%	0.2%	0%	**22.8%**	-	-
PHF	-	0.821	0.583	-	**0.792**	-	0.500	0.861	0.450	-	**0.801**	-	0.778	0.603	0.406	0.250	**0.759**	-	0.639	0.711	0.250	-	**0.717**	-	0.797
Motorcycles	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Lights	0	69	7	0	**76**	-	10	185	9	0	**204**	-	110	39	11	1	**161**	-	23	107	1	0	**131**	-	572
% Lights	0%	100%	100%	0%	**100%**	-	100%	99.5%	100%	0%	**99.5%**	-	98.2%	95.1%	84.6%	100%	**96.4%**	-	100%	99.1%	100%	0%	**99.2%**	-	98.6%
Heavy	0	0	0	0	**0**	-	0	1	0	0	**1**	-	2	2	2	0	**6**	-	0	1	0	0	**1**	-	8
% Heavy	0%	0%	0%	0%	**0%**	-	0%	0.5%	0%	0%	**0.5%**	-	1.8%	4.9%	15.4%	0%	**3.6%**	-	0%	0.9%	0%	0%	**0.8%**	-	1.4%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

New Rd/Smith Rd - TMC
Wed Feb 9, 2022
Forced Peak (7 AM - 8 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921941, Location: 43.053465, -78.724563

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



New Rd/Smith Rd - TMC

Wed Feb 9, 2022
AM Peak (7:15 AM - 8:15 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921941, Location: 43.053465, -78.724563



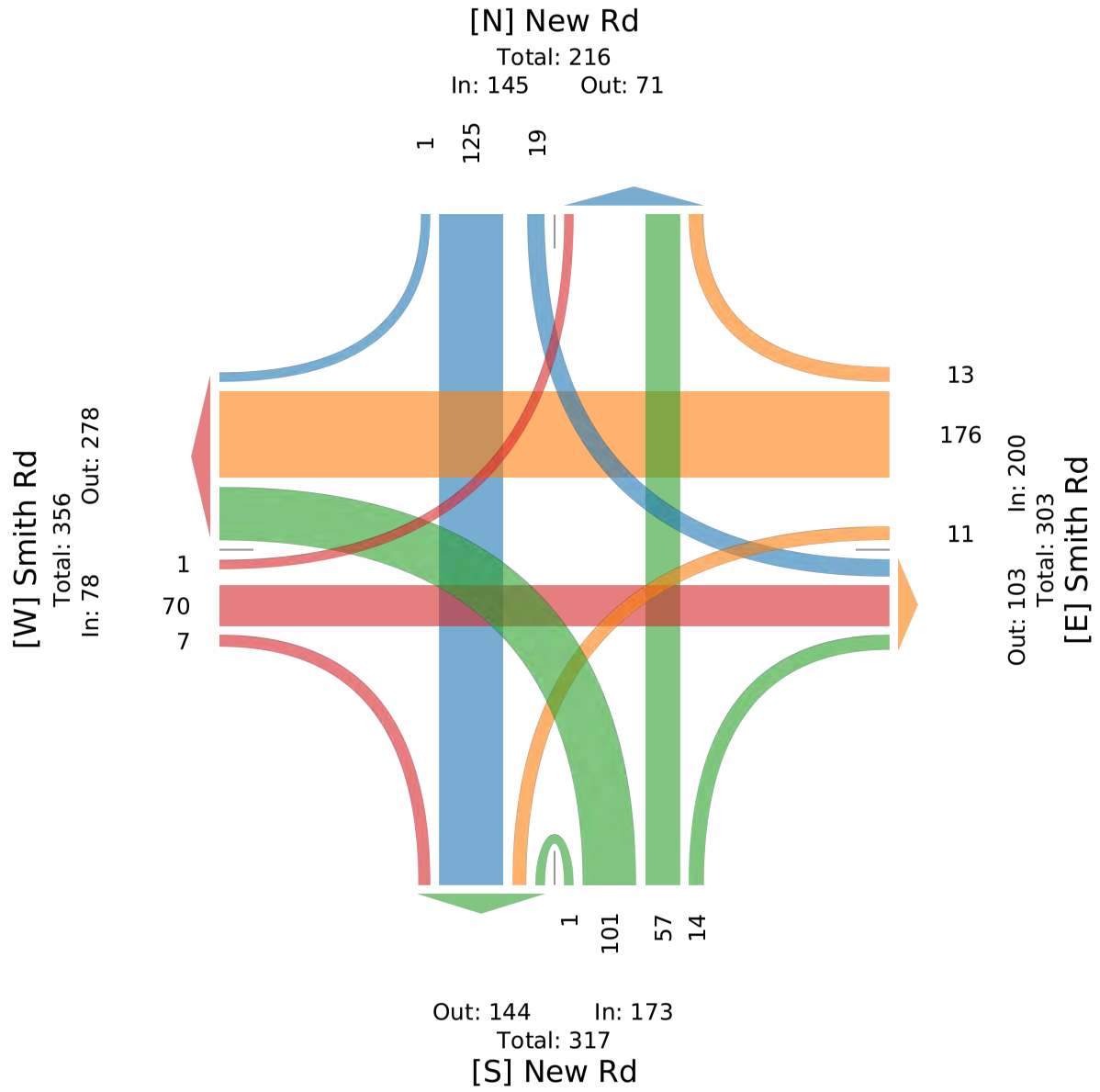
Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg / Direction	Smith Rd Eastbound						Smith Rd Westbound						New Rd Northbound						New Rd Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2022-02-09 7:15AM	0	21	3	0	**24**	0	2	35	2	0	**39**	0	24	8	1	1	**34**	0	3	27	0	0	**30**	0	**127**
7:30AM	0	16	1	0	**17**	0	5	54	5	0	**64**	0	36	11	8	0	**55**	0	7	38	1	0	**46**	0	**182**
7:45AM	0	20	2	0	**22**	0	2	53	1	0	**56**	0	27	17	3	0	**47**	0	4	29	0	0	**33**	0	**158**
8:00AM	1	13	1	0	**15**	0	2	34	5	0	**41**	0	14	21	2	0	**37**	0	5	31	0	0	**36**	0	**129**
Total	1	70	7	0	**78**	0	11	176	13	0	**200**	0	101	57	14	1	**173**	0	19	125	1	0	**145**	0	**596**
% Approach	1.3%	89.7%	9.0%	0%	**-**	-	5.5%	88.0%	6.5%	0%	**-**	-	58.4%	32.9%	8.1%	0.6%	**-**	-	13.1%	86.2%	0.7%	0%	**-**	-	-
% Total	0.2%	11.7%	1.2%	0%	**13.1%**	-	1.8%	29.5%	2.2%	0%	**33.6%**	-	16.9%	9.6%	2.3%	0.2%	**29.0%**	-	3.2%	21.0%	0.2%	0%	**24.3%**	-	-
PHF	0.250	0.833	0.583	-	**0.813**	-	0.550	0.815	0.650	-	**0.781**	-	0.701	0.679	0.438	0.250	**0.786**	-	0.679	0.822	0.250	-	**0.788**	-	0.819
Motorcycles	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Lights	1	70	7	0	**78**	-	11	176	12	0	**199**	-	99	54	12	1	**166**	-	19	124	1	0	**144**	-	587
% Lights	100%	100%	100%	0%	**100%**	-	100%	100%	92.3%	0%	**99.5%**	-	98.0%	94.7%	85.7%	100%	**96.0%**	-	100%	99.2%	100%	0%	**99.3%**	-	98.5%
Heavy	0	0	0	0	**0**	-	0	0	1	0	**1**	-	2	3	2	0	**7**	-	0	1	0	0	**1**	-	9
% Heavy	0%	0%	0%	0%	**0%**	-	0%	0%	7.7%	0%	**0.5%**	-	2.0%	5.3%	14.3%	0%	**4.0%**	-	0%	0.8%	0%	0%	**0.7%**	-	1.5%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

New Rd/Smith Rd - TMC
Wed Feb 9, 2022
AM Peak (7:15 AM - 8:15 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921941, Location: 43.053465, -78.724563

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



New Rd/Smith Rd - TMC

Wed Feb 9, 2022
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921941, Location: 43.053465, -78.724563

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

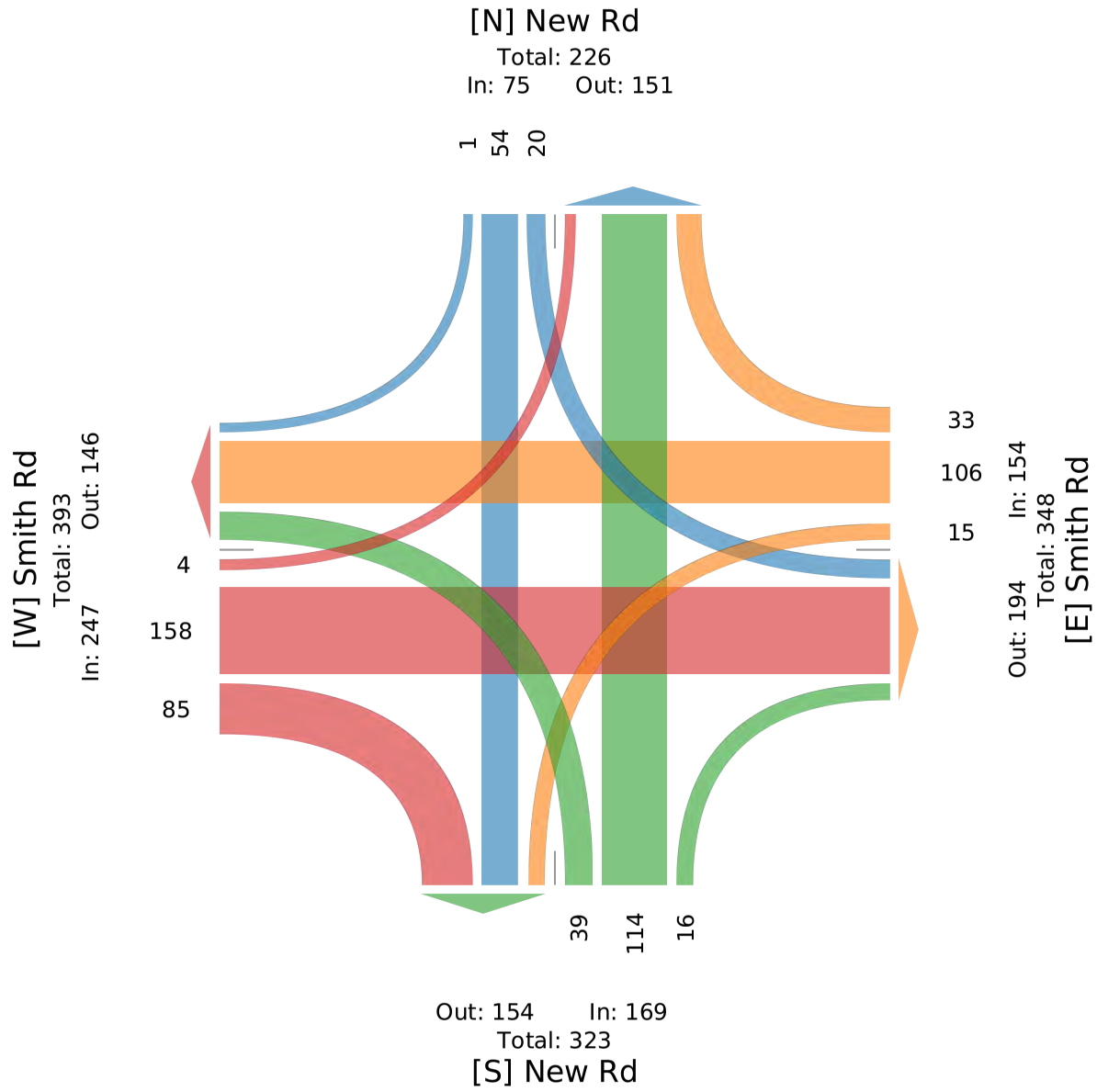
Leg / Direction	Smith Rd Eastbound						Smith Rd Westbound						New Rd Northbound						New Rd Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2022-02-09 4:15PM	2	48	19	0	**69**	0	4	15	9	0	**28**	0	11	35	2	0	**48**	0	6	12	0	0	**18**	0	**163**
4:30PM	0	30	26	0	**56**	0	3	30	10	0	**43**	0	8	24	5	0	**37**	0	6	14	0	0	**20**	0	**156**
4:45PM	0	37	18	0	**55**	0	4	30	6	0	**40**	0	11	25	5	0	**41**	0	5	12	1	0	**18**	0	**154**
5:00PM	2	43	22	0	**67**	0	4	31	8	0	**43**	0	9	30	4	0	**43**	0	3	16	0	0	**19**	0	**172**
Total	4	158	85	0	**247**	0	15	106	33	0	**154**	0	39	114	16	0	**169**	0	20	54	1	0	**75**	0	**645**
% Approach	1.6%	64.0%	34.4%	0%	**-**	-	9.7%	68.8%	21.4%	0%	**-**	-	23.1%	67.5%	9.5%	0%	**-**	-	26.7%	72.0%	1.3%	0%	**-**	-	-
% Total	0.6%	24.5%	13.2%	0%	**38.3%**	-	2.3%	16.4%	5.1%	0%	**23.9%**	-	6.0%	17.7%	2.5%	0%	**26.2%**	-	3.1%	8.4%	0.2%	0%	**11.6%**	-	-
PHF	0.500	0.823	0.817	-	**0.895**	-	0.938	0.855	0.825	-	**0.895**	-	0.886	0.814	0.800	-	**0.880**	-	0.833	0.844	0.250	-	**0.938**	-	0.938
Motorcycles	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Lights	4	157	85	0	**246**	-	14	105	33	0	**152**	-	39	113	16	0	**168**	-	19	54	1	0	**74**	-	640
% Lights	100%	99.4%	100%	0%	**99.6%**	-	93.3%	99.1%	100%	0%	**98.7%**	-	100%	99.1%	100%	0%	**99.4%**	-	95.0%	100%	100%	0%	**98.7%**	-	99.2%
Heavy	0	1	0	0	**1**	-	1	1	0	0	**2**	-	0	1	0	0	**1**	-	1	0	0	0	**1**	-	5
% Heavy	0%	0.6%	0%	0%	**0.4%**	-	6.7%	0.9%	0%	0%	**1.3%**	-	0%	0.9%	0%	0%	**0.6%**	-	5.0%	0%	0%	0%	**1.3%**	-	0.8%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

New Rd/Smith Rd - TMC
Wed Feb 9, 2022
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921941, Location: 43.053465, -78.724563

TRI-STATE TRAFFIC DATA

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: New Rd/Smith Rd
Site Code:
Start Date: 02/09/2022

Turning Movement Data

Start Time	New Rd Southbound						Smith Rd Westbound						New Rd Northbound						Smith Rd Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	0	14	9	0	0	23	1	44	1	0	0	46	1	5	25	0	0	31	1	12	0	0	0	13	113
7:15 AM	0	27	3	0	0	30	2	35	2	0	0	39	1	8	24	1	0	34	3	21	0	0	0	24	127
7:30 AM	1	38	7	0	0	46	5	54	5	0	0	64	8	11	36	0	0	55	1	16	0	0	0	17	182
7:45 AM	0	29	4	0	0	33	1	53	2	0	0	56	3	17	27	0	0	47	2	20	0	0	0	22	158
Hourly Total	1	108	23	0	0	132	9	186	10	0	0	205	13	41	112	1	0	167	7	69	0	0	0	76	580
8:00 AM	0	31	5	0	0	36	5	34	2	0	0	41	2	21	14	0	0	37	1	13	1	0	0	15	129
8:15 AM	0	35	3	0	0	38	2	31	2	0	0	35	6	11	20	0	0	37	3	10	0	0	0	13	123
8:30 AM	0	18	7	0	0	25	3	45	10	0	0	58	3	12	24	0	0	39	3	14	0	0	0	17	139
8:45 AM	0	15	3	0	0	18	4	21	5	0	0	30	2	11	19	0	0	32	2	14	0	0	0	16	96
Hourly Total	0	99	18	0	0	117	14	131	19	0	0	164	13	55	77	0	0	145	9	51	1	0	0	61	487
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	15	7	0	0	22	11	21	1	0	0	33	6	29	6	0	0	41	14	36	1	0	0	51	147
4:15 PM	0	12	6	0	0	18	9	15	4	0	0	28	2	35	11	0	0	48	19	48	2	0	0	69	163
4:30 PM	0	14	6	0	0	20	10	30	3	0	0	43	5	24	8	0	0	37	26	30	0	0	0	56	156
4:45 PM	1	12	5	0	0	18	6	30	4	0	0	40	5	25	11	0	0	41	18	37	0	0	0	55	154
Hourly Total	1	53	24	0	0	78	36	96	12	0	0	144	18	113	36	0	0	167	77	151	3	0	0	231	620
5:00 PM	0	16	3	0	0	19	8	31	4	0	0	43	4	30	9	0	0	43	22	43	2	0	0	67	172
5:15 PM	1	20	6	0	0	27	8	15	3	0	0	26	1	32	8	0	0	41	18	39	0	0	0	57	151
5:30 PM	0	23	5	0	0	28	6	18	3	0	0	27	3	27	11	0	0	41	22	37	1	1	0	61	157
5:45 PM	2	30	5	0	0	37	4	12	1	0	0	17	0	27	2	0	0	29	21	24	8	0	0	53	136
Hourly Total	3	89	19	0	0	111	26	76	11	0	0	113	8	116	30	0	0	154	83	143	11	1	0	238	616
Grand Total	5	349	84	0	0	438	85	489	52	0	0	626	52	325	255	1	0	633	176	414	15	1	0	606	2303
Approach %	1.1	79.7	19.2	0.0	-	-	13.6	78.1	8.3	0.0	-	-	8.2	51.3	40.3	0.2	-	-	29.0	68.3	2.5	0.2	-	-	-
Total %	0.2	15.2	3.6	0.0	-	19.0	3.7	21.2	2.3	0.0	-	27.2	2.3	14.1	11.1	0.0	-	27.5	7.6	18.0	0.7	0.0	-	26.3	-
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
Cars & Light Goods	5	343	82	0	-	430	84	483	50	0	-	617	49	316	252	1	-	618	174	405	15	1	-	595	2260
% Cars & Light Goods	100.0	98.3	97.6	-	-	98.2	98.8	98.8	96.2	-	-	98.6	94.2	97.2	98.8	100.0	-	97.6	98.9	97.8	100.0	100.0	-	98.2	98.1
Other Vehicles	0	6	2	0	-	8	1	6	2	0	-	9	3	9	3	0	-	15	2	9	0	0	-	11	43
% Other Vehicles	0.0	1.7	2.4	-	-	1.8	1.2	1.2	3.8	-	-	1.4	5.8	2.8	1.2	0.0	-	2.4	1.1	2.2	0.0	0.0	-	1.8	1.9
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-

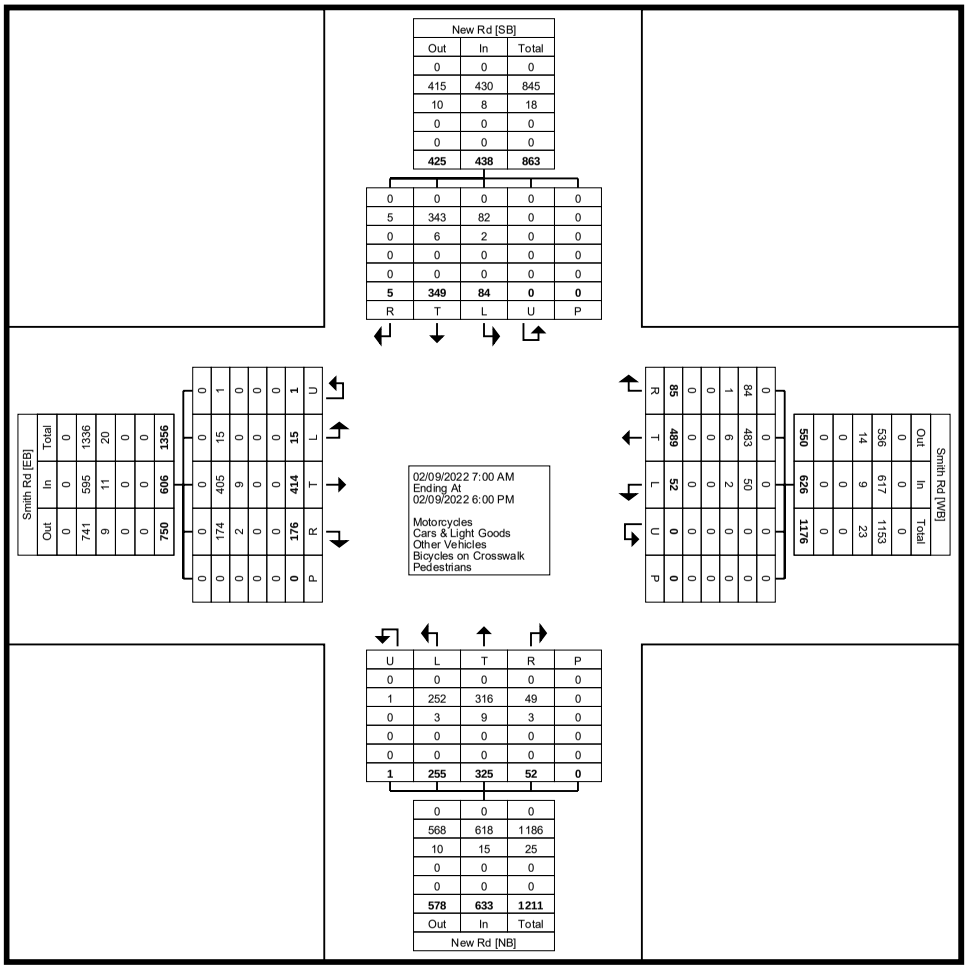
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: New Rd/Smith Rd
Site Code:
Start Date: 02/09/2022
Page No: 3



Turning Movement Data Plot

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: New Rd/Smith Rd
Site Code:
Start Date: 02/09/2022

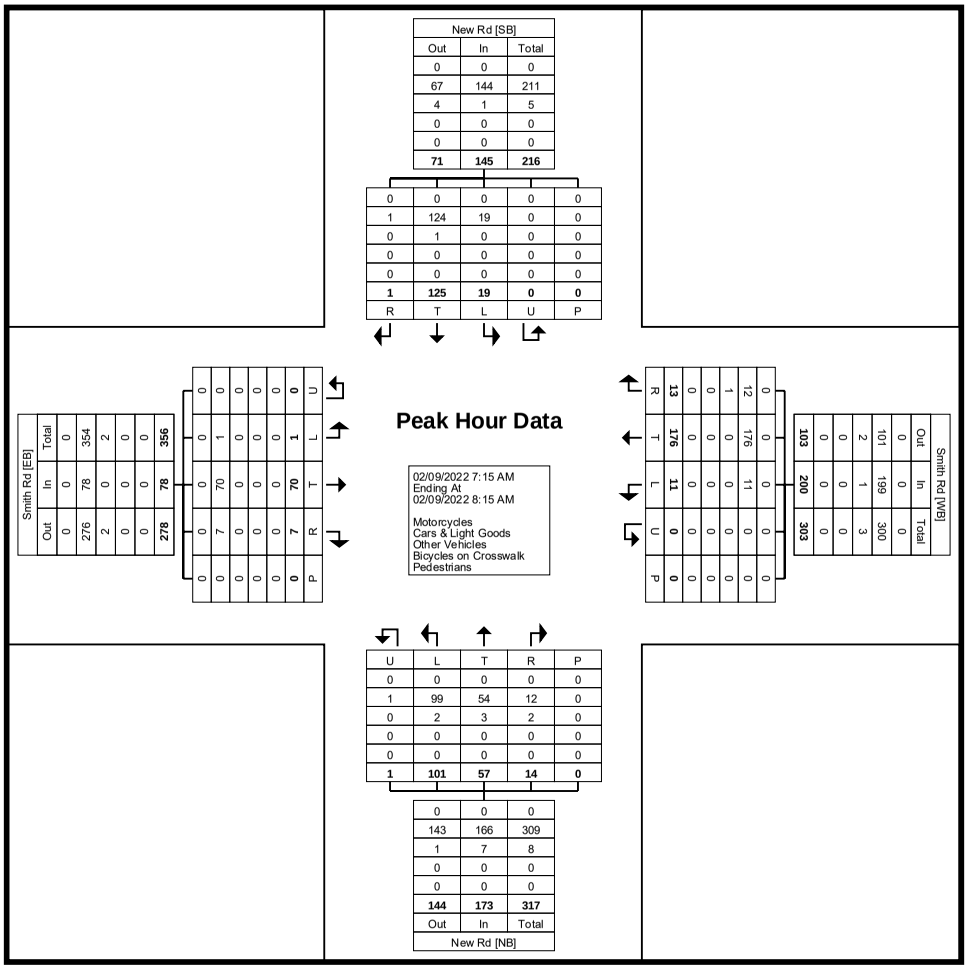
Turning Movement Peak Hour Data (7:15 AM)

Start Time	New Rd Southbound						Smith Rd Westbound						New Rd Northbound						Smith Rd Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:15 AM	0	27	3	0	0	30	2	35	2	0	0	39	1	8	24	1	0	34	3	21	0	0	0	24	127
7:30 AM	1	38	7	0	0	46	5	54	5	0	0	64	8	11	36	0	0	55	1	16	0	0	0	17	182
7:45 AM	0	29	4	0	0	33	1	53	2	0	0	56	3	17	27	0	0	47	2	20	0	0	0	22	158
8:00 AM	0	31	5	0	0	36	5	34	2	0	0	41	2	21	14	0	0	37	1	13	1	0	0	15	129
Total	1	125	19	0	0	145	13	176	11	0	0	200	14	57	101	1	0	173	7	70	1	0	0	78	596
Approach %	0.7	86.2	13.1	0.0	-	-	6.5	88.0	5.5	0.0	-	-	8.1	32.9	58.4	0.6	-	-	9.0	89.7	1.3	0.0	-	-	-
Total %	0.2	21.0	3.2	0.0	-	24.3	2.2	29.5	1.8	0.0	-	33.6	2.3	9.6	16.9	0.2	-	29.0	1.2	11.7	0.2	0.0	-	13.1	-
PHF	0.250	0.822	0.679	0.000	-	0.788	0.650	0.815	0.550	0.000	-	0.781	0.438	0.679	0.701	0.250	-	0.786	0.583	0.833	0.250	0.000	-	0.813	0.819
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	1	124	19	0	-	144	12	176	11	0	-	199	12	54	99	1	-	166	7	70	1	0	-	78	587
% Cars & Light Goods	100.0	99.2	100.0	-	-	99.3	92.3	100.0	100.0	-	-	99.5	85.7	94.7	98.0	100.0	-	96.0	100.0	100.0	100.0	-	-	100.0	98.5
Other Vehicles	0	1	0	0	-	1	1	0	0	0	-	1	2	3	2	0	-	7	0	0	0	0	-	0	9
% Other Vehicles	0.0	0.8	0.0	-	-	0.7	7.7	0.0	0.0	-	-	0.5	14.3	5.3	2.0	0.0	-	4.0	0.0	0.0	0.0	-	-	0.0	1.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: New Rd/Smith Rd
Site Code:
Start Date: 02/09/2022



Turning Movement Peak Hour Data Plot (7:15 AM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: New Rd/Smith Rd
Site Code:
Start Date: 02/09/2022

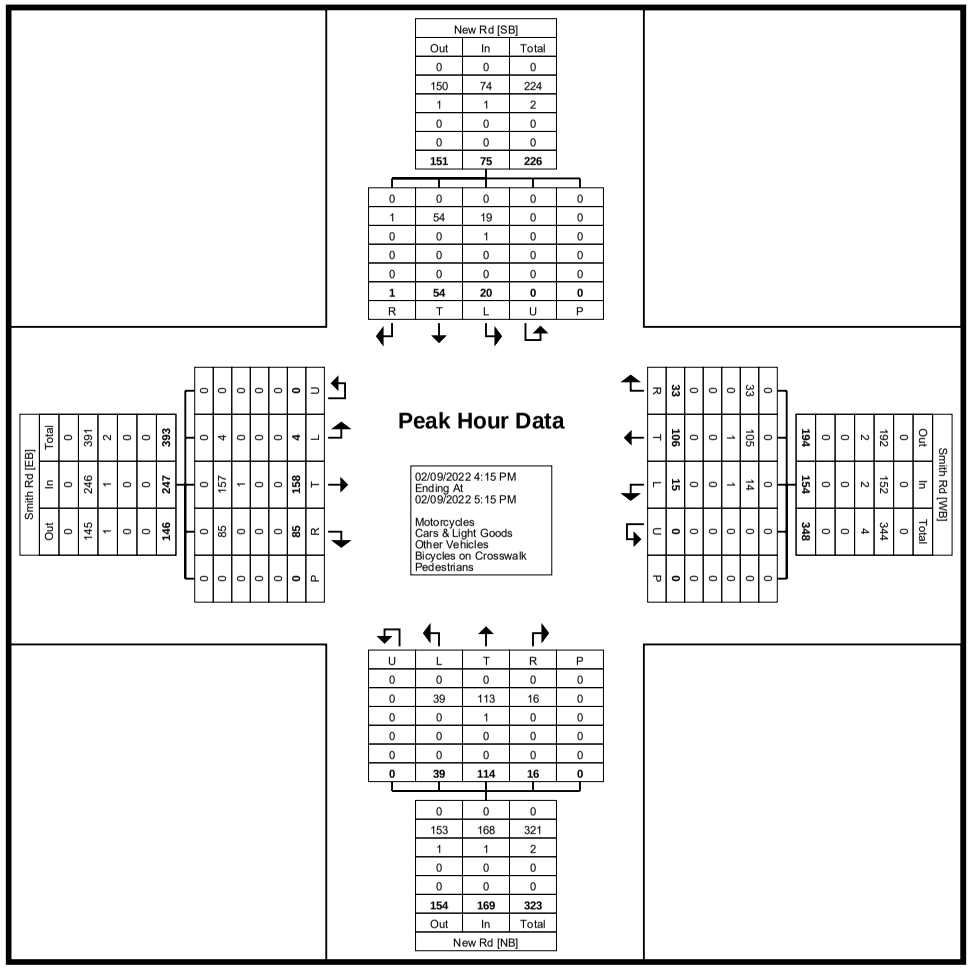
Turning Movement Peak Hour Data (4:15 PM)

Start Time	New Rd Southbound						Smith Rd Westbound						New Rd Northbound						Smith Rd Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
4:15 PM	0	12	6	0	0	18	9	15	4	0	0	28	2	35	11	0	0	48	19	48	2	0	0	69	163
4:30 PM	0	14	6	0	0	20	10	30	3	0	0	43	5	24	8	0	0	37	26	30	0	0	0	56	156
4:45 PM	1	12	5	0	0	18	6	30	4	0	0	40	5	25	11	0	0	41	18	37	0	0	0	55	154
5:00 PM	0	16	3	0	0	19	8	31	4	0	0	43	4	30	9	0	0	43	22	43	2	0	0	67	172
Total	1	54	20	0	0	75	33	106	15	0	0	154	16	114	39	0	0	169	85	158	4	0	0	247	645
Approach %	1.3	72.0	26.7	0.0	-	-	21.4	68.8	9.7	0.0	-	-	9.5	67.5	23.1	0.0	-	-	34.4	64.0	1.6	0.0	-	-	-
Total %	0.2	8.4	3.1	0.0	-	11.6	5.1	16.4	2.3	0.0	-	23.9	2.5	17.7	6.0	0.0	-	26.2	13.2	24.5	0.6	0.0	-	38.3	-
PHF	0.250	0.844	0.833	0.000	-	0.938	0.825	0.855	0.938	0.000	-	0.895	0.800	0.814	0.886	0.000	-	0.880	0.817	0.823	0.500	0.000	-	0.895	0.938
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	1	54	19	0	-	74	33	105	14	0	-	152	16	113	39	0	-	168	85	157	4	0	-	246	640
% Cars & Light Goods	100.0	100.0	95.0	-	-	98.7	100.0	99.1	93.3	-	-	98.7	100.0	99.1	100.0	-	-	99.4	100.0	99.4	100.0	-	-	99.6	99.2
Other Vehicles	0	0	1	0	-	1	0	1	1	0	-	2	0	1	0	0	-	1	0	1	0	0	-	1	5
% Other Vehicles	0.0	0.0	5.0	-	-	1.3	0.0	0.9	6.7	-	-	1.3	0.0	0.9	0.0	-	-	0.6	0.0	0.6	0.0	-	-	0.4	0.8
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: New Rd/Smith Rd
Site Code:
Start Date: 02/09/2022



Turning Movement Peak Hour Data Plot (4:15 PM)

NY 263/I-990 EB Off Ramp - TMC

Wed Feb 9, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921942, Location: 43.047104, -78.734154

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

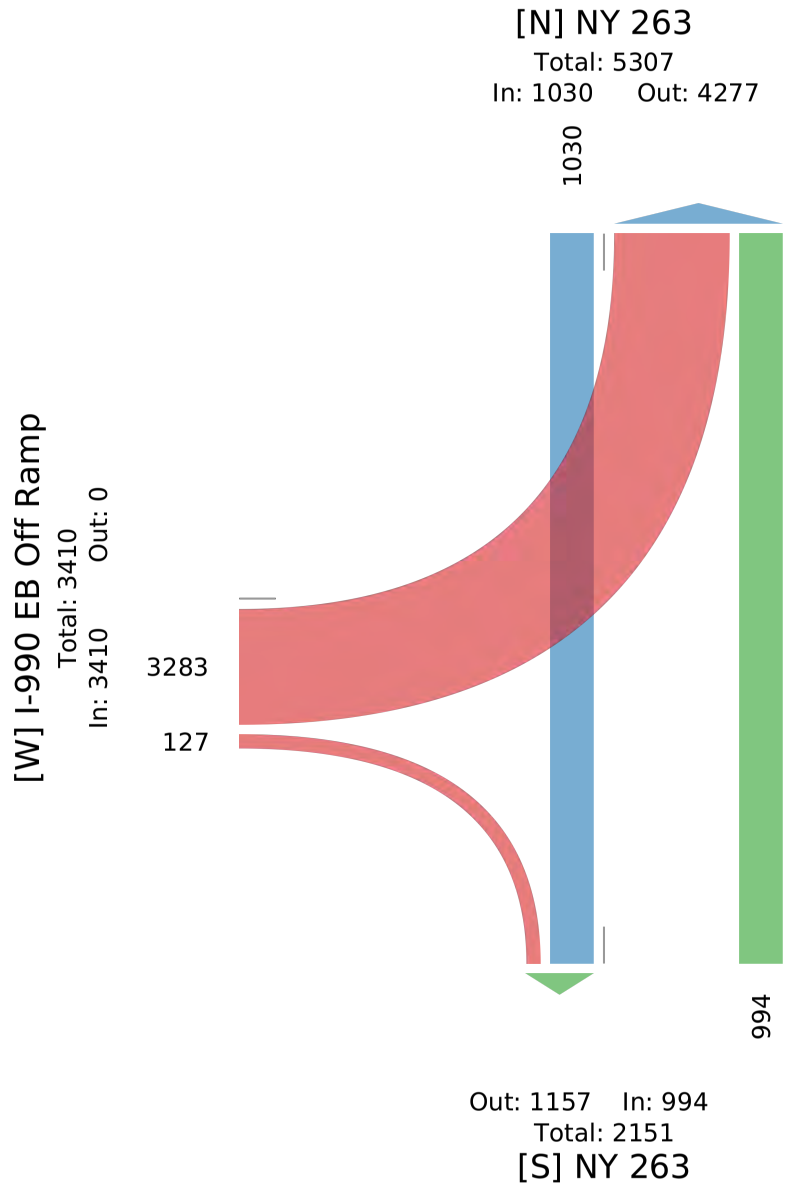
Leg	I-990 EB Off Ramp					NY 263					NY 263					
Direction	Eastbound					Northbound					Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2022-02-09 7:00AM	108	2	0	**110**	0	0	28	0	**28**	0	74	0	0	**74**	0	**212**
7:15AM	144	8	0	**152**	0	0	37	0	**37**	0	88	0	0	**88**	0	**277**
7:30AM	133	8	0	**141**	0	0	47	0	**47**	0	98	0	0	**98**	0	**286**
7:45AM	113	14	0	**127**	0	0	38	0	**38**	0	106	0	0	**106**	0	**271**
Hourly Total	498	32	0	**530**	0	0	150	0	**150**	0	366	0	0	**366**	0	**1046**
8:00AM	116	6	0	**122**	0	0	40	0	**40**	0	75	0	0	**75**	0	**237**
8:15AM	114	5	0	**119**	0	0	42	0	**42**	0	78	0	0	**78**	0	**239**
8:30AM	120	4	0	**124**	0	0	33	0	**33**	0	79	0	0	**79**	0	**236**
8:45AM	116	6	0	**122**	0	0	41	0	**41**	0	58	0	0	**58**	0	**221**
Hourly Total	466	21	0	**487**	0	0	156	0	**156**	0	290	0	0	**290**	0	**933**
4:00PM	278	8	0	**286**	0	0	82	0	**82**	0	43	0	0	**43**	0	**411**
4:15PM	333	12	0	**345**	0	0	97	0	**97**	0	41	0	0	**41**	0	**483**
4:30PM	324	11	0	**335**	0	0	112	0	**112**	0	55	0	0	**55**	0	**502**
4:45PM	304	11	0	**315**	0	0	92	0	**92**	0	59	0	0	**59**	0	**466**
Hourly Total	1239	42	0	**1281**	0	0	383	0	**383**	0	198	0	0	**198**	0	**1862**
5:00PM	294	8	0	**302**	0	0	106	0	**106**	0	63	0	0	**63**	0	**471**
5:15PM	302	11	0	**313**	0	0	85	0	**85**	0	41	0	0	**41**	0	**439**
5:30PM	279	9	0	**288**	0	0	55	0	**55**	0	32	0	0	**32**	0	**375**
5:45PM	205	4	0	**209**	0	0	59	0	**59**	0	40	0	0	**40**	0	**308**
Hourly Total	1080	32	0	**1112**	0	0	305	0	**305**	0	176	0	0	**176**	0	**1593**
6:00PM	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Hourly Total	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Total	3283	127	0	**3410**	0	0	994	0	**994**	0	1030	0	0	**1030**	0	**5434**
% Approach	96.3%	3.7%	0%	**-**	-	0%	100%	0%	**-**	-	100%	0%	0%	**-**	-	-
% Total	60.4%	2.3%	0%	**62.8%**	-	0%	18.3%	0%	**18.3%**	-	19.0%	0%	0%	**19.0%**	-	-
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	1	0	0	**1**	-	1
% Motorcycles	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.1%	0%	0%	**0.1%**	-	0%
Lights	3181	122	0	**3303**	-	0	965	0	**965**	-	996	0	0	**996**	-	5264
% Lights	96.9%	96.1%	0%	**96.9%**	-	0%	97.1%	0%	**97.1%**	-	96.7%	0%	0%	**96.7%**	-	96.9%
Heavy	102	5	0	**107**	-	0	29	0	**29**	-	33	0	0	**33**	-	169
% Heavy	3.1%	3.9%	0%	**3.1%**	-	0%	2.9%	0%	**2.9%**	-	3.2%	0%	0%	**3.2%**	-	3.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NY 263/I-990 EB Off Ramp - TMC
Wed Feb 9, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921942, Location: 43.047104, -78.734154

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



NY 263/I-990 EB Off Ramp - TMC

Wed Feb 9, 2022
Forced Peak (7 AM - 8 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921942, Location: 43.047104, -78.734154

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg	I-990 EB Off Ramp					NY 263					NY 263					
Direction	Eastbound					Northbound					Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2022-02-09 7:00AM	108	2	0	**110**	0	0	28	0	**28**	0	74	0	0	**74**	0	**212**
7:15AM	144	8	0	**152**	0	0	37	0	**37**	0	88	0	0	**88**	0	**277**
7:30AM	133	8	0	**141**	0	0	47	0	**47**	0	98	0	0	**98**	0	**286**
7:45AM	113	14	0	**127**	0	0	38	0	**38**	0	106	0	0	**106**	0	**271**
Total	498	32	0	**530**	0	0	150	0	**150**	0	366	0	0	**366**	0	**1046**
% Approach	94.0%	6.0%	0%	**-**	-	0%	100%	0%	**-**	-	100%	0%	0%	**-**	-	-
% Total	47.6%	3.1%	0%	**50.7%**	-	0%	14.3%	0%	**14.3%**	-	35.0%	0%	0%	**35.0%**	-	-
PHF	0.865	0.571	-	**0.872**	-	-	0.798	-	**0.798**	-	0.863	-	-	**0.863**	-	0.914
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Lights	468	32	0	**500**	-	0	143	0	**143**	-	349	0	0	**349**	-	992
% Lights	94.0%	100%	0%	**94.3%**	-	0%	95.3%	0%	**95.3%**	-	95.4%	0%	0%	**95.4%**	-	94.8%
Heavy	30	0	0	**30**	-	0	7	0	**7**	-	17	0	0	**17**	-	54
% Heavy	6.0%	0%	0%	**5.7%**	-	0%	4.7%	0%	**4.7%**	-	4.6%	0%	0%	**4.6%**	-	5.2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

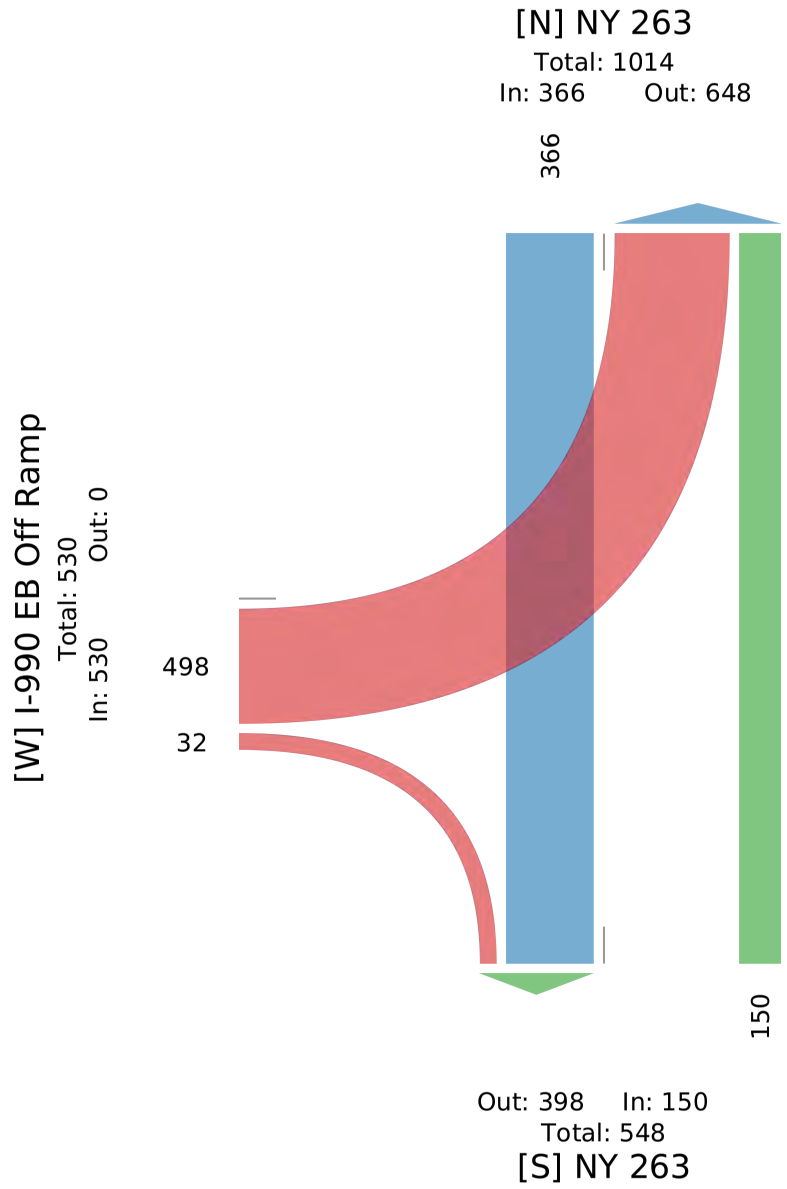
*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NY 263/I-990 EB Off Ramp - TMC
Wed Feb 9, 2022
Forced Peak (7 AM - 8 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921942, Location: 43.047104, -78.734154

TRI-STATE TRAFFIC DATA

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NY 263/I-990 EB Off Ramp - TMC

Wed Feb 9, 2022
AM Peak (7:15 AM - 8:15 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921942, Location: 43.047104, -78.734154



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg	I-990 EB Off Ramp					NY 263					NY 263					
Direction	Eastbound					Northbound					Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2022-02-09 7:15AM	144	8	0	**152**	0	0	37	0	**37**	0	88	0	0	**88**	0	**277**
7:30AM	133	8	0	**141**	0	0	47	0	**47**	0	98	0	0	**98**	0	**286**
7:45AM	113	14	0	**127**	0	0	38	0	**38**	0	106	0	0	**106**	0	**271**
8:00AM	116	6	0	**122**	0	0	40	0	**40**	0	75	0	0	**75**	0	**237**
Total	506	36	0	**542**	0	0	162	0	**162**	0	367	0	0	**367**	0	**1071**
% Approach	93.4%	6.6%	0%	**-**	-	0%	100%	0%	**-**	-	100%	0%	0%	**-**	-	-
% Total	47.2%	3.4%	0%	**50.6%**	-	0%	15.1%	0%	**15.1%**	-	34.3%	0%	0%	**34.3%**	-	-
PHF	0.878	0.643	-	**0.891**	-	-	0.862	-	**0.862**	-	0.866	-	-	**0.866**	-	0.936
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Lights	480	34	0	**514**	-	0	153	0	**153**	-	349	0	0	**349**	-	1016
% Lights	94.9%	94.4%	0%	**94.8%**	-	0%	94.4%	0%	**94.4%**	-	95.1%	0%	0%	**95.1%**	-	94.9%
Heavy	26	2	0	**28**	-	0	9	0	**9**	-	18	0	0	**18**	-	55
% Heavy	5.1%	5.6%	0%	**5.2%**	-	0%	5.6%	0%	**5.6%**	-	4.9%	0%	0%	**4.9%**	-	5.1%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

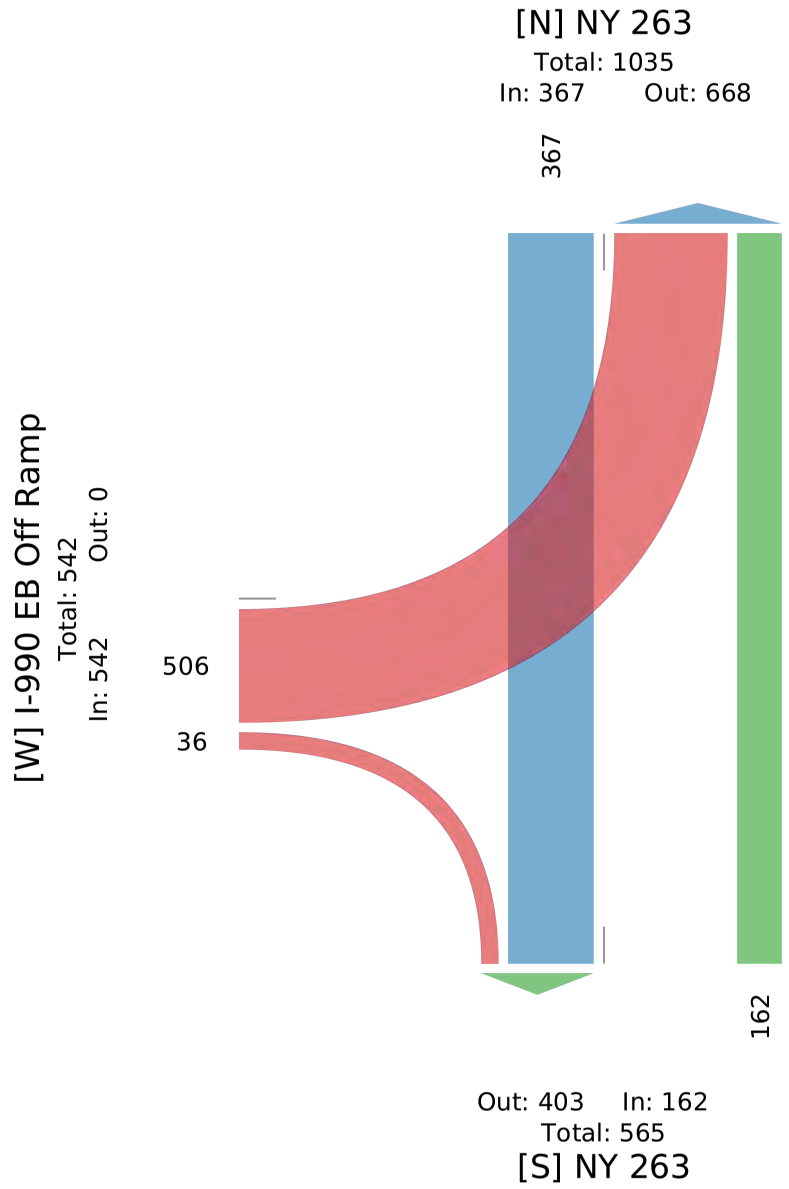
*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NY 263/I-990 EB Off Ramp - TMC
Wed Feb 9, 2022
AM Peak (7:15 AM - 8:15 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921942, Location: 43.047104, -78.734154

TRI-STATE TRAFFIC DATA

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



NY 263/I-990 EB Off Ramp - TMC

Wed Feb 9, 2022
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921942, Location: 43.047104, -78.734154



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

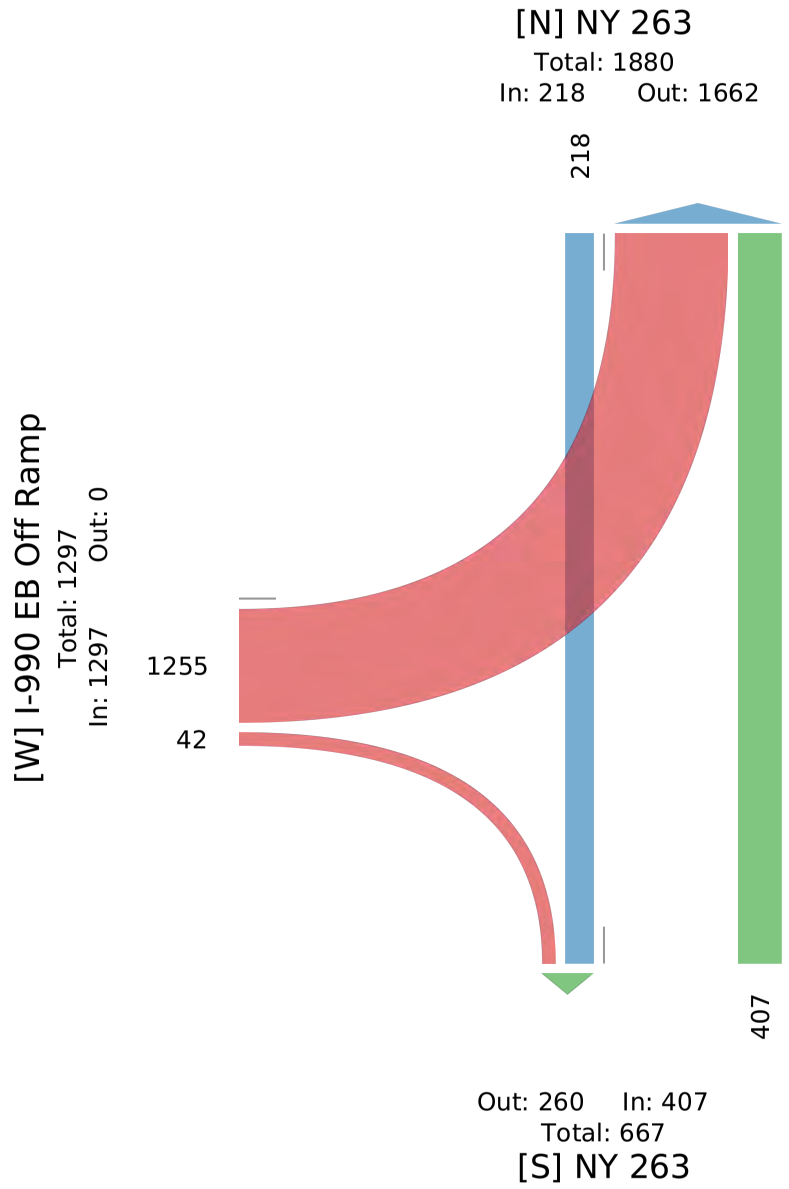
Leg	I-990 EB Off Ramp					NY 263					NY 263					
Direction	Eastbound					Northbound					Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2022-02-09 4:15PM	333	12	0	**345**	0	0	97	0	**97**	0	41	0	0	**41**	0	**483**
4:30PM	324	11	0	**335**	0	0	112	0	**112**	0	55	0	0	**55**	0	**502**
4:45PM	304	11	0	**315**	0	0	92	0	**92**	0	59	0	0	**59**	0	**466**
5:00PM	294	8	0	**302**	0	0	106	0	**106**	0	63	0	0	**63**	0	**471**
Total	1255	42	0	**1297**	0	0	407	0	**407**	0	218	0	0	**218**	0	**1922**
% Approach	96.8%	3.2%	0%	**-**	-	0%	100%	0%	**-**	-	100%	0%	0%	**-**	-	-
% Total	65.3%	2.2%	0%	**67.5%**	-	0%	21.2%	0%	**21.2%**	-	11.3%	0%	0%	**11.3%**	-	-
PHF	0.942	0.875	-	**0.940**	-	-	0.908	-	**0.908**	-	0.865	-	-	**0.865**	-	0.957
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Lights	1236	42	0	**1278**	-	0	405	0	**405**	-	216	0	0	**216**	-	1899
% Lights	98.5%	100%	0%	**98.5%**	-	0%	99.5%	0%	**99.5%**	-	99.1%	0%	0%	**99.1%**	-	98.8%
Heavy	19	0	0	**19**	-	0	2	0	**2**	-	2	0	0	**2**	-	23
% Heavy	1.5%	0%	0%	**1.5%**	-	0%	0.5%	0%	**0.5%**	-	0.9%	0%	0%	**0.9%**	-	1.2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NY 263/I-990 EB Off Ramp - TMC
Wed Feb 9, 2022
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921942, Location: 43.047104, -78.734154

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 EB Off Ramp
Site Code:
Start Date: 02/09/2022

Turning Movement Data

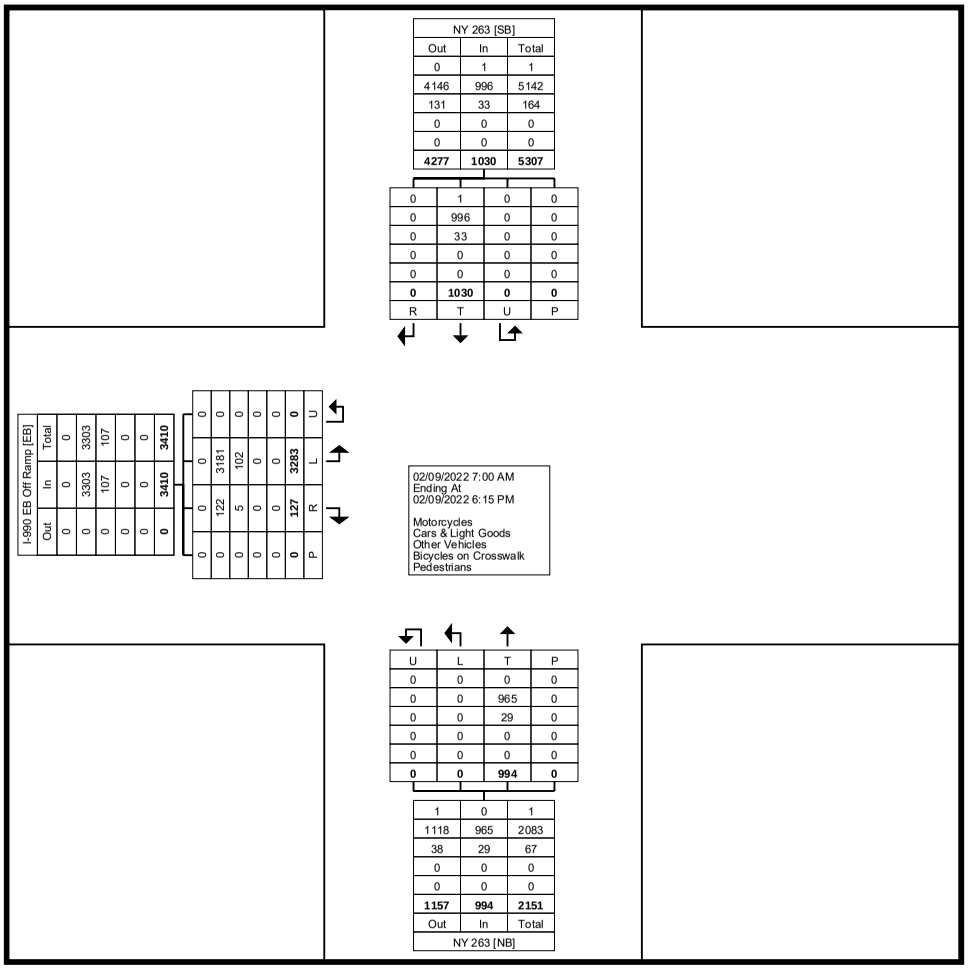
Start Time	NY 263 Southbound					NY 263 Northbound					I-990 EB Off Ramp Eastbound					
	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	74	0	0	74	28	0	0	0	28	2	108	0	0	110	212
7:15 AM	0	88	0	0	88	37	0	0	0	37	8	144	0	0	152	277
7:30 AM	0	98	0	0	98	47	0	0	0	47	8	133	0	0	141	286
7:45 AM	0	106	0	0	106	38	0	0	0	38	14	113	0	0	127	271
Hourly Total	0	366	0	0	366	150	0	0	0	150	32	498	0	0	530	1046
8:00 AM	0	75	0	0	75	40	0	0	0	40	6	116	0	0	122	237
8:15 AM	0	78	0	0	78	42	0	0	0	42	5	114	0	0	119	239
8:30 AM	0	79	0	0	79	33	0	0	0	33	4	120	0	0	124	236
8:45 AM	0	58	0	0	58	41	0	0	0	41	6	116	0	0	122	221
Hourly Total	0	290	0	0	290	156	0	0	0	156	21	466	0	0	487	933
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	43	0	0	43	82	0	0	0	82	8	278	0	0	286	411
4:15 PM	0	41	0	0	41	97	0	0	0	97	12	333	0	0	345	483
4:30 PM	0	55	0	0	55	112	0	0	0	112	11	324	0	0	335	502
4:45 PM	0	59	0	0	59	92	0	0	0	92	11	304	0	0	315	466
Hourly Total	0	198	0	0	198	383	0	0	0	383	42	1239	0	0	1281	1862
5:00 PM	0	63	0	0	63	106	0	0	0	106	8	294	0	0	302	471
5:15 PM	0	41	0	0	41	85	0	0	0	85	11	302	0	0	313	439
5:30 PM	0	32	0	0	32	55	0	0	0	55	9	279	0	0	288	375
5:45 PM	0	40	0	0	40	59	0	0	0	59	4	205	0	0	209	308
Hourly Total	0	176	0	0	176	305	0	0	0	305	32	1080	0	0	1112	1593
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1030	0	0	1030	994	0	0	0	994	127	3283	0	0	3410	5434
Approach %	0.0	100.0	0.0	-	-	100.0	0.0	0.0	-	-	3.7	96.3	0.0	-	-	-
Total %	0.0	19.0	0.0	-	19.0	18.3	0.0	0.0	-	18.3	2.3	60.4	0.0	-	62.8	-
Motorcycles	0	1	0	-	1	0	0	0	-	0	0	0	0	-	0	1
% Motorcycles	-	0.1	-	-	0.1	0.0	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	0	996	0	-	996	965	0	0	-	965	122	3181	0	-	3303	5264
% Cars & Light Goods	-	96.7	-	-	96.7	97.1	-	-	-	97.1	96.1	96.9	-	-	96.9	96.9
Other Vehicles	0	33	0	-	33	29	0	0	-	29	5	102	0	-	107	169
% Other Vehicles	-	3.2	-	-	3.2	2.9	-	-	-	2.9	3.9	3.1	-	-	3.1	3.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 EB Off Ramp
Site Code:
Start Date: 02/09/2022



Turning Movement Data Plot

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 EB Off Ramp
Site Code:
Start Date: 02/09/2022

Turning Movement Peak Hour Data (7:15 AM)

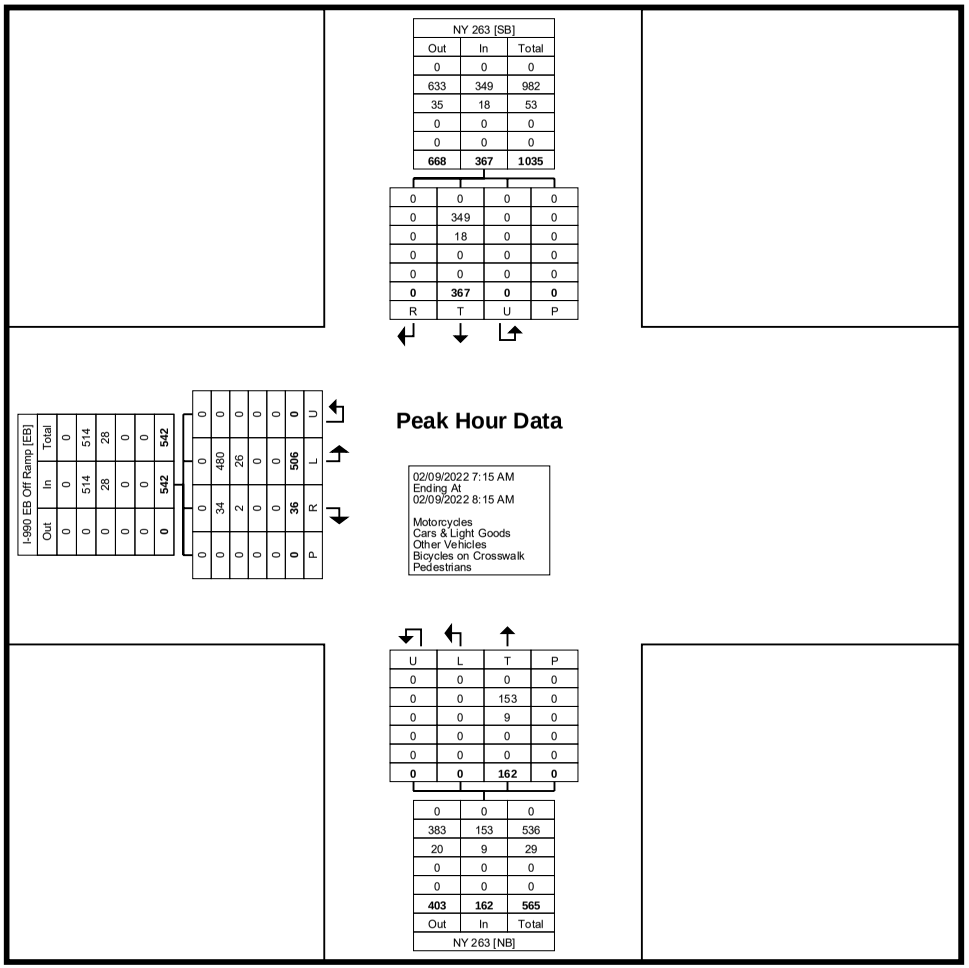
Start Time	NY 263 Southbound					NY 263 Northbound					I-990 EB Off Ramp Eastbound					
	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Int. Total
7:15 AM	0	88	0	0	88	37	0	0	0	37	8	144	0	0	152	277
7:30 AM	0	98	0	0	98	47	0	0	0	47	8	133	0	0	141	286
7:45 AM	0	106	0	0	106	38	0	0	0	38	14	113	0	0	127	271
8:00 AM	0	75	0	0	75	40	0	0	0	40	6	116	0	0	122	237
Total	0	367	0	0	367	162	0	0	0	162	36	506	0	0	542	1071
Approach %	0.0	100.0	0.0	-	-	100.0	0.0	0.0	-	-	6.6	93.4	0.0	-	-	-
Total %	0.0	34.3	0.0	-	34.3	15.1	0.0	0.0	-	15.1	3.4	47.2	0.0	-	50.6	-
PHF	0.000	0.866	0.000	-	0.866	0.862	0.000	0.000	-	0.862	0.643	0.878	0.000	-	0.891	0.936
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	-	0.0	-	-	0.0	0.0	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	0	349	0	-	349	153	0	0	-	153	34	480	0	-	514	1016
% Cars & Light Goods	-	95.1	-	-	95.1	94.4	-	-	-	94.4	94.4	94.9	-	-	94.8	94.9
Other Vehicles	0	18	0	-	18	9	0	0	-	9	2	26	0	-	28	55
% Other Vehicles	-	4.9	-	-	4.9	5.6	-	-	-	5.6	5.6	5.1	-	-	5.2	5.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 EB Off Ramp
Site Code:
Start Date: 02/09/2022



Turning Movement Peak Hour Data Plot (7:15 AM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 EB Off Ramp
Site Code:
Start Date: 02/09/2022

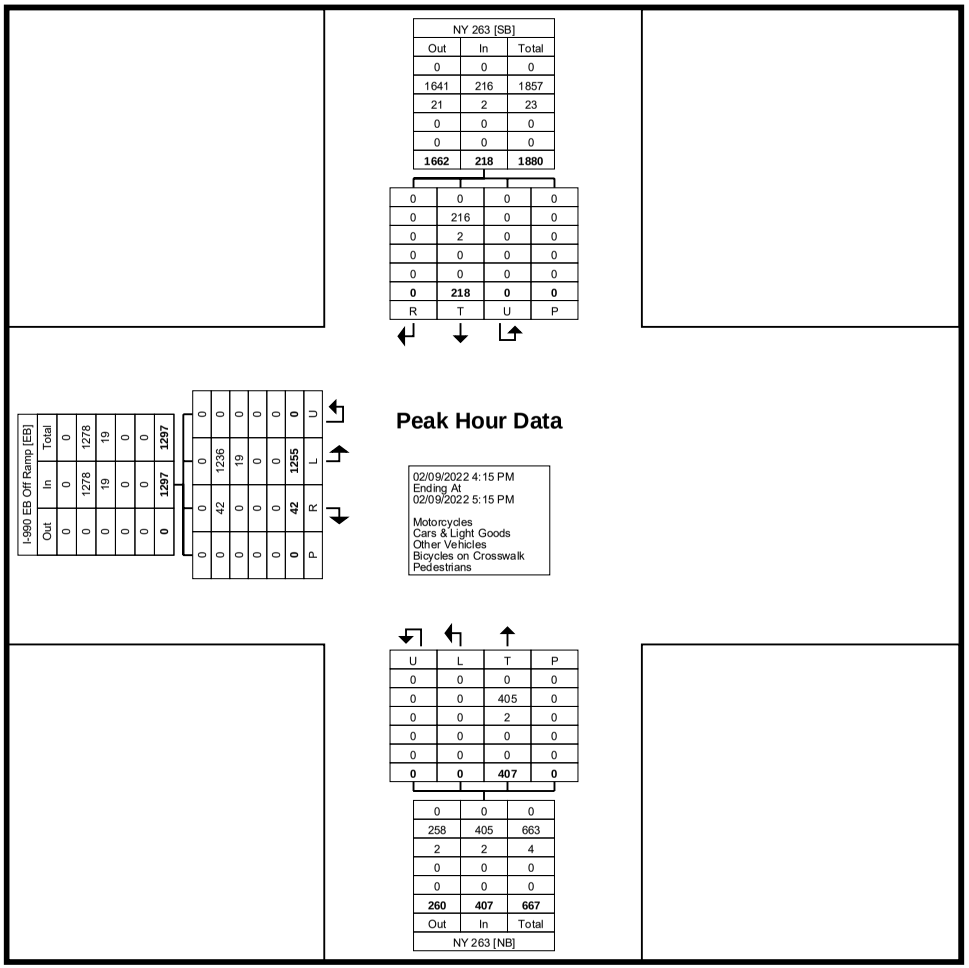
Turning Movement Peak Hour Data (4:15 PM)

Start Time	NY 263 Southbound					NY 263 Northbound					I-990 EB Off Ramp Eastbound					
	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Int. Total
4:15 PM	0	41	0	0	41	97	0	0	0	97	12	333	0	0	345	483
4:30 PM	0	55	0	0	55	112	0	0	0	112	11	324	0	0	335	502
4:45 PM	0	59	0	0	59	92	0	0	0	92	11	304	0	0	315	466
5:00 PM	0	63	0	0	63	106	0	0	0	106	8	294	0	0	302	471
Total	0	218	0	0	218	407	0	0	0	407	42	1255	0	0	1297	1922
Approach %	0.0	100.0	0.0	-	-	100.0	0.0	0.0	-	-	3.2	96.8	0.0	-	-	-
Total %	0.0	11.3	0.0	-	11.3	21.2	0.0	0.0	-	21.2	2.2	65.3	0.0	-	67.5	-
PHF	0.000	0.865	0.000	-	0.865	0.908	0.000	0.000	-	0.908	0.875	0.942	0.000	-	0.940	0.957
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	-	0.0	-	-	0.0	0.0	-	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	0	216	0	-	216	405	0	0	-	405	42	1236	0	-	1278	1899
% Cars & Light Goods	-	99.1	-	-	99.1	99.5	-	-	-	99.5	100.0	98.5	-	-	98.5	98.8
Other Vehicles	0	2	0	-	2	2	0	0	-	2	0	19	0	-	19	23
% Other Vehicles	-	0.9	-	-	0.9	0.5	-	-	-	0.5	0.0	1.5	-	-	1.5	1.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 EB Off Ramp
Site Code:
Start Date: 02/09/2022



Turning Movement Peak Hour Data Plot (4:15 PM)

NY 263/I-990 WB On Ramp - TMC

Wed Feb 9, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921943, Location: 43.047829, -78.733454

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg	I-990 WB On Ramp					NY 263					NY 263					
Direction	Eastbound					Northbound					Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2022-02-09 7:00AM	85	0	0	**85**	0	2	127	0	**129**	0	76	325	0	**401**	0	**615**
7:15AM	143	0	0	**143**	0	9	172	0	**181**	0	84	356	0	**440**	0	**764**
7:30AM	130	0	0	**130**	0	10	167	0	**177**	0	104	371	0	**475**	0	**782**
7:45AM	130	0	0	**130**	0	7	172	0	**179**	0	100	351	0	**451**	0	**760**
Hourly Total	488	0	0	**488**	0	28	638	0	**666**	0	364	1403	0	**1767**	0	**2921**
8:00AM	103	0	0	**103**	0	7	133	0	**140**	1	81	256	0	**337**	0	**580**
8:15AM	140	0	0	**140**	0	8	147	0	**155**	0	75	307	0	**382**	0	**677**
8:30AM	159	0	0	**159**	0	9	144	0	**153**	0	70	274	0	**344**	0	**656**
8:45AM	134	0	1	**135**	0	7	152	1	**160**	0	64	206	0	**270**	0	**565**
Hourly Total	536	0	1	**537**	0	31	576	1	**608**	1	290	1043	0	**1333**	0	**2478**
9:00AM	0	0	0	**0**	0	0	0	0	**0**	0	1	0	0	**1**	0	**1**
Hourly Total	0	0	0	**0**	0	0	0	0	**0**	0	1	0	0	**1**	0	**1**
4:00PM	0	0	0	**0**	0	11	350	0	**361**	0	39	151	0	**190**	0	**551**
4:15PM	0	0	0	**0**	0	5	383	0	**388**	0	42	156	0	**198**	0	**586**
4:30PM	0	0	0	**0**	0	11	426	0	**437**	0	54	163	0	**217**	0	**654**
4:45PM	0	0	0	**0**	0	8	381	0	**389**	0	60	167	0	**227**	0	**616**
Hourly Total	0	0	0	**0**	0	35	1540	0	**1575**	0	195	637	0	**832**	0	**2407**
5:00PM	0	0	0	**0**	0	5	388	0	**393**	0	68	170	0	**238**	0	**631**
5:15PM	0	0	0	**0**	0	3	396	0	**399**	0	41	174	0	**215**	0	**614**
5:30PM	0	0	0	**0**	0	6	341	0	**347**	0	24	168	0	**192**	0	**539**
5:45PM	0	0	0	**0**	0	3	259	0	**262**	0	40	136	0	**176**	0	**438**
Hourly Total	0	0	0	**0**	0	17	1384	0	**1401**	0	173	648	0	**821**	0	**2222**
6:00PM	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Hourly Total	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Total	1024	0	1	**1025**	0	111	4138	1	**4250**	1	1023	3731	0	**4754**	0	**10029**
% Approach	99.9%	0%	0.1%	**-**	-	2.6%	97.4%	0%	**-**	-	21.5%	78.5%	0%	**-**	-	-
% Total	10.2%	0%	0%	**10.2%**	-	1.1%	41.3%	0%	**42.4%**	-	10.2%	37.2%	0%	**47.4%**	-	-
Motorcycles	4	0	0	**4**	-	0	0	0	**0**	-	1	0	0	**1**	-	5
% Motorcycles	0.4%	0%	0%	**0.4%**	-	0%	0%	0%	**0%**	-	0.1%	0%	0%	**0%**	-	0%
Lights	959	0	1	**960**	-	109	4024	1	**4134**	-	988	3621	0	**4609**	-	9703
% Lights	93.7%	0%	100%	**93.7%**	-	98.2%	97.2%	100%	**97.3%**	-	96.6%	97.1%	0%	**96.9%**	-	96.7%
Heavy	61	0	0	**61**	-	2	114	0	**116**	-	34	110	0	**144**	-	321
% Heavy	6.0%	0%	0%	**6.0%**	-	1.8%	2.8%	0%	**2.7%**	-	3.3%	2.9%	0%	**3.0%**	-	3.2%
Pedestrians	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-

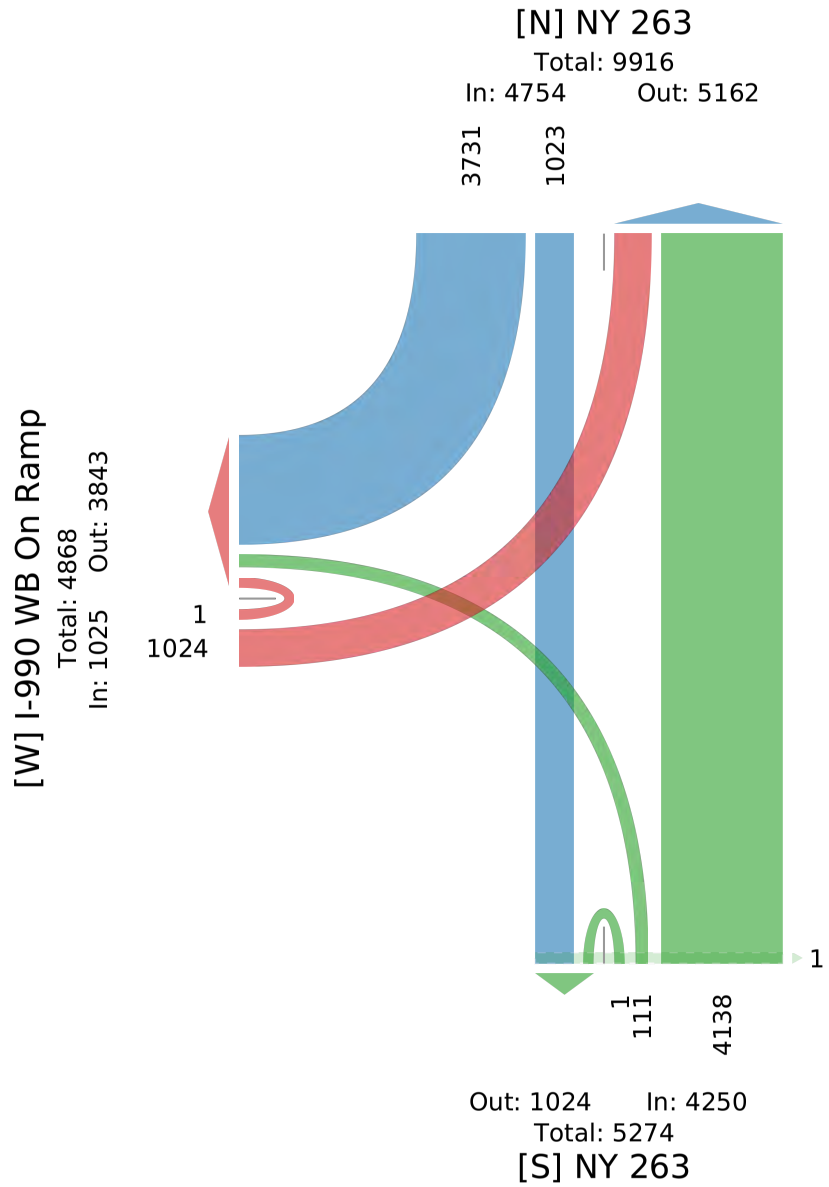
*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NY 263/I-990 WB On Ramp - TMC
Wed Feb 9, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921943, Location: 43.047829, -78.733454

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



NY 263/I-990 WB On Ramp - TMC

Wed Feb 9, 2022
AM Peak (7 AM - 8 AM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921943, Location: 43.047829, -78.733454

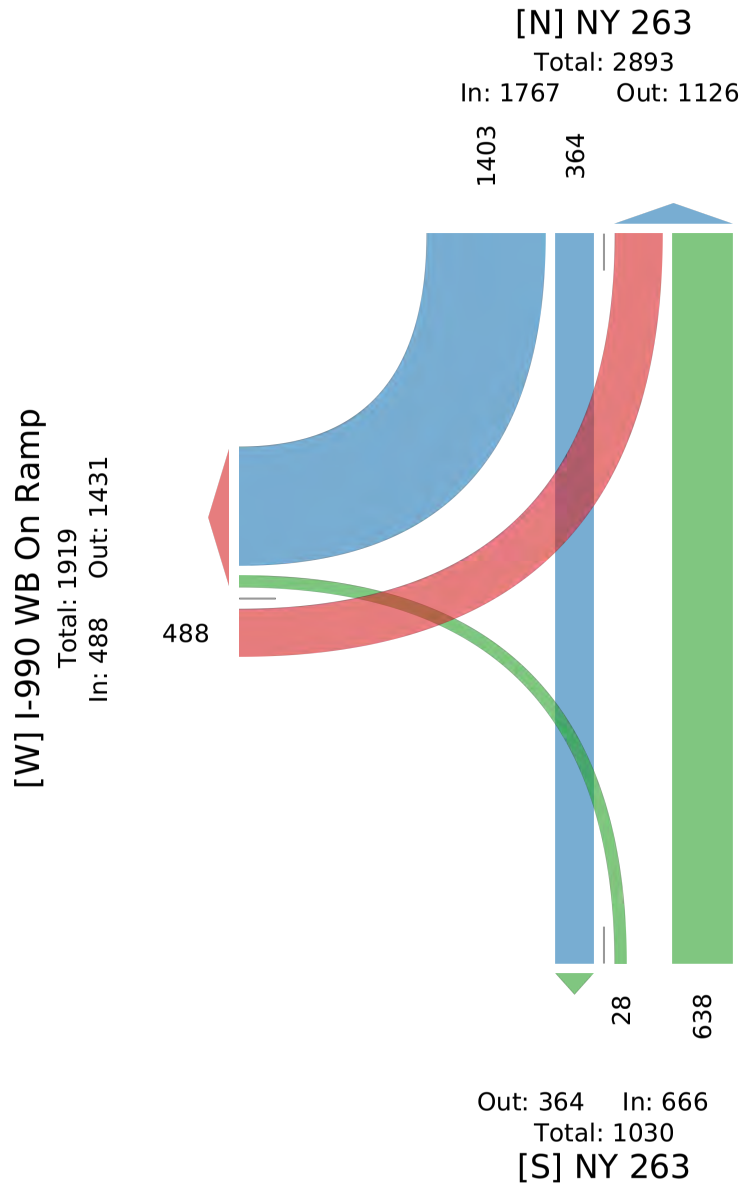
Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg	I-990 WB On Ramp					NY 263					NY 263					
Direction	Eastbound					Northbound					Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2022-02-09 7:00AM	85	0	0	**85**	0	2	127	0	**129**	0	76	325	0	**401**	0	**615**
7:15AM	143	0	0	**143**	0	9	172	0	**181**	0	84	356	0	**440**	0	**764**
7:30AM	130	0	0	**130**	0	10	167	0	**177**	0	104	371	0	**475**	0	**782**
7:45AM	130	0	0	**130**	0	7	172	0	**179**	0	100	351	0	**451**	0	**760**
Total	488	0	0	**488**	0	28	638	0	**666**	0	364	1403	0	**1767**	0	**2921**
% Approach	100%	0%	0%	**-**	-	4.2%	95.8%	0%	**-**	-	20.6%	79.4%	0%	**-**	-	-
% Total	16.7%	0%	0%	**16.7%**	-	1.0%	21.8%	0%	**22.8%**	-	12.5%	48.0%	0%	**60.5%**	-	-
PHF	0.853	-	-	**0.853**	-	0.700	0.927	-	**0.920**	-	0.875	0.945	-	**0.930**	-	0.934
Motorcycles	2	0	0	**2**	-	0	0	0	**0**	-	0	0	0	**0**	-	2
% Motorcycles	0.4%	0%	0%	**0.4%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.1%
Lights	457	0	0	**457**	-	28	602	0	**630**	-	346	1364	0	**1710**	-	2797
% Lights	93.6%	0%	0%	**93.6%**	-	100%	94.4%	0%	**94.6%**	-	95.1%	97.2%	0%	**96.8%**	-	95.8%
Heavy	29	0	0	**29**	-	0	36	0	**36**	-	18	39	0	**57**	-	122
% Heavy	5.9%	0%	0%	**5.9%**	-	0%	5.6%	0%	**5.4%**	-	4.9%	2.8%	0%	**3.2%**	-	4.2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

NY 263/I-990 WB On Ramp - TMC
Wed Feb 9, 2022
AM Peak (7 AM - 8 AM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921943, Location: 43.047829, -78.733454

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



NY 263/I-990 WB On Ramp - TMC

Wed Feb 9, 2022
Forced Peak (4:15 PM - 5:15 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921943, Location: 43.047829, -78.733454



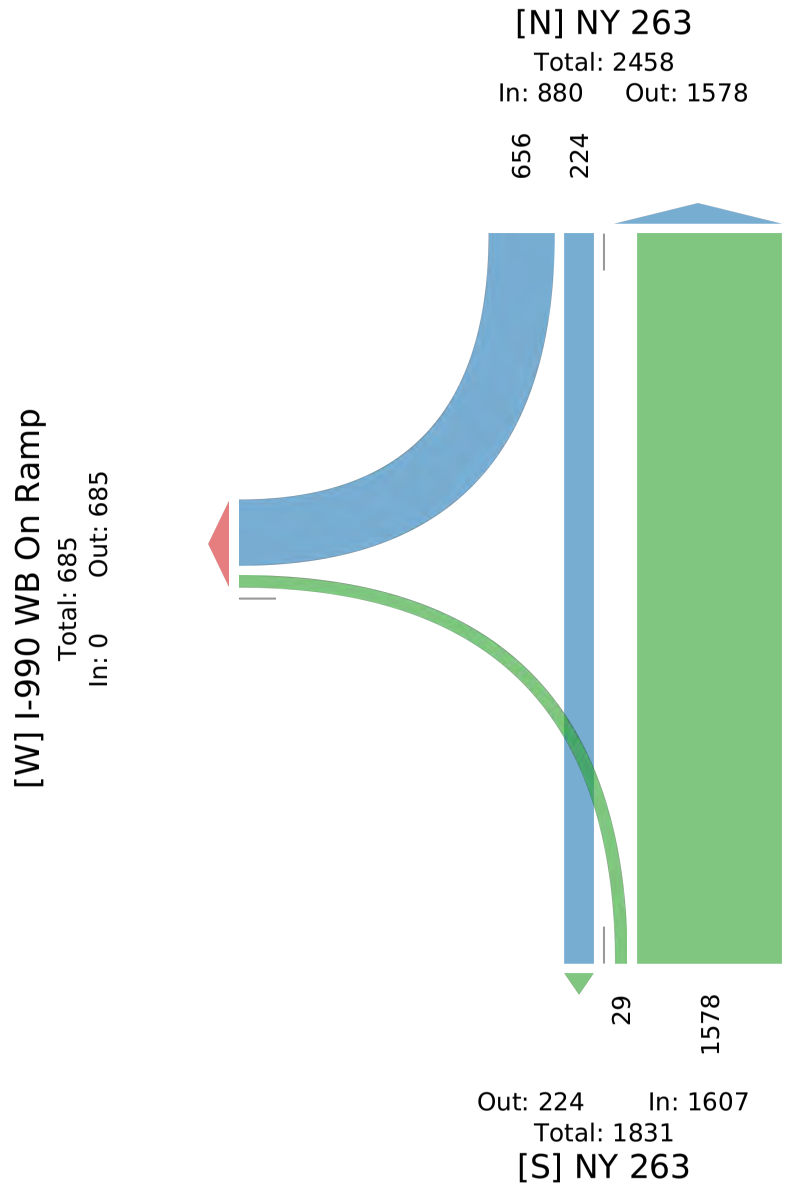
Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	I-990 WB On Ramp Eastbound					NY 263 Northbound					NY 263 Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2022-02-09 4:15PM	0	0	0	**0**	0	5	383	0	**388**	0	42	156	0	**198**	0	**586**
4:30PM	0	0	0	**0**	0	11	426	0	**437**	0	54	163	0	**217**	0	**654**
4:45PM	0	0	0	**0**	0	8	381	0	**389**	0	60	167	0	**227**	0	**616**
5:00PM	0	0	0	**0**	0	5	388	0	**393**	0	68	170	0	**238**	0	**631**
Total	0	0	0	**0**	0	29	1578	0	**1607**	0	224	656	0	**880**	0	**2487**
% Approach	0%	0%	0%	**-**	-	1.8%	98.2%	0%	**-**	-	25.5%	74.5%	0%	**-**	-	-
% Total	0%	0%	0%	**0%**	-	1.2%	63.4%	0%	**64.6%**	-	9.0%	26.4%	0%	**35.4%**	-	-
PHF	-	-	-	**-**	-	0.659	0.926	-	**0.919**	-	0.824	0.965	-	**0.924**	-	0.951
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	**-**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Lights	0	0	0	**0**	-	29	1557	0	**1586**	-	222	632	0	**854**	-	2440
% Lights	0%	0%	0%	**-**	-	100%	98.7%	0%	**98.7%**	-	99.1%	96.3%	0%	**97.0%**	-	98.1%
Heavy	0	0	0	**0**	-	0	21	0	**21**	-	2	24	0	**26**	-	47
% Heavy	0%	0%	0%	**-**	-	0%	1.3%	0%	**1.3%**	-	0.9%	3.7%	0%	**3.0%**	-	1.9%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

NY 263/I-990 WB On Ramp - TMC
Wed Feb 9, 2022
Forced Peak (4:15 PM - 5:15 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921943, Location: 43.047829, -78.733454

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



NY 263/I-990 WB On Ramp - TMC

Wed Feb 9, 2022
PM Peak (4:30 PM - 5:30 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921943, Location: 43.047829, -78.733454



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

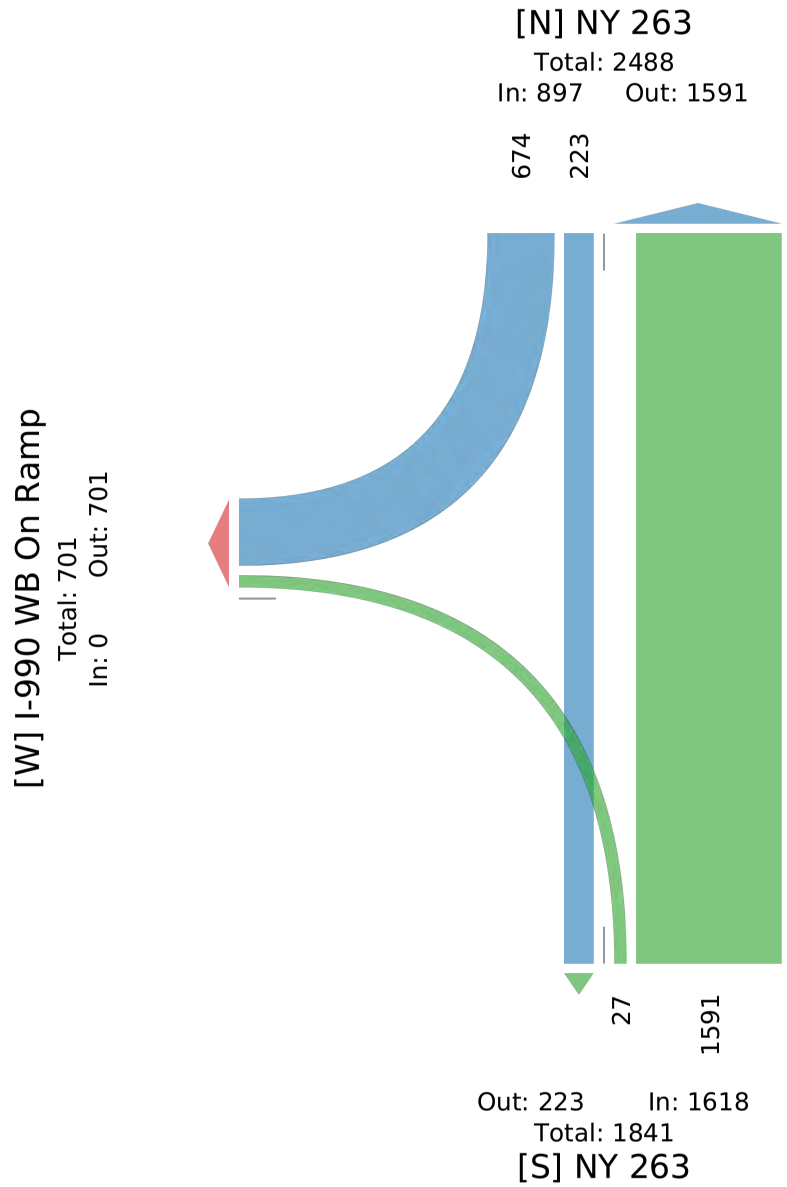
Leg	I-990 WB On Ramp					NY 263					NY 263					
Direction	Eastbound					Northbound					Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2022-02-09 4:30PM	0	0	0	**0**	0	11	426	0	**437**	0	54	163	0	**217**	0	**654**
4:45PM	0	0	0	**0**	0	8	381	0	**389**	0	60	167	0	**227**	0	**616**
5:00PM	0	0	0	**0**	0	5	388	0	**393**	0	68	170	0	**238**	0	**631**
5:15PM	0	0	0	**0**	0	3	396	0	**399**	0	41	174	0	**215**	0	**614**
Total	0	0	0	**0**	0	27	1591	0	**1618**	0	223	674	0	**897**	0	**2515**
% Approach	0%	0%	0%	**-**	-	1.7%	98.3%	0%	**-**	-	24.9%	75.1%	0%	**-**	-	-
% Total	0%	0%	0%	**0%**	-	1.1%	63.3%	0%	**64.3%**	-	8.9%	26.8%	0%	**35.7%**	-	-
PHF	-	-	-	**-**	-	0.614	0.934	-	**0.926**	-	0.820	0.968	-	**0.942**	-	0.961
Motorcycles	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	**-**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Lights	0	0	0	**0**	-	27	1575	0	**1602**	-	221	649	0	**870**	-	2472
% Lights	0%	0%	0%	**-**	-	100%	99.0%	0%	**99.0%**	-	99.1%	96.3%	0%	**97.0%**	-	98.3%
Heavy	0	0	0	**0**	-	0	16	0	**16**	-	2	25	0	**27**	-	43
% Heavy	0%	0%	0%	**-**	-	0%	1.0%	0%	**1.0%**	-	0.9%	3.7%	0%	**3.0%**	-	1.7%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

NY 263/I-990 WB On Ramp - TMC
Wed Feb 9, 2022
PM Peak (4:30 PM - 5:30 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 921943, Location: 43.047829, -78.733454

TRI-STATE TRAFFIC DATA

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 WB On Ramp
Site Code:
Start Date: 02/09/2022

Turning Movement Data

Start Time	NY 263 Southbound					NY 263 Northbound					I-990 WB On Ramp Eastbound					
	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	325	76	0	0	401	127	2	0	0	129	0	85	0	0	85	615
7:15 AM	356	84	0	0	440	172	9	0	0	181	0	143	0	0	143	764
7:30 AM	371	104	0	0	475	167	10	0	0	177	0	130	0	0	130	782
7:45 AM	351	100	0	0	451	172	7	0	0	179	0	130	0	0	130	760
Hourly Total	1403	364	0	0	1767	638	28	0	0	666	0	488	0	0	488	2921
8:00 AM	256	81	0	0	337	133	7	0	1	140	0	103	0	0	103	580
8:15 AM	307	75	0	0	382	147	8	0	0	155	0	140	0	0	140	677
8:30 AM	274	70	0	0	344	144	9	0	0	153	0	159	0	0	159	656
8:45 AM	206	64	0	0	270	152	7	1	0	160	0	134	1	0	135	565
Hourly Total	1043	290	0	0	1333	576	31	1	1	608	0	536	1	0	537	2478
9:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:00 PM	151	39	0	0	190	350	11	0	0	361	0	0	0	0	0	551
4:15 PM	156	42	0	0	198	383	5	0	0	388	0	0	0	0	0	586
4:30 PM	163	54	0	0	217	426	11	0	0	437	0	0	0	0	0	654
4:45 PM	167	60	0	0	227	381	8	0	0	389	0	0	0	0	0	616
Hourly Total	637	195	0	0	832	1540	35	0	0	1575	0	0	0	0	0	2407
5:00 PM	170	68	0	0	238	388	5	0	0	393	0	0	0	0	0	631
5:15 PM	174	41	0	0	215	396	3	0	0	399	0	0	0	0	0	614
5:30 PM	168	24	0	0	192	341	6	0	0	347	0	0	0	0	0	539
5:45 PM	136	40	0	0	176	259	3	0	0	262	0	0	0	0	0	438
Hourly Total	648	173	0	0	821	1384	17	0	0	1401	0	0	0	0	0	2222
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	3731	1023	0	0	4754	4138	111	1	1	4250	0	1024	1	0	1025	10029
Approach %	78.5	21.5	0.0	-	-	97.4	2.6	0.0	-	-	0.0	99.9	0.1	-	-	-
Total %	37.2	10.2	0.0	-	47.4	41.3	1.1	0.0	-	42.4	0.0	10.2	0.0	-	10.2	-
Motorcycles	0	1	0	-	1	0	0	0	-	0	0	4	0	-	4	5
% Motorcycles	0.0	0.1	-	-	0.0	0.0	0.0	0.0	-	0.0	-	0.4	0.0	-	0.4	0.0
Cars & Light Goods	3621	988	0	-	4609	4024	109	1	-	4134	0	959	1	-	960	9703
% Cars & Light Goods	97.1	96.6	-	-	96.9	97.2	98.2	100.0	-	97.3	-	93.7	100.0	-	93.7	96.7
Other Vehicles	110	34	0	-	144	114	2	0	-	116	0	61	0	-	61	321
% Other Vehicles	2.9	3.3	-	-	3.0	2.8	1.8	0.0	-	2.7	-	6.0	0.0	-	6.0	3.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

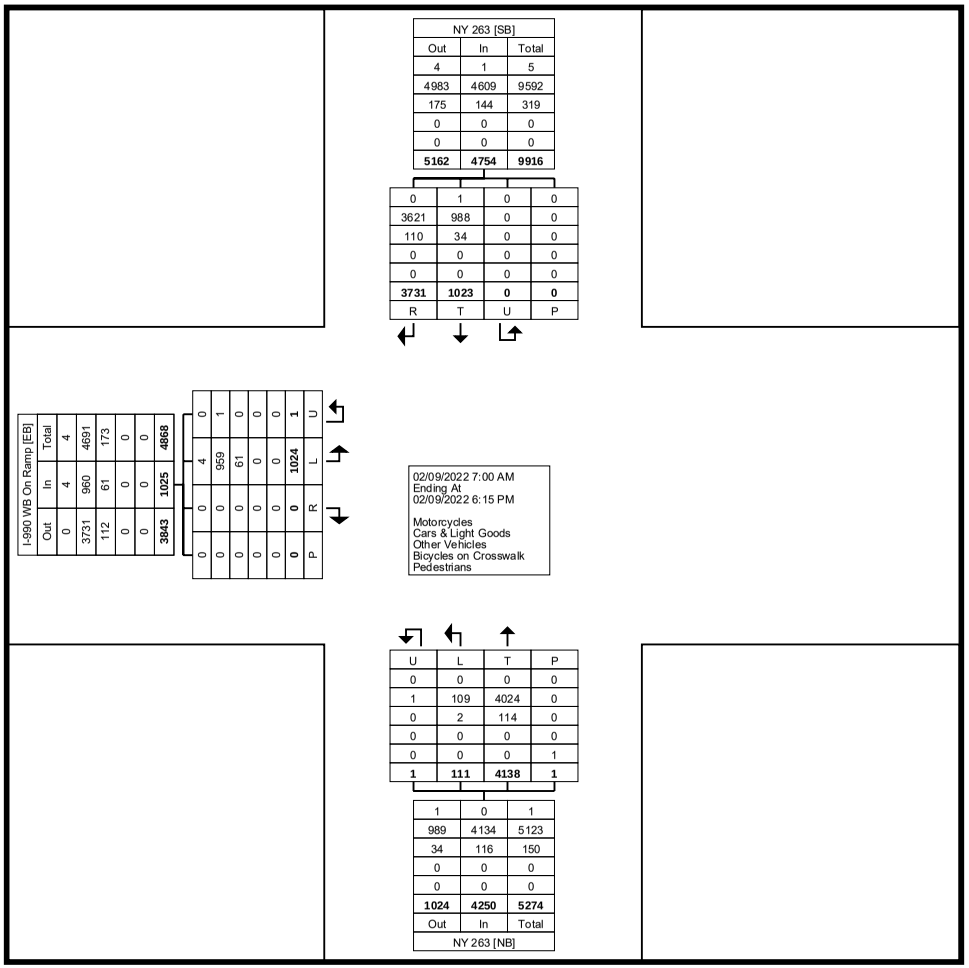
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 WB On Ramp
Site Code:
Start Date: 02/09/2022



Turning Movement Data Plot

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 WB On Ramp
Site Code:
Start Date: 02/09/2022

Turning Movement Peak Hour Data (7:00 AM)

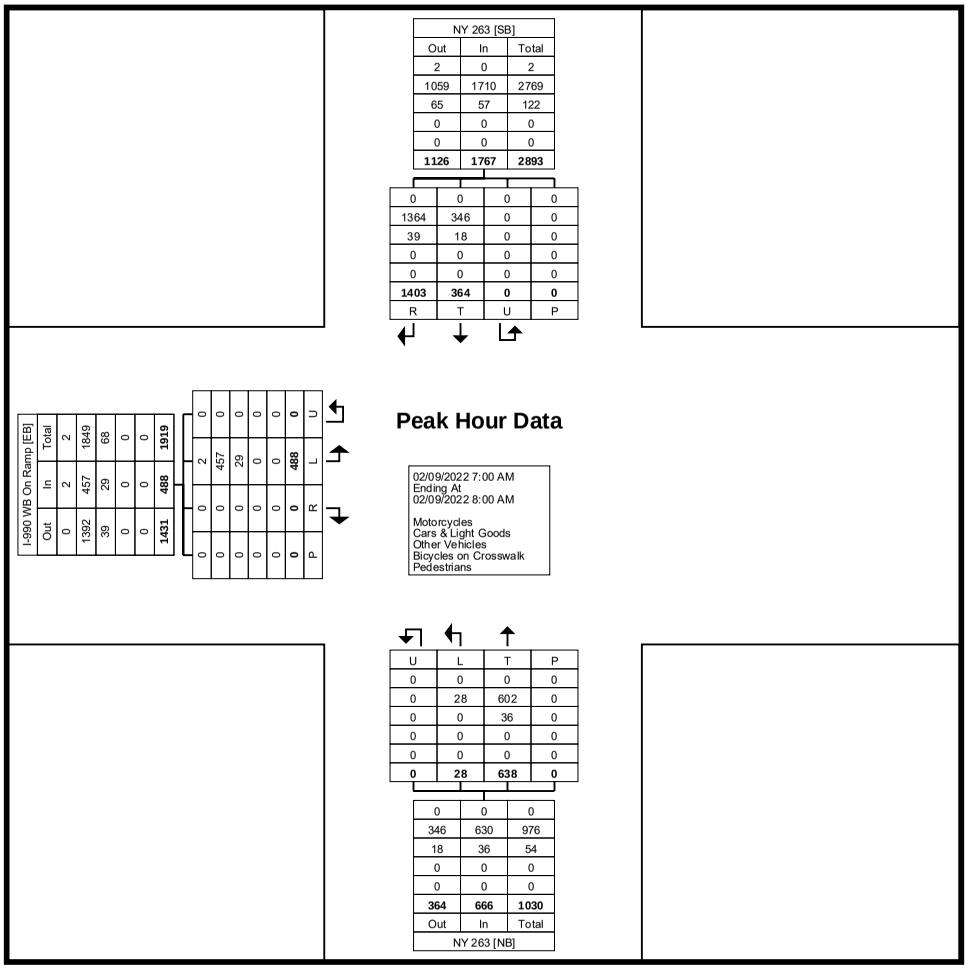
Start Time	NY 263 Southbound					NY 263 Northbound					I-990 WB On Ramp Eastbound					
	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	325	76	0	0	401	127	2	0	0	129	0	85	0	0	85	615
7:15 AM	356	84	0	0	440	172	9	0	0	181	0	143	0	0	143	764
7:30 AM	371	104	0	0	475	167	10	0	0	177	0	130	0	0	130	782
7:45 AM	351	100	0	0	451	172	7	0	0	179	0	130	0	0	130	760
Total	1403	364	0	0	1767	638	28	0	0	666	0	488	0	0	488	2921
Approach %	79.4	20.6	0.0	-	-	95.8	4.2	0.0	-	-	0.0	100.0	0.0	-	-	-
Total %	48.0	12.5	0.0	-	60.5	21.8	1.0	0.0	-	22.8	0.0	16.7	0.0	-	16.7	-
PHF	0.945	0.875	0.000	-	0.930	0.927	0.700	0.000	-	0.920	0.000	0.853	0.000	-	0.853	0.934
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	2	0	-	2	2
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	-	0.4	-	-	0.4	0.1
Cars & Light Goods	1364	346	0	-	1710	602	28	0	-	630	0	457	0	-	457	2797
% Cars & Light Goods	97.2	95.1	-	-	96.8	94.4	100.0	-	-	94.6	-	93.6	-	-	93.6	95.8
Other Vehicles	39	18	0	-	57	36	0	0	-	36	0	29	0	-	29	122
% Other Vehicles	2.8	4.9	-	-	3.2	5.6	0.0	-	-	5.4	-	5.9	-	-	5.9	4.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 WB On Ramp
Site Code:
Start Date: 02/09/2022



Turning Movement Peak Hour Data Plot (7:00 AM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 WB On Ramp
Site Code:
Start Date: 02/09/2022

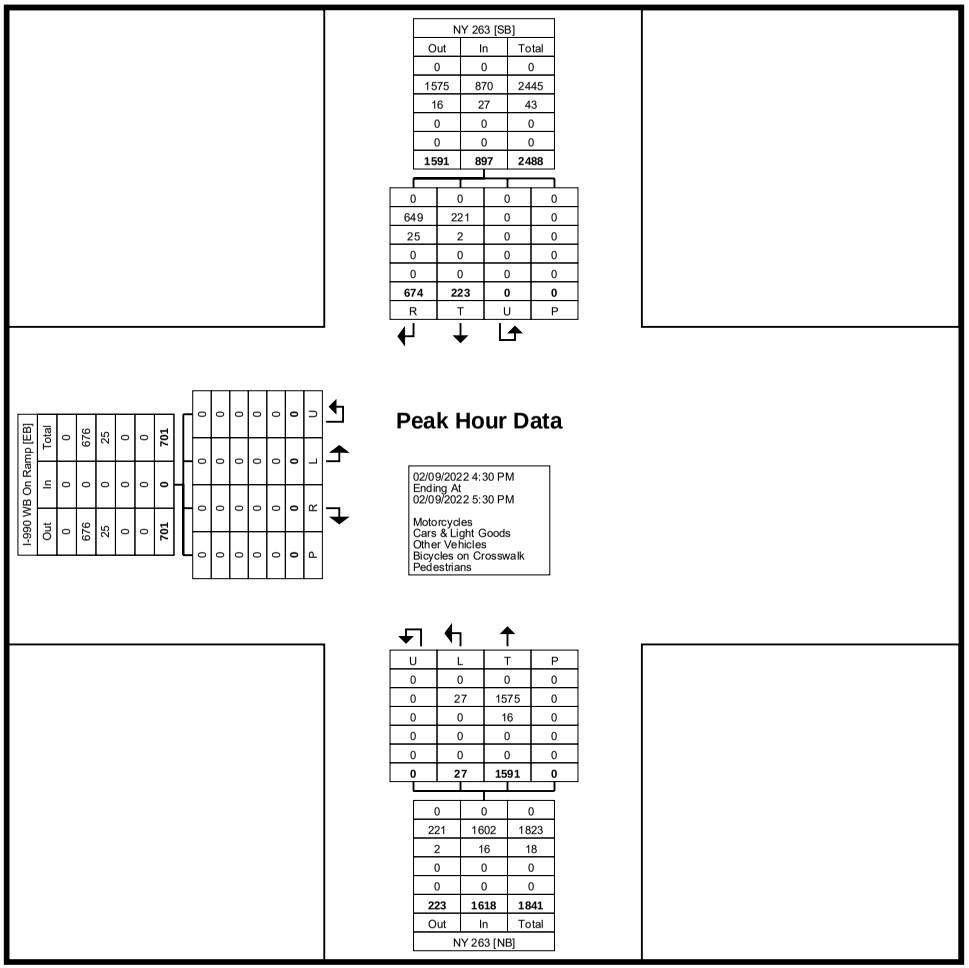
Turning Movement Peak Hour Data (4:30 PM)

Start Time	NY 263 Southbound					NY 263 Northbound					I-990 WB On Ramp Eastbound					
	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Int. Total
4:30 PM	163	54	0	0	217	426	11	0	0	437	0	0	0	0	0	654
4:45 PM	167	60	0	0	227	381	8	0	0	389	0	0	0	0	0	616
5:00 PM	170	68	0	0	238	388	5	0	0	393	0	0	0	0	0	631
5:15 PM	174	41	0	0	215	396	3	0	0	399	0	0	0	0	0	614
Total	674	223	0	0	897	1591	27	0	0	1618	0	0	0	0	0	2515
Approach %	75.1	24.9	0.0	-	-	98.3	1.7	0.0	-	-	0.0	0.0	0.0	-	-	-
Total %	26.8	8.9	0.0	-	35.7	63.3	1.1	0.0	-	64.3	0.0	0.0	0.0	-	0.0	-
PHF	0.968	0.820	0.000	-	0.942	0.934	0.614	0.000	-	0.926	0.000	0.000	0.000	-	0.000	0.961
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	-	-	-	-	-	0.0
Cars & Light Goods	649	221	0	-	870	1575	27	0	-	1602	0	0	0	-	0	2472
% Cars & Light Goods	96.3	99.1	-	-	97.0	99.0	100.0	-	-	99.0	-	-	-	-	-	98.3
Other Vehicles	25	2	0	-	27	16	0	0	-	16	0	0	0	-	0	43
% Other Vehicles	3.7	0.9	-	-	3.0	1.0	0.0	-	-	1.0	-	-	-	-	-	1.7
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/I-990 WB On Ramp
Site Code:
Start Date: 02/09/2022
Page No: 7



Turning Movement Peak Hour Data Plot (4:30 PM)

NY 263/New Rd - TMC

Wed Feb 9, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 922045, Location: 43.056307, -78.724502

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg / Direction	NY 263 Eastbound							NY 263 Westbound							New Rd Northbound							New Rd Southbound							
Time	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*	Int
2022-02-09 7:00AM	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	**0**
7:15AM	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	**0**
7:30AM	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	**0**
7:45AM	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	**0**
Hourly Total	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	**0**
8:00AM	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	**0**
8:15AM	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	**0**
8:30AM	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	**0**
8:45AM	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	**0**
Hourly Total	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	**0**
4:00PM	40	272	0	0	2	**314**	0	4	138	1	0	0	**143**	0	0	22	19	0	1	**42**	0	1	14	13	0	5	**33**	0	**532**
4:15PM	55	283	1	0	2	**341**	0	6	162	1	0	1	**170**	0	1	22	15	0	4	**42**	0	1	6	9	0	8	**24**	0	**577**
4:30PM	53	321	0	0	0	**374**	0	13	169	2	0	0	**184**	0	0	16	17	0	1	**34**	0	3	7	16	0	4	**30**	0	**622**
4:45PM	46	304	0	0	0	**350**	0	11	154	1	0	0	**166**	0	2	16	11	0	2	**31**	0	4	4	18	0	13	**39**	0	**586**
Hourly Total	194	1180	1	0	4	**1379**	0	34	623	5	0	1	**663**	0	3	76	62	0	8	**149**	0	9	31	56	0	30	**126**	0	**2317**
5:00PM	59	296	0	0	0	**355**	0	10	161	3	0	0	**174**	0	3	22	12	0	1	**38**	0	1	11	16	0	9	**37**	0	**604**
5:15PM	43	281	0	0	0	**324**	0	14	183	2	0	0	**199**	0	0	26	12	0	1	**39**	0	0	10	17	0	4	**31**	0	**593**
5:30PM	36	218	3	0	0	**257**	0	11	134	1	0	1	**147**	0	0	15	9	0	4	**28**	0	1	16	7	0	4	**28**	0	**460**
5:45PM	31	218	4	0	0	**253**	0	14	142	2	0	0	**158**	0	2	11	8	0	5	**26**	0	1	11	7	0	4	**23**	0	**460**
Hourly Total	169	1013	7	0	0	**1189**	0	49	620	8	0	1	**678**	0	5	74	41	0	11	**131**	0	3	48	47	0	21	**119**	0	**2117**
Total	363	2193	8	0	4	**2568**	0	83	1243	13	0	2	**1341**	0	8	150	103	0	19	**280**	0	12	79	103	0	51	**245**	0	**4434**
% Approach	14.1%	85.4%	0.3%	0%	0.2%	**-**	-	6.2%	92.7%	1.0%	0%	0.1%	**-**	-	2.9%	53.6%	36.8%	0%	6.8%	**-**	-	4.9%	32.2%	42.0%	0%	20.8%	**-**	-	-
% Total	8.2%	49.5%	0.2%	0%	0.1%	**57.9%**	-	1.9%	28.0%	0.3%	0%	0%	**30.2%**	-	0.2%	3.4%	2.3%	0%	0.4%	**6.3%**	-	0.3%	1.8%	2.3%	0%	1.2%	**5.5%**	-	-
Motorcycles	0	0	0	0	0	**0**	-	0	1	0	0	0	**1**	-	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	1
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	0%	**0.1%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%
Lights	360	2157	8	0	4	**2529**	-	83	1206	13	0	2	**1304**	-	8	149	102	0	19	**278**	-	12	78	102	0	51	**243**	-	4354
% Lights	99.2%	98.4%	100%	0%	100%	**98.5%**	-	100%	97.0%	100%	0%	100%	**97.2%**	-	100%	99.3%	99.0%	0%	100%	**99.3%**	-	100%	98.7%	99.0%	0%	100%	**99.2%**	-	98.2%
Heavy	3	36	0	0	0	**39**	-	0	36	0	0	0	**36**	-	0	1	1	0	0	**2**	-	0	1	1	0	0	**2**	-	79
% Heavy	0.8%	1.6%	0%	0%	0%	**1.5%**	-	0%	2.9%	0%	0%	0%	**2.7%**	-	0%	0.7%	1.0%	0%	0%	**0.7%**	-	0%	1.3%	1.0%	0%	0%	**0.8%**	-	1.8%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

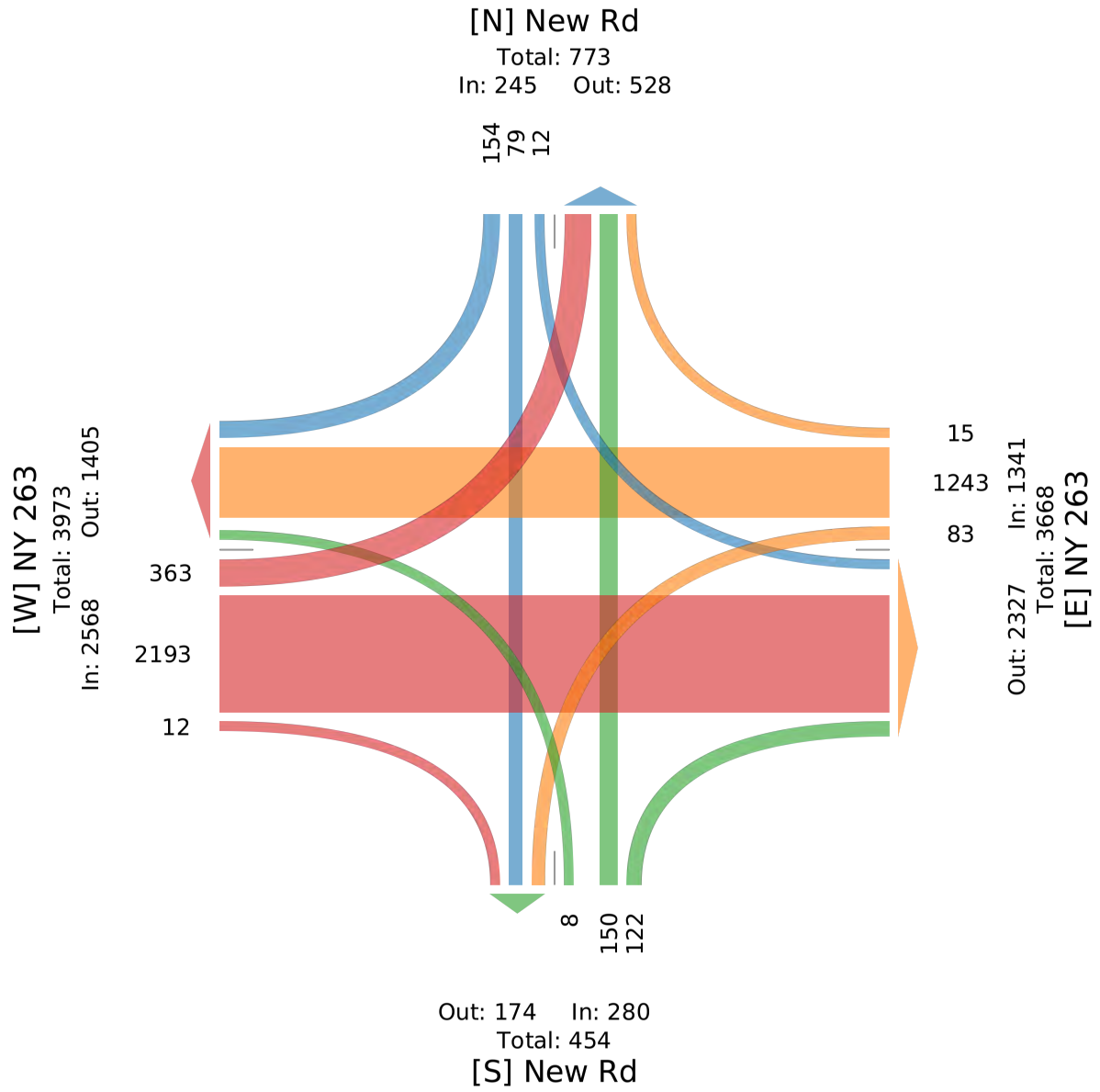
*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NY 263/New Rd - TMC
Wed Feb 9, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 922045, Location: 43.056307, -78.724502

TRI-STATE TRAFFIC DATA

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NY 263/New Rd - TMC

Wed Feb 9, 2022
Forced Peak (4:15 PM - 5:15 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 922045, Location: 43.056307, -78.724502



Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

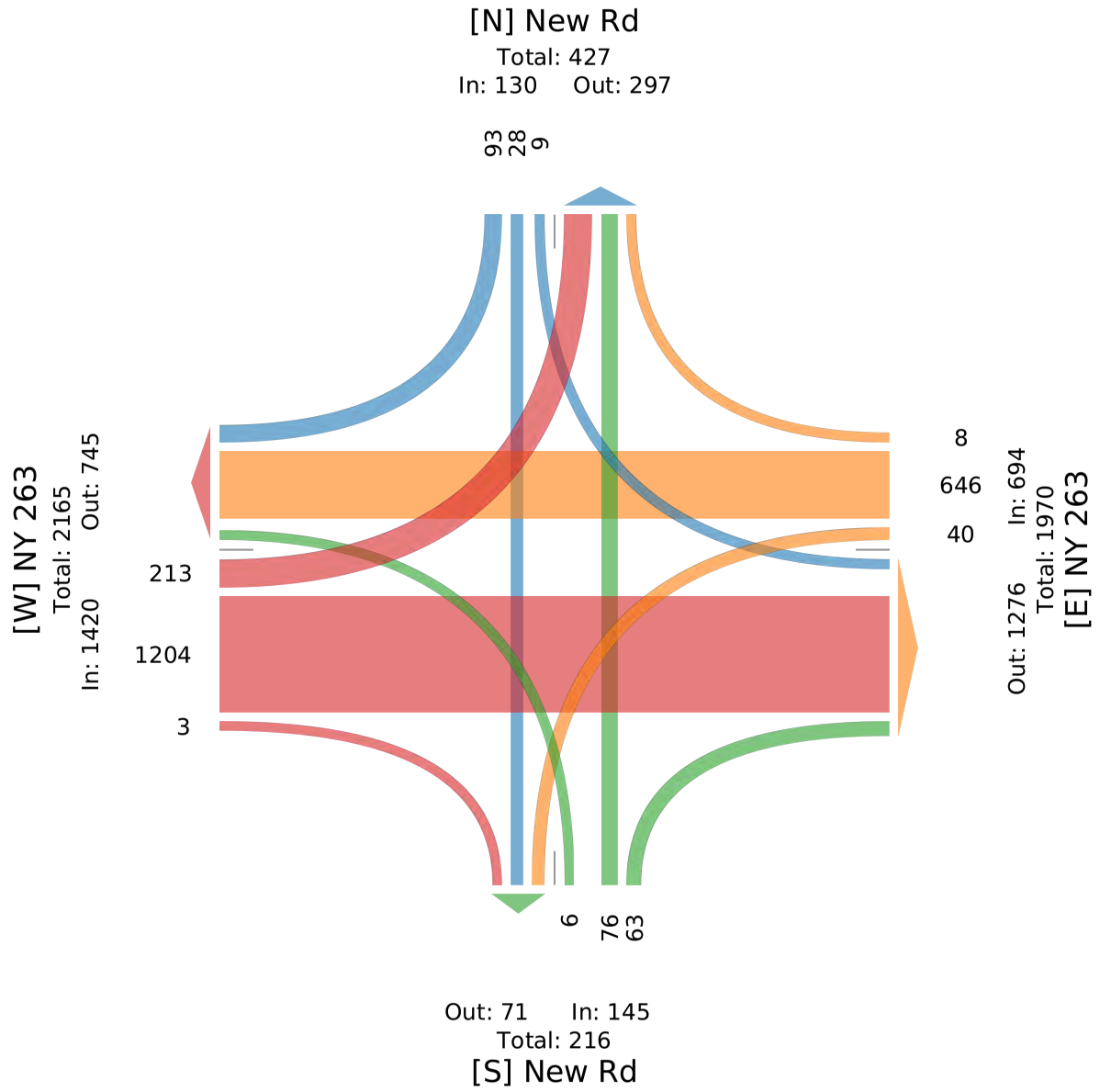
Leg	NY 263							NY 263							New Rd							New Rd							
Direction	Eastbound							Westbound							Northbound							Southbound							
Time	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*	L	T	R	U	RR	App	Ped*	Int
2022-02-09 4:15PM	55	283	1	0	2	**341**	0	6	162	1	0	1	**170**	0	1	22	15	0	4	**42**	0	1	6	9	0	8	**24**	0	**577**
4:30PM	53	321	0	0	0	**374**	0	13	169	2	0	0	**184**	0	0	16	17	0	1	**34**	0	3	7	16	0	4	**30**	0	**622**
4:45PM	46	304	0	0	0	**350**	0	11	154	1	0	0	**166**	0	2	16	11	0	2	**31**	0	4	4	18	0	13	**39**	0	**586**
5:00PM	59	296	0	0	0	**355**	0	10	161	3	0	0	**174**	0	3	22	12	0	1	**38**	0	1	11	16	0	9	**37**	0	**604**
Total	213	1204	1	0	2	**1420**	0	40	646	7	0	1	**694**	0	6	76	55	0	8	**145**	0	9	28	59	0	34	**130**	0	**2389**
% Approach	15.0%	84.8%	0.1%	0%	0.1%	**-**	-	5.8%	93.1%	1.0%	0%	0.1%	**-**	-	4.1%	52.4%	37.9%	0%	5.5%	**-**	-	6.9%	21.5%	45.4%	0%	26.2%	**-**	-	-
% Total	8.9%	50.4%	0%	0%	0.1%	**59.4%**	-	1.7%	27.0%	0.3%	0%	0%	**29.0%**	-	0.3%	3.2%	2.3%	0%	0.3%	**6.1%**	-	0.4%	1.2%	2.5%	0%	1.4%	**5.4%**	-	-
PHF	0.903	0.938	0.250	-	0.250	**0.949**	-	0.769	0.956	0.583	-	0.250	**0.943**	-	0.500	0.864	0.809	-	0.500	**0.863**	-	0.563	0.636	0.819	-	0.654	**0.833**	-	0.960
Motorcycles	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%
Lights	212	1181	1	0	2	**1396**	-	40	624	7	0	1	**672**	-	6	76	54	0	8	**144**	-	9	27	58	0	34	**128**	-	2340
% Lights	99.5%	98.1%	100%	0%	100%	**98.3%**	-	100%	96.6%	100%	0%	100%	**96.8%**	-	100%	100%	98.2%	0%	100%	**99.3%**	-	100%	96.4%	98.3%	0%	100%	**98.5%**	-	97.9%
Heavy	1	23	0	0	0	**24**	-	0	22	0	0	0	**22**	-	0	0	1	0	0	**1**	-	0	1	1	0	0	**2**	-	49
% Heavy	0.5%	1.9%	0%	0%	0%	**1.7%**	-	0%	3.4%	0%	0%	0%	**3.2%**	-	0%	0%	1.8%	0%	0%	**0.7%**	-	0%	3.6%	1.7%	0%	0%	**1.5%**	-	2.1%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

NY 263/New Rd - TMC
Wed Feb 9, 2022
Forced Peak (4:15 PM - 5:15 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 922045, Location: 43.056307, -78.724502

TRI-STATE TRAFFIC DATA

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NY 263/New Rd - TMC

Wed Feb 9, 2022
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 922045, Location: 43.056307, -78.724502

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg	NY 263							NY 263							New Rd							New Rd							
Direction	Eastbound							Westbound							Northbound							Southbound							
Time	L	T	R	U	RR	**App**	Ped*	L	T	R	U	RR	**App**	Ped*	L	T	R	U	RR	**App**	Ped*	L	T	R	U	RR	**App**	Ped*	**Int**
2022-02-09 4:30PM	53	321	0	0	0	**374**	0	13	169	2	0	0	**184**	0	0	16	17	0	1	**34**	0	3	7	16	0	4	**30**	0	**622**
4:45PM	46	304	0	0	0	**350**	0	11	154	1	0	0	**166**	0	2	16	11	0	2	**31**	0	4	4	18	0	13	**39**	0	**586**
5:00PM	59	296	0	0	0	**355**	0	10	161	3	0	0	**174**	0	3	22	12	0	1	**38**	0	1	11	16	0	9	**37**	0	**604**
5:15PM	43	281	0	0	0	**324**	0	14	183	2	0	0	**199**	0	0	26	12	0	1	**39**	0	0	10	17	0	4	**31**	0	**593**
Total	201	1202	0	0	0	**1403**	0	48	667	8	0	0	**723**	0	5	80	52	0	5	**142**	0	8	32	67	0	30	**137**	0	**2405**
% Approach	14.3%	85.7%	0%	0%	0%	**-**	-	6.6%	92.3%	1.1%	0%	0%	**-**	-	3.5%	56.3%	36.6%	0%	3.5%	**-**	-	5.8%	23.4%	48.9%	0%	21.9%	**-**	-	-
% Total	8.4%	50.0%	0%	0%	0%	**58.3%**	-	2.0%	27.7%	0.3%	0%	0%	**30.1%**	-	0.2%	3.3%	2.2%	0%	0.2%	**5.9%**	-	0.3%	1.3%	2.8%	0%	1.2%	**5.7%**	-	-
PHF	0.852	0.936	-	-	-	**0.938**	-	0.857	0.911	0.667	-	-	**0.908**	-	0.417	0.769	0.765	-	0.625	**0.910**	-	0.500	0.727	0.931	-	0.577	**0.878**	-	0.967
Motorcycles	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-	0
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**0%**	-	0%
Lights	200	1182	0	0	0	**1382**	-	48	643	8	0	0	**699**	-	5	80	52	0	5	**142**	-	8	31	66	0	30	**135**	-	2358
% Lights	99.5%	98.3%	0%	0%	0%	**98.5%**	-	100%	96.4%	100%	0%	0%	**96.7%**	-	100%	100%	100%	0%	100%	**100%**	-	100%	96.9%	98.5%	0%	100%	**98.5%**	-	98.0%
Heavy	1	20	0	0	0	**21**	-	0	24	0	0	0	**24**	-	0	0	0	0	0	**0**	-	0	1	1	0	0	**2**	-	47
% Heavy	0.5%	1.7%	0%	0%	0%	**1.5%**	-	0%	3.6%	0%	0%	0%	**3.3%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	3.1%	1.5%	0%	0%	**1.5%**	-	2.0%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

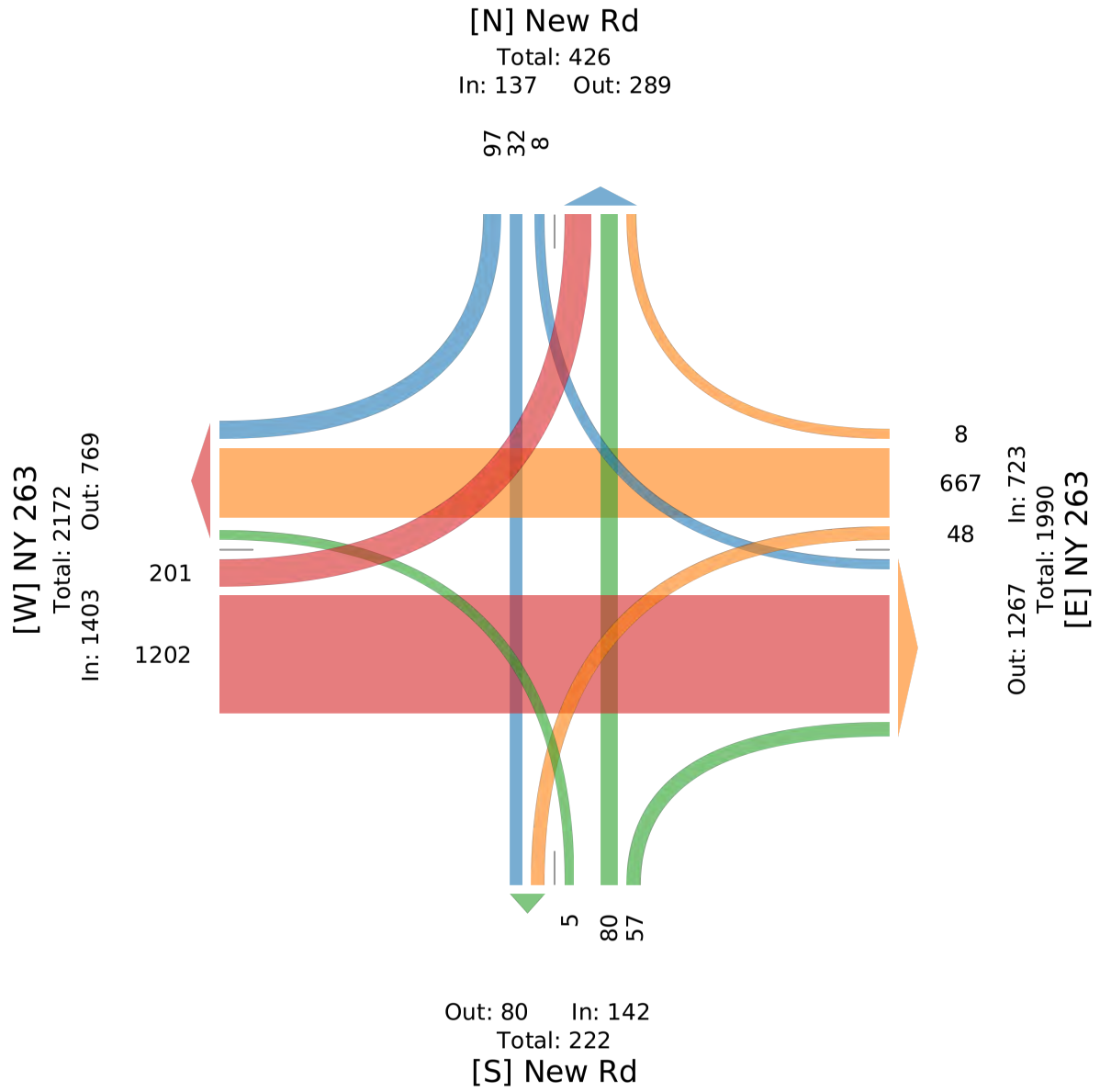
*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NY 263/New Rd - TMC
Wed Feb 9, 2022
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 922045, Location: 43.056307, -78.724502

TRI-STATE TRAFFIC DATA

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022

Turning Movement Data

Start Time	New Rd Southbound							NY 263 Westbound							New Rd Northbound							NY 263 Eastbound							Int. Total
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	40	2	13	1	0	0	56	1	1	261	9	0	0	272	0	1	4	1	0	0	6	0	0	104	7	0	0	111	445
7:15 AM	48	5	17	2	0	0	72	0	0	316	15	0	0	331	1	7	5	1	0	0	14	0	0	133	11	0	0	144	561
7:30 AM	52	3	22	1	0	0	78	0	0	306	23	0	0	329	4	5	9	1	0	0	19	0	0	140	21	0	0	161	587
7:45 AM	29	5	19	1	0	0	54	1	0	336	14	0	0	351	7	7	5	0	0	0	19	1	0	124	22	0	0	147	571
Hourly Total	169	15	71	5	0	0	260	2	1	1219	61	0	0	1283	12	20	23	3	0	0	58	1	0	501	61	0	0	563	2164
8:00 AM	35	2	18	2	0	0	57	1	0	223	13	0	0	237	12	5	8	0	0	0	25	0	0	100	15	0	0	115	434
8:15 AM	37	3	18	1	0	0	59	2	0	277	18	0	0	297	2	1	6	2	0	0	11	1	0	122	9	0	0	132	499
8:30 AM	13	7	11	2	0	0	33	1	0	234	12	0	0	247	5	5	5	0	0	0	15	1	0	118	13	0	0	132	427
8:45 AM	18	7	12	2	0	0	39	1	1	182	6	0	0	190	5	4	5	1	0	0	15	1	0	111	7	0	0	119	363
Hourly Total	103	19	59	7	0	0	188	5	1	916	49	0	0	971	24	15	24	3	0	0	66	3	0	451	44	0	0	498	1723
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	272	34	130	12	0	0	448	7	2	2135	110	0	0	2254	36	35	47	6	0	0	124	4	0	952	105	0	0	1061	3887
Approach %	60.7	7.6	29.0	2.7	0.0	-	-	0.3	0.1	94.7	4.9	0.0	-	-	29.0	28.2	37.9	4.8	0.0	-	-	0.4	0.0	89.7	9.9	0.0	-	-	-
Total %	7.0	0.9	3.3	0.3	0.0	-	11.5	0.2	0.1	54.9	2.8	0.0	-	58.0	0.9	0.9	1.2	0.2	0.0	-	3.2	0.1	0.0	24.5	2.7	0.0	-	27.3	-
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	268	34	125	12	0	-	439	6	2	2052	108	0	-	2168	34	35	39	6	0	-	114	3	0	878	100	0	-	981	3702
% Cars & Light Goods	98.5	100.0	96.2	100.0	-	-	98.0	85.7	100.0	96.1	98.2	-	-	96.2	94.4	100.0	83.0	100.0	-	-	91.9	75.0	-	92.2	95.2	-	-	92.5	95.2
Other Vehicles	4	0	5	0	0	-	9	1	0	83	2	0	-	86	2	0	8	0	0	-	10	1	0	74	5	0	-	80	185
% Other Vehicles	1.5	0.0	3.8	0.0	-	-	2.0	14.3	0.0	3.9	1.8	-	-	3.8	5.6	0.0	17.0	0.0	-	-	8.1	25.0	-	7.8	4.8	-	-	7.5	4.8
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

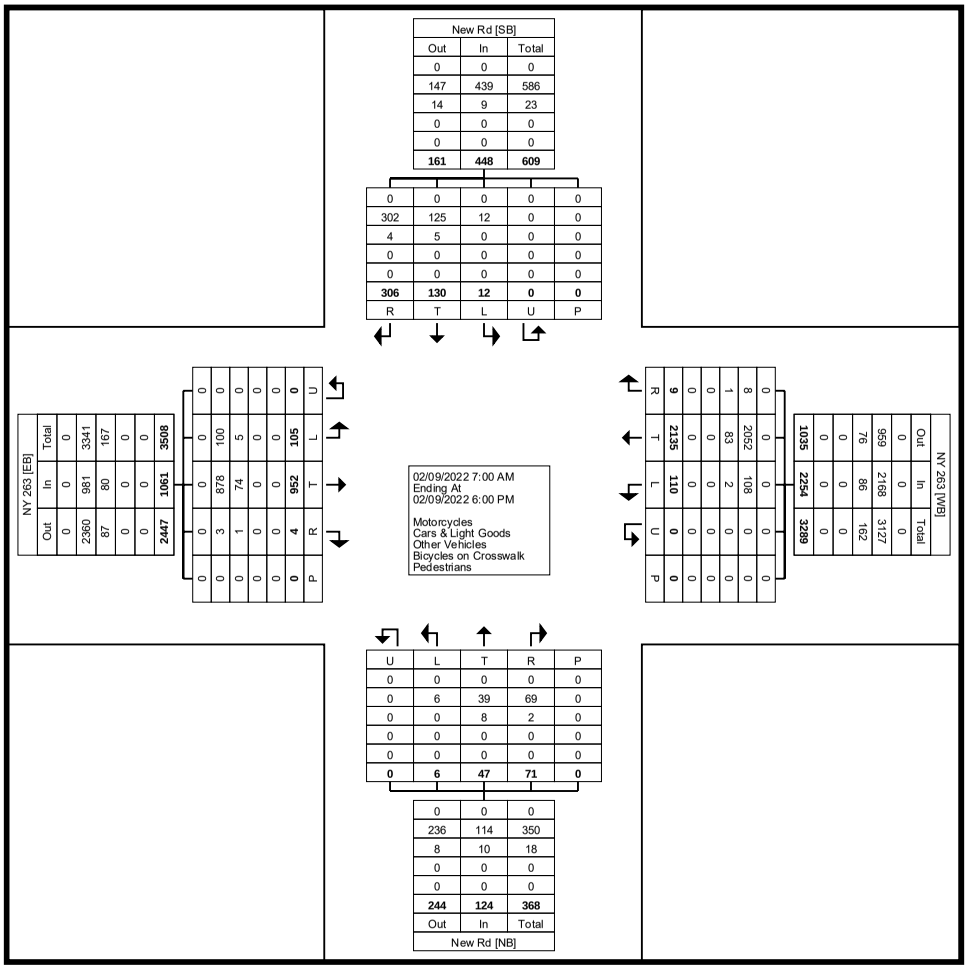
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022



Turning Movement Data Plot

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022

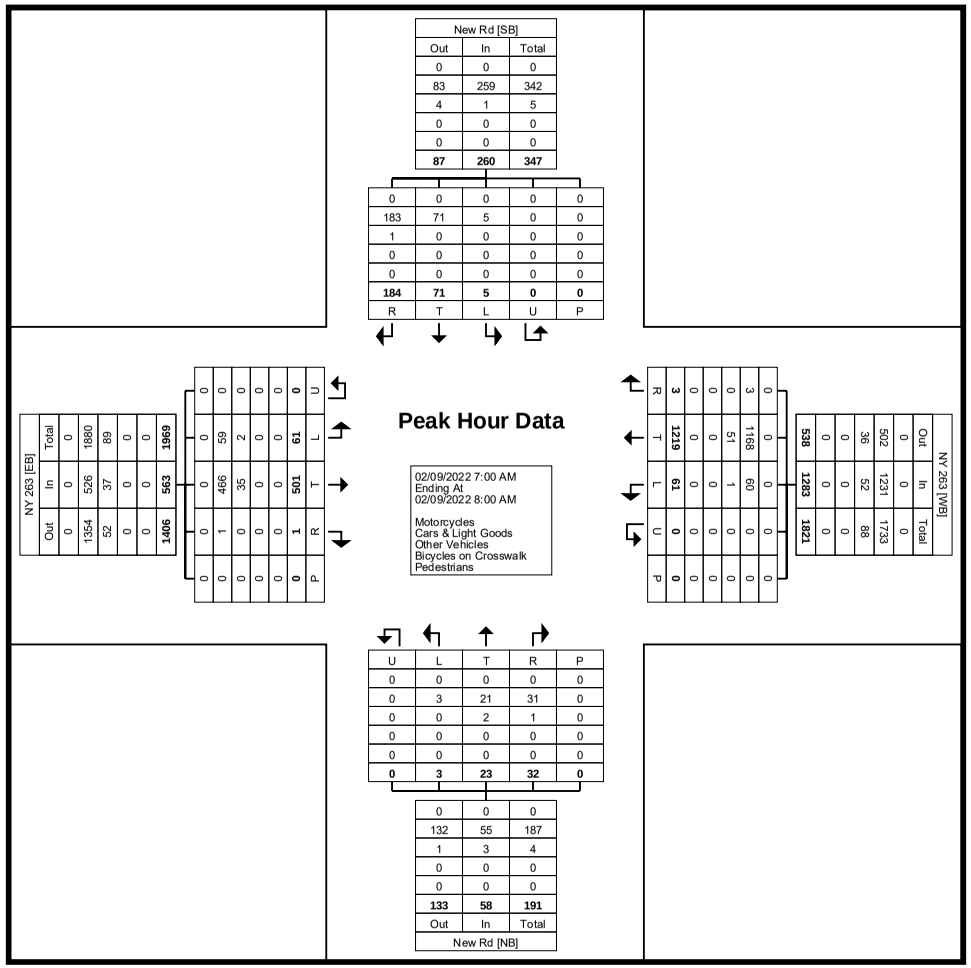
Turning Movement Peak Hour Data (7:00 AM)

Start Time	New Rd Southbound							NY 263 Westbound							New Rd Northbound							NY 263 Eastbound							Int. Total
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	40	2	13	1	0	0	56	1	1	261	9	0	0	272	0	1	4	1	0	0	6	0	0	104	7	0	0	111	445
7:15 AM	48	5	17	2	0	0	72	0	0	316	15	0	0	331	1	7	5	1	0	0	14	0	0	133	11	0	0	144	561
7:30 AM	52	3	22	1	0	0	78	0	0	306	23	0	0	329	4	5	9	1	0	0	19	0	0	140	21	0	0	161	587
7:45 AM	29	5	19	1	0	0	54	1	0	336	14	0	0	351	7	7	5	0	0	0	19	1	0	124	22	0	0	147	571
Total	169	15	71	5	0	0	260	2	1	1219	61	0	0	1283	12	20	23	3	0	0	58	1	0	501	61	0	0	563	2164
Approach %	65.0	5.8	27.3	1.9	0.0	-	-	0.2	0.1	95.0	4.8	0.0	-	-	20.7	34.5	39.7	5.2	0.0	-	-	0.2	0.0	89.0	10.8	0.0	-	-	-
Total %	7.8	0.7	3.3	0.2	0.0	-	12.0	0.1	0.0	56.3	2.8	0.0	-	59.3	0.6	0.9	1.1	0.1	0.0	-	2.7	0.0	0.0	23.2	2.8	0.0	-	26.0	-
PHF	0.813	0.750	0.807	0.625	0.000	-	0.833	0.500	0.250	0.907	0.663	0.000	-	0.914	0.429	0.714	0.639	0.750	0.000	-	0.763	0.250	0.000	0.895	0.693	0.000	-	0.874	0.922
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	168	15	71	5	0	-	259	2	1	1168	60	0	-	1231	11	20	21	3	0	-	55	1	0	466	59	0	-	526	2071
% Cars & Light Goods	99.4	100.0	100.0	100.0	-	-	99.6	100.0	100.0	95.8	98.4	-	-	95.9	91.7	100.0	91.3	100.0	-	-	94.8	100.0	-	93.0	96.7	-	-	93.4	95.7
Other Vehicles	1	0	0	0	0	-	1	0	0	51	1	0	-	52	1	0	2	0	0	-	3	0	0	35	2	0	-	37	93
% Other Vehicles	0.6	0.0	0.0	0.0	-	-	0.4	0.0	0.0	4.2	1.6	-	-	4.1	8.3	0.0	8.7	0.0	-	-	5.2	0.0	-	7.0	3.3	-	-	6.6	4.3
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022



Turning Movement Peak Hour Data Plot (7:00 AM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022

Turning Movement Peak Hour Data (4:00 PM)

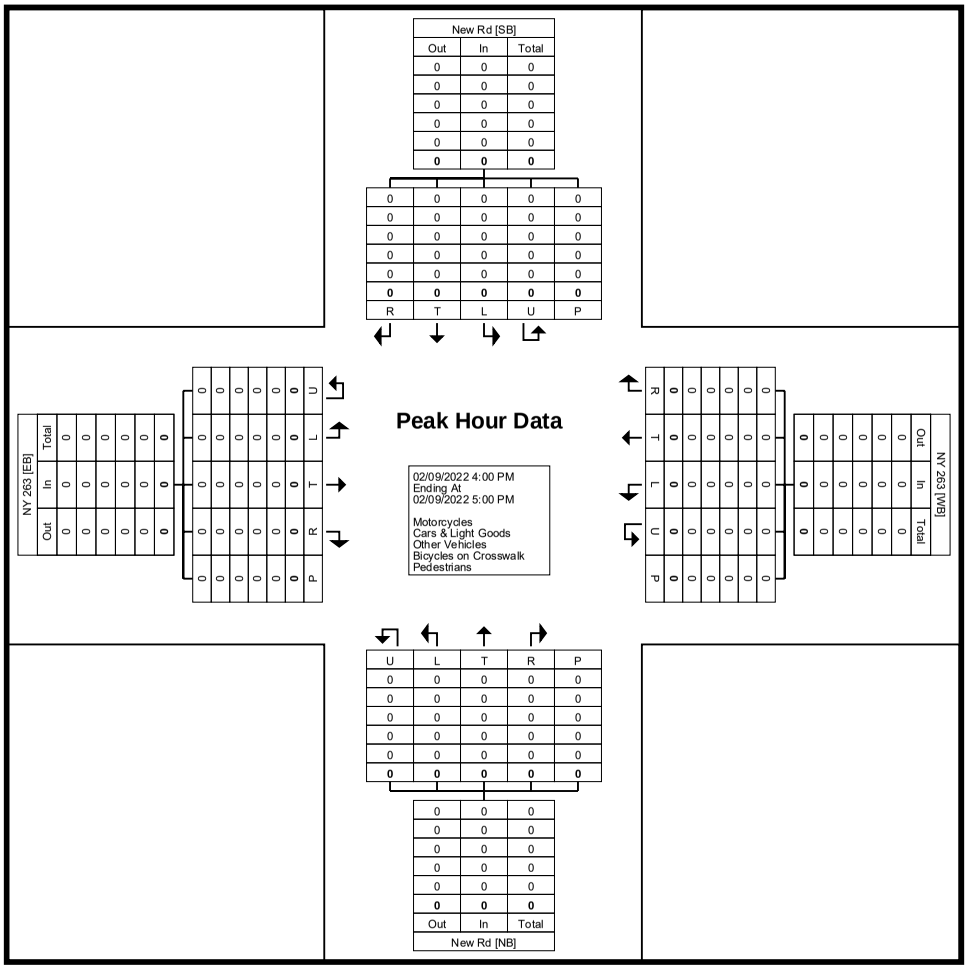
Start Time	New Rd Southbound							NY 263 Westbound							New Rd Northbound							NY 263 Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.000	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.000
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Motorcycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cars & Light Goods	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Cars & Light Goods	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Vehicles	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Other Vehicles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022



Turning Movement Peak Hour Data Plot (4:00 PM)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022

Turning Movement Data

Start Time	New Rd Southbound							NY 263 Westbound							New Rd Northbound							NY 263 Eastbound							Int. Total
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	13	5	14	1	0	0	33	1	0	138	4	0	0	143	19	1	22	0	0	0	42	0	2	272	40	0	0	314	532
4:15 PM	9	8	6	1	0	0	24	1	1	162	6	0	0	170	15	4	22	1	0	0	42	1	2	283	55	0	0	341	577
4:30 PM	16	4	7	3	0	0	30	2	0	169	13	0	0	184	17	1	16	0	0	0	34	0	0	321	53	0	0	374	622
4:45 PM	18	13	4	4	0	0	39	1	0	154	11	0	0	166	11	2	16	2	0	0	31	0	0	304	46	0	0	350	586
Hourly Total	56	30	31	9	0	0	126	5	1	623	34	0	0	663	62	8	76	3	0	0	149	1	4	1180	194	0	0	1379	2317
5:00 PM	16	9	11	1	0	0	37	3	0	161	10	0	0	174	12	1	22	3	0	0	38	0	0	296	59	0	0	355	604
5:15 PM	17	4	10	0	0	0	31	2	0	183	14	0	0	199	12	1	26	0	0	0	39	0	0	281	43	0	0	324	593
5:30 PM	7	4	16	1	0	0	28	1	1	134	11	0	0	147	9	4	15	0	0	0	28	3	0	218	36	0	0	257	460
5:45 PM	7	4	11	1	0	0	23	2	0	142	14	0	0	158	8	5	11	2	0	0	26	4	0	218	31	0	0	253	460
Hourly Total	47	21	48	3	0	0	119	8	1	620	49	0	0	678	41	11	74	5	0	0	131	7	0	1013	169	0	0	1189	2117
Grand Total	103	51	79	12	0	0	245	13	2	1243	83	0	0	1341	103	19	150	8	0	0	280	8	4	2193	363	0	0	2568	4434
Approach %	42.0	20.8	32.2	4.9	0.0	-	-	1.0	0.1	92.7	6.2	0.0	-	-	36.8	6.8	53.6	2.9	0.0	-	-	0.3	0.2	85.4	14.1	0.0	-	-	-
Total %	2.3	1.2	1.8	0.3	0.0	-	5.5	0.3	0.0	28.0	1.9	0.0	-	30.2	2.3	0.4	3.4	0.2	0.0	-	6.3	0.2	0.1	49.5	8.2	0.0	-	57.9	-
Motorcycles	0	0	0	0	0	-	0	0	0	1	0	0	-	1	0	0	0	0	0	-	0	0	0	0	0	0	-	0	1
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.1	0.0	-	-	0.1	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	102	51	78	12	0	-	243	13	2	1206	83	0	-	1304	102	19	149	8	0	-	278	8	4	2157	360	0	-	2529	4354
% Cars & Light Goods	99.0	100.0	98.7	100.0	-	-	99.2	100.0	100.0	97.0	100.0	-	-	97.2	99.0	100.0	99.3	100.0	-	-	99.3	100.0	100.0	98.4	99.2	-	-	98.5	98.2
Other Vehicles	1	0	1	0	0	-	2	0	0	36	0	0	-	36	1	0	1	0	0	-	2	0	0	36	3	0	-	39	79
% Other Vehicles	1.0	0.0	1.3	0.0	-	-	0.8	0.0	0.0	2.9	0.0	-	-	2.7	1.0	0.0	0.7	0.0	-	-	0.7	0.0	0.0	1.6	0.8	-	-	1.5	1.8
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

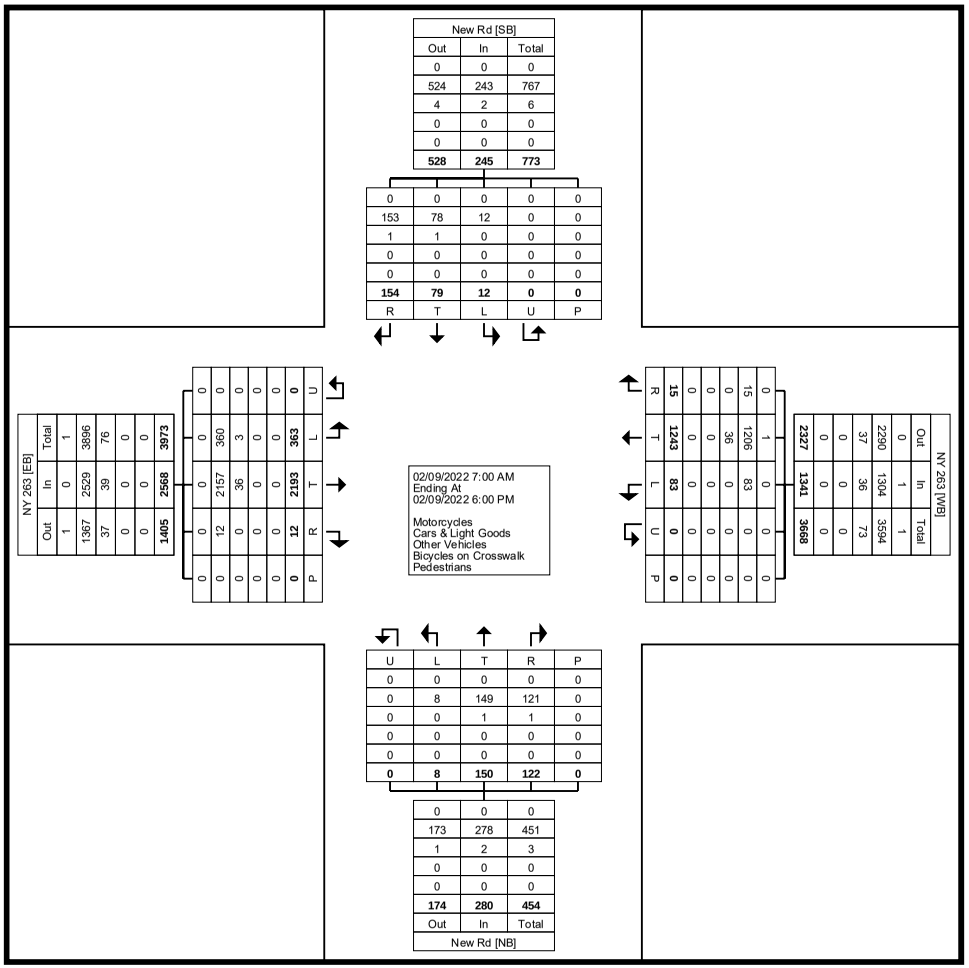
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022



Turning Movement Data Plot

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022

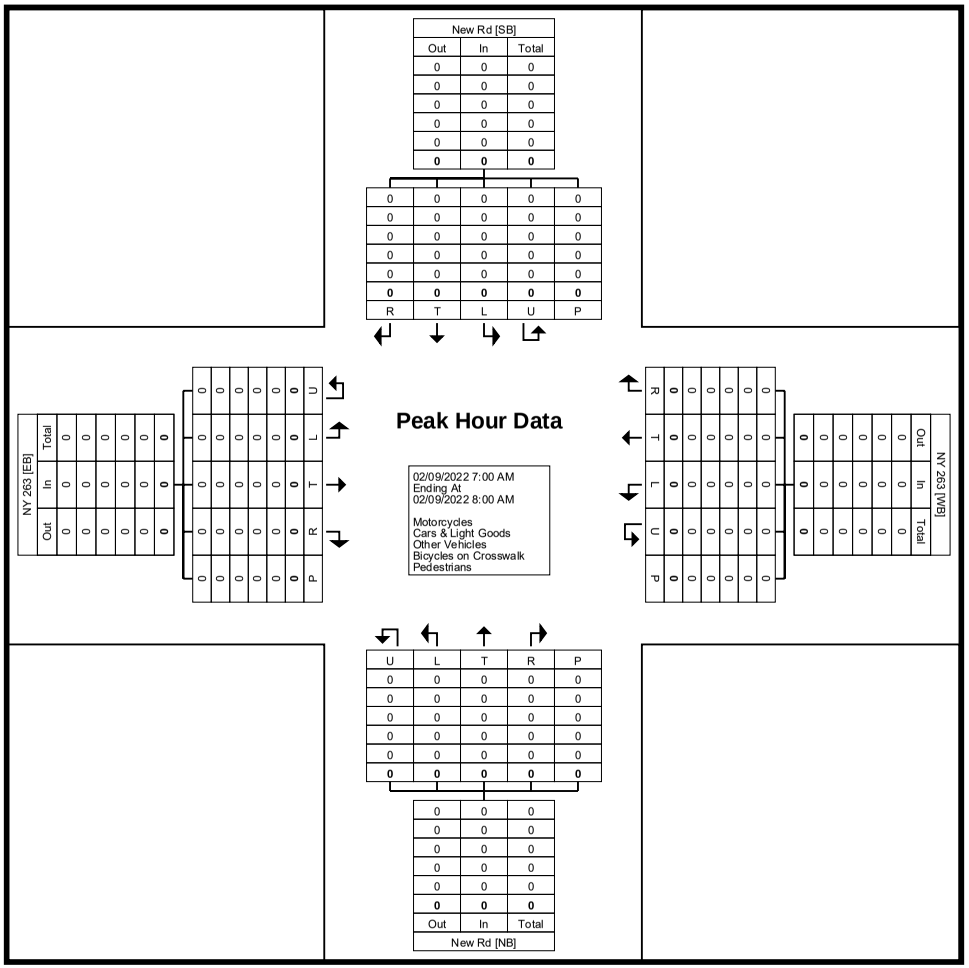
Turning Movement Peak Hour Data (7:00 AM)

Start Time	New Rd Southbound							NY 263 Westbound							New Rd Northbound							NY 263 Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	-
PHF	0.000	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	-	0.000	0.000
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Motorcycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cars & Light Goods	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Cars & Light Goods	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Vehicles	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Other Vehicles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022



Turning Movement Peak Hour Data Plot (7:00 AM)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022

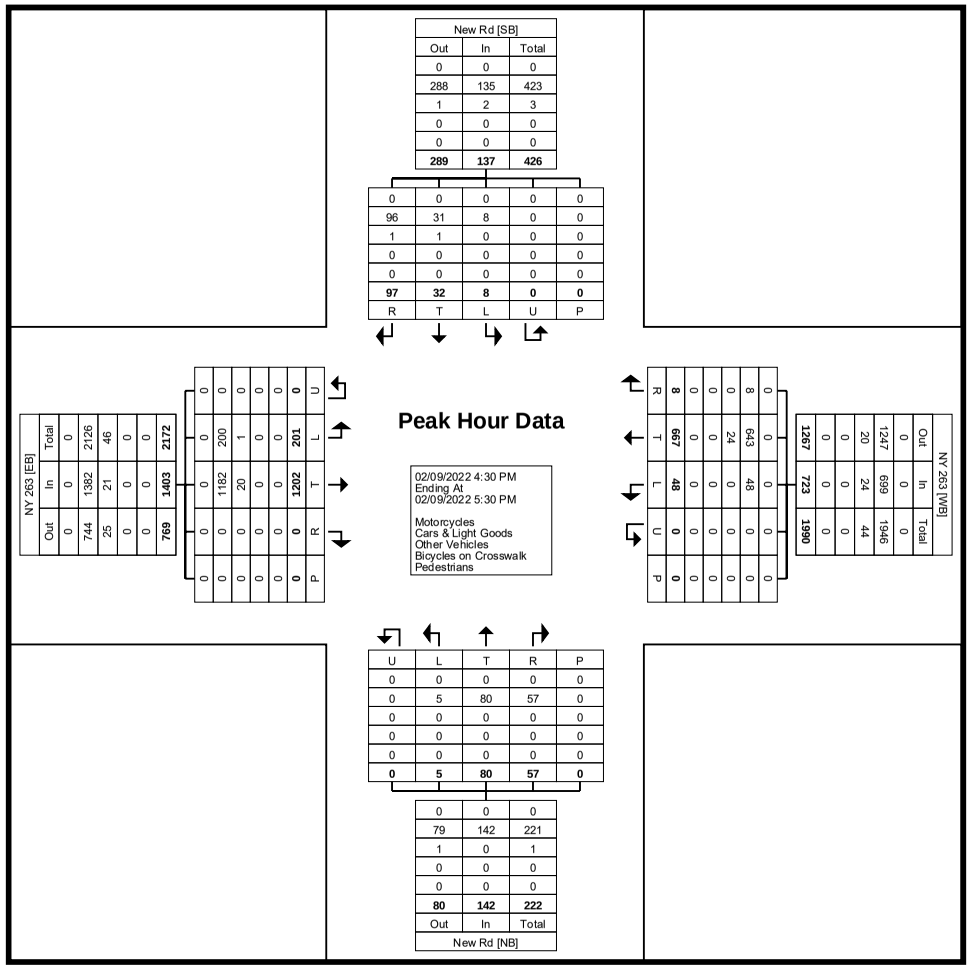
Turning Movement Peak Hour Data (4:30 PM)

Start Time	New Rd Southbound							NY 263 Westbound							New Rd Northbound							NY 263 Eastbound							
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:30 PM	16	4	7	3	0	0	30	2	0	169	13	0	0	184	17	1	16	0	0	0	34	0	0	321	53	0	0	374	622
4:45 PM	18	13	4	4	0	0	39	1	0	154	11	0	0	166	11	2	16	2	0	0	31	0	0	304	46	0	0	350	586
5:00 PM	16	9	11	1	0	0	37	3	0	161	10	0	0	174	12	1	22	3	0	0	38	0	0	296	59	0	0	355	604
5:15 PM	17	4	10	0	0	0	31	2	0	183	14	0	0	199	12	1	26	0	0	0	39	0	0	281	43	0	0	324	593
Total	67	30	32	8	0	0	137	8	0	667	48	0	0	723	52	5	80	5	0	0	142	0	0	1202	201	0	0	1403	2405
Approach %	48.9	21.9	23.4	5.8	0.0	-	-	1.1	0.0	92.3	6.6	0.0	-	-	36.6	3.5	56.3	3.5	0.0	-	-	0.0	0.0	85.7	14.3	0.0	-	-	-
Total %	2.8	1.2	1.3	0.3	0.0	-	5.7	0.3	0.0	27.7	2.0	0.0	-	30.1	2.2	0.2	3.3	0.2	0.0	-	5.9	0.0	0.0	50.0	8.4	0.0	-	58.3	-
PHF	0.931	0.577	0.727	0.500	0.000	-	0.878	0.667	0.000	0.911	0.857	0.000	-	0.908	0.765	0.625	0.769	0.417	0.000	-	0.910	0.000	0.000	0.936	0.852	0.000	-	0.938	0.967
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	-	-	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	66	30	31	8	0	-	135	8	0	643	48	0	-	699	52	5	80	5	0	-	142	0	0	1182	200	0	-	1382	2358
% Cars & Light Goods	98.5	100.0	96.9	100.0	-	-	98.5	100.0	-	96.4	100.0	-	-	96.7	100.0	100.0	100.0	100.0	-	-	100.0	-	-	98.3	99.5	-	-	98.5	98.0
Other Vehicles	1	0	1	0	0	-	2	0	0	24	0	0	-	24	0	0	0	0	0	-	0	0	0	20	1	0	-	21	47
% Other Vehicles	1.5	0.0	3.1	0.0	-	-	1.5	0.0	-	3.6	0.0	-	-	3.3	0.0	0.0	0.0	0.0	-	-	0.0	-	-	1.7	0.5	-	-	1.5	2.0
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/New Rd
Site Code:
Start Date: 02/09/2022



Turning Movement Peak Hour Data Plot (4:30 PM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/Smith Rd
Site Code:
Start Date: 02/09/2022
Page No: 1

Turning Movement Data

Start Time	NY 263 Southbound							Smith Rd Westbound							NY 263 Northbound							Smith Rd Eastbound							Int. Total
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	2	0	297	2	0	0	301	0	0	5	65	0	0	70	10	0	116	0	0	0	126	6	1	4	1	0	0	12	509
7:15 AM	0	0	386	1	0	0	387	0	0	5	54	0	0	59	13	5	150	0	0	0	168	2	2	9	1	0	0	14	628
7:30 AM	0	0	366	1	0	0	367	1	1	4	85	0	0	91	10	2	141	0	0	0	153	2	1	8	2	0	0	13	624
7:45 AM	2	0	350	0	0	0	352	1	0	3	72	0	0	76	11	0	144	0	0	0	155	5	1	12	0	0	0	18	601
Hourly Total	4	0	1399	4	0	0	1407	2	1	17	276	0	0	296	44	7	551	0	0	0	602	15	5	33	4	0	0	57	2362
8:00 AM	0	0	272	1	0	0	273	1	0	4	47	0	0	52	11	1	97	2	0	0	111	2	4	6	0	0	0	12	448
8:15 AM	0	0	337	0	0	0	337	0	0	2	47	0	0	49	10	0	137	1	0	0	148	3	1	7	0	0	0	11	545
8:30 AM	0	0	272	1	0	0	273	0	0	0	68	0	0	68	10	5	117	1	0	0	133	5	2	5	0	0	0	12	486
8:45 AM	0	0	200	0	0	0	200	0	0	0	39	0	0	39	9	4	122	2	0	0	137	0	3	7	0	0	1	10	386
Hourly Total	0	0	1081	2	0	0	1083	1	0	6	201	0	0	208	40	10	473	6	0	0	529	10	10	25	0	0	1	45	1865
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	2	1	157	2	0	0	162	0	0	8	18	0	0	26	40	2	311	4	0	0	357	0	1	6	2	0	0	9	554
4:15 PM	0	1	188	1	0	0	190	1	1	6	18	0	0	26	54	3	331	6	0	0	394	1	0	9	0	0	0	10	620
4:30 PM	0	0	192	1	0	0	193	2	0	3	28	0	0	33	45	3	367	5	0	0	420	1	2	6	1	0	0	10	656
4:45 PM	0	0	185	1	0	0	186	0	0	14	28	0	0	42	40	6	354	6	0	0	406	0	2	9	2	0	0	13	647
Hourly Total	2	2	722	5	0	0	731	3	1	31	92	0	0	127	179	14	1363	21	0	0	1577	2	5	30	5	0	0	42	2477
5:00 PM	0	0	184	3	0	0	187	0	0	11	30	0	0	41	53	3	318	3	0	0	377	2	6	6	0	0	0	14	619
5:15 PM	0	0	201	2	0	0	203	0	0	7	19	0	0	26	39	5	328	4	0	0	376	1	0	7	0	0	0	8	613
5:30 PM	2	0	150	0	0	0	152	1	0	3	26	0	0	30	52	3	279	2	0	0	336	0	1	7	2	0	0	10	528
5:45 PM	2	0	158	2	0	0	162	0	0	4	10	0	0	14	43	5	212	1	0	0	261	0	6	2	0	0	0	8	445
Hourly Total	4	0	693	7	0	0	704	1	0	25	85	0	0	111	187	16	1137	10	0	0	1350	3	13	22	2	0	0	40	2205
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	10	2	3895	18	0	0	3925	7	2	79	654	0	0	742	450	47	3524	37	0	0	4058	30	33	110	11	0	1	184	8909
Approach %	0.3	0.1	99.2	0.5	0.0	-	-	0.9	0.3	10.6	88.1	0.0	-	-	11.1	1.2	86.8	0.9	0.0	-	-	16.3	17.9	59.8	6.0	0.0	-	-	-
Total %	0.1	0.0	43.7	0.2	0.0	-	44.1	0.1	0.0	0.9	7.3	0.0	-	8.3	5.1	0.5	39.6	0.4	0.0	-	45.5	0.3	0.4	1.2	0.1	0.0	-	2.1	-
Motorcycles	0	0	1	0	0	-	1	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	1
% Motorcycles	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	8	2	3768	18	0	-	3796	7	2	78	650	0	-	737	446	46	3408	36	0	-	3936	27	33	103	9	0	-	172	8641
% Cars & Light Goods	80.0	100.0	96.7	100.0	-	-	96.7	100.0	100.0	98.7	99.4	-	-	99.3	99.1	97.9	96.7	97.3	-	-	97.0	90.0	100.0	93.6	81.8	-	-	93.5	97.0
Other Vehicles	2	0	126	0	0	-	128	0	0	1	4	0	-	5	4	1	116	1	0	-	122	3	0	7	2	0	-	12	267
% Other Vehicles	20.0	0.0	3.2	0.0	-	-	3.3	0.0	0.0	1.3	0.6	-	-	0.7	0.9	2.1	3.3	2.7	-	-	3.0	10.0	0.0	6.4	18.2	-	-	6.5	3.0
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

| | | |

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
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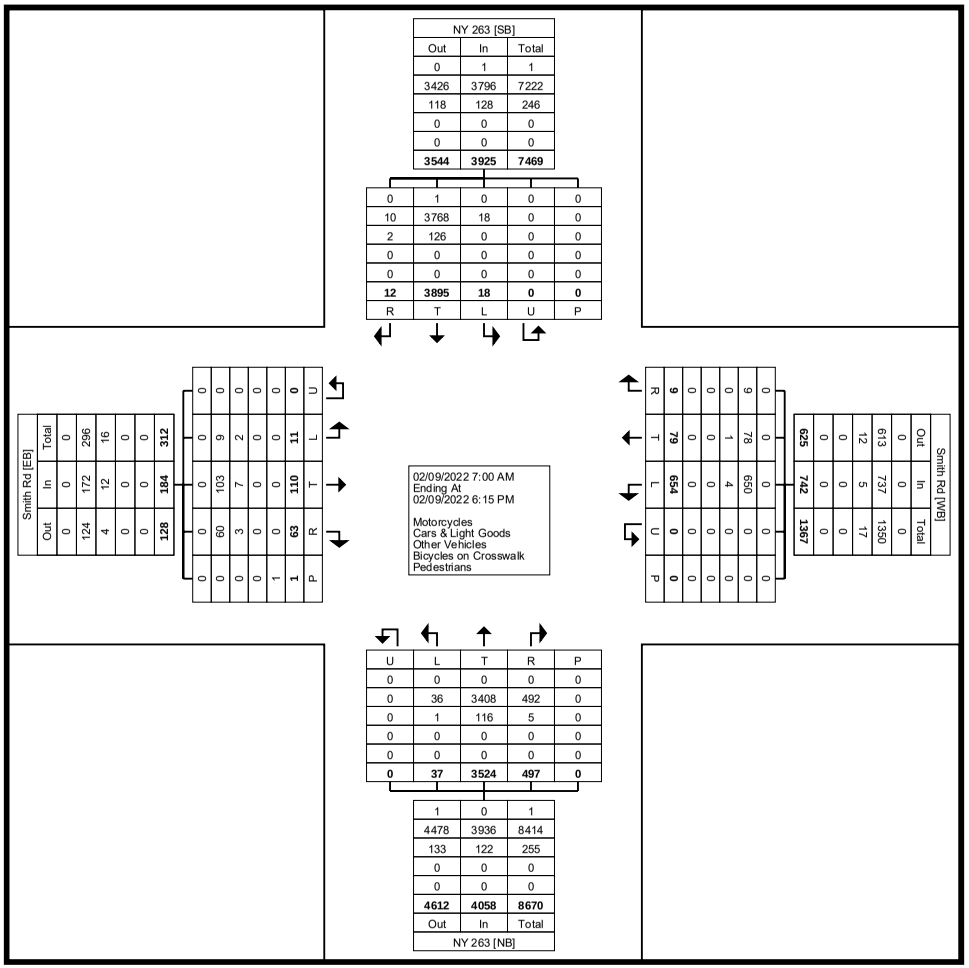
Count Name: NY 263/Smith Rd
Site Code:
Start Date: 02/09/2022



Turning Movement Data Plot

Tri-State Traffic Data: New York Division
184 Baker Rd

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610-517-2338 bkarz@tstdata.com

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Site Code:
Start Date: 02/09/2022

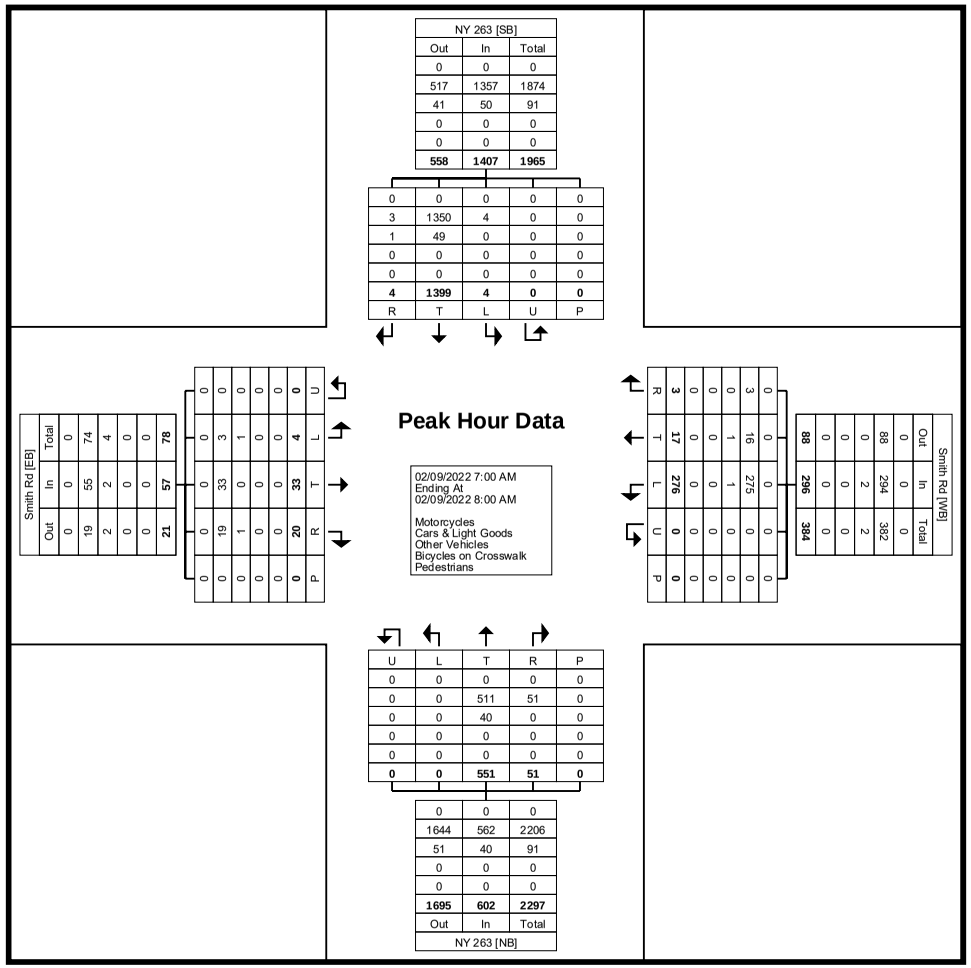
Turning Movement Peak Hour Data (7:00 AM)

Start Time	NY 263 Southbound							Smith Rd Westbound							NY 263 Northbound							Smith Rd Eastbound							Int. Total
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	
7:00 AM	2	0	297	2	0	0	301	0	0	5	65	0	0	70	10	0	116	0	0	0	126	6	1	4	1	0	0	12	509
7:15 AM	0	0	386	1	0	0	387	0	0	5	54	0	0	59	13	5	150	0	0	0	168	2	2	9	1	0	0	14	628
7:30 AM	0	0	366	1	0	0	367	1	1	4	85	0	0	91	10	2	141	0	0	0	153	2	1	8	2	0	0	13	624
7:45 AM	2	0	350	0	0	0	352	1	0	3	72	0	0	76	11	0	144	0	0	0	155	5	1	12	0	0	0	18	601
Total	4	0	1399	4	0	0	1407	2	1	17	276	0	0	296	44	7	551	0	0	0	602	15	5	33	4	0	0	57	2362
Approach %	0.3	0.0	99.4	0.3	0.0	-	-	0.7	0.3	5.7	93.2	0.0	-	-	7.3	1.2	91.5	0.0	0.0	-	-	26.3	8.8	57.9	7.0	0.0	-	-	-
Total %	0.2	0.0	59.2	0.2	0.0	-	59.6	0.1	0.0	0.7	11.7	0.0	-	12.5	1.9	0.3	23.3	0.0	0.0	-	25.5	0.6	0.2	1.4	0.2	0.0	-	2.4	-
PHF	0.500	0.000	0.906	0.500	0.000	-	0.909	0.500	0.250	0.850	0.812	0.000	-	0.813	0.846	0.350	0.918	0.000	0.000	-	0.896	0.625	0.625	0.688	0.500	0.000	-	0.792	0.940
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Motorcycles	0.0	-	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	3	0	1350	4	0	-	1357	2	1	16	275	0	-	294	44	7	511	0	0	-	562	14	5	33	3	0	-	55	2268
% Cars & Light Goods	75.0	-	96.5	100.0	-	-	96.4	100.0	100.0	94.1	99.6	-	-	99.3	100.0	100.0	92.7	-	-	-	93.4	93.3	100.0	100.0	75.0	-	-	96.5	96.0
Other Vehicles	1	0	49	0	0	-	50	0	0	1	1	0	-	2	0	0	40	0	0	-	40	1	0	0	1	0	-	2	94
% Other Vehicles	25.0	-	3.5	0.0	-	-	3.6	0.0	0.0	5.9	0.4	-	-	0.7	0.0	0.0	7.3	-	-	-	6.6	6.7	0.0	0.0	25.0	-	-	3.5	4.0
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/Smith Rd
Site Code:
Start Date: 02/09/2022



Turning Movement Peak Hour Data Plot (7:00 AM)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/Smith Rd
Site Code:
Start Date: 02/09/2022

Turning Movement Peak Hour Data (4:15 PM)

Start Time	NY 263 Southbound							Smith Rd Westbound							NY 263 Northbound							Smith Rd Eastbound							Int. Total
	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	Right	Right on Red	Thru	Left	U-Turn	Peds	App. Total	
4:15 PM	0	1	188	1	0	0	190	1	1	6	18	0	0	26	54	3	331	6	0	0	394	1	0	9	0	0	0	10	620
4:30 PM	0	0	192	1	0	0	193	2	0	3	28	0	0	33	45	3	367	5	0	0	420	1	2	6	1	0	0	10	656
4:45 PM	0	0	185	1	0	0	186	0	0	14	28	0	0	42	40	6	354	6	0	0	406	0	2	9	2	0	0	13	647
5:00 PM	0	0	184	3	0	0	187	0	0	11	30	0	0	41	53	3	318	3	0	0	377	2	6	6	0	0	0	14	619
Total	0	1	749	6	0	0	756	3	1	34	104	0	0	142	192	15	1370	20	0	0	1597	4	10	30	3	0	0	47	2542
Approach %	0.0	0.1	99.1	0.8	0.0	-	-	2.1	0.7	23.9	73.2	0.0	-	-	12.0	0.9	85.8	1.3	0.0	-	-	8.5	21.3	63.8	6.4	0.0	-	-	-
Total %	0.0	0.0	29.5	0.2	0.0	-	29.7	0.1	0.0	1.3	4.1	0.0	-	5.6	7.6	0.6	53.9	0.8	0.0	-	62.8	0.2	0.4	1.2	0.1	0.0	-	1.8	-
PHF	0.000	0.250	0.975	0.500	0.000	-	0.979	0.375	0.250	0.607	0.867	0.000	-	0.845	0.889	0.625	0.933	0.833	0.000	-	0.951	0.500	0.417	0.833	0.375	0.000	-	0.839	0.969
Motorcycles	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0
% Motorcycles	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	0	1	724	6	0	-	731	3	1	34	103	0	-	141	192	15	1350	19	0	-	1576	4	10	29	3	0	-	46	2494
% Cars & Light Goods	-	100.0	96.7	100.0	-	-	96.7	100.0	100.0	100.0	99.0	-	-	99.3	100.0	100.0	98.5	95.0	-	-	98.7	100.0	100.0	96.7	100.0	-	-	97.9	98.1
Other Vehicles	0	0	25	0	0	-	25	0	0	0	1	0	-	1	0	0	20	1	0	-	21	0	0	1	0	0	-	1	48
% Other Vehicles	-	0.0	3.3	0.0	-	-	3.3	0.0	0.0	0.0	1.0	-	-	0.7	0.0	0.0	1.5	5.0	-	-	1.3	0.0	0.0	3.3	0.0	-	-	2.1	1.9
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 263/Smith Rd
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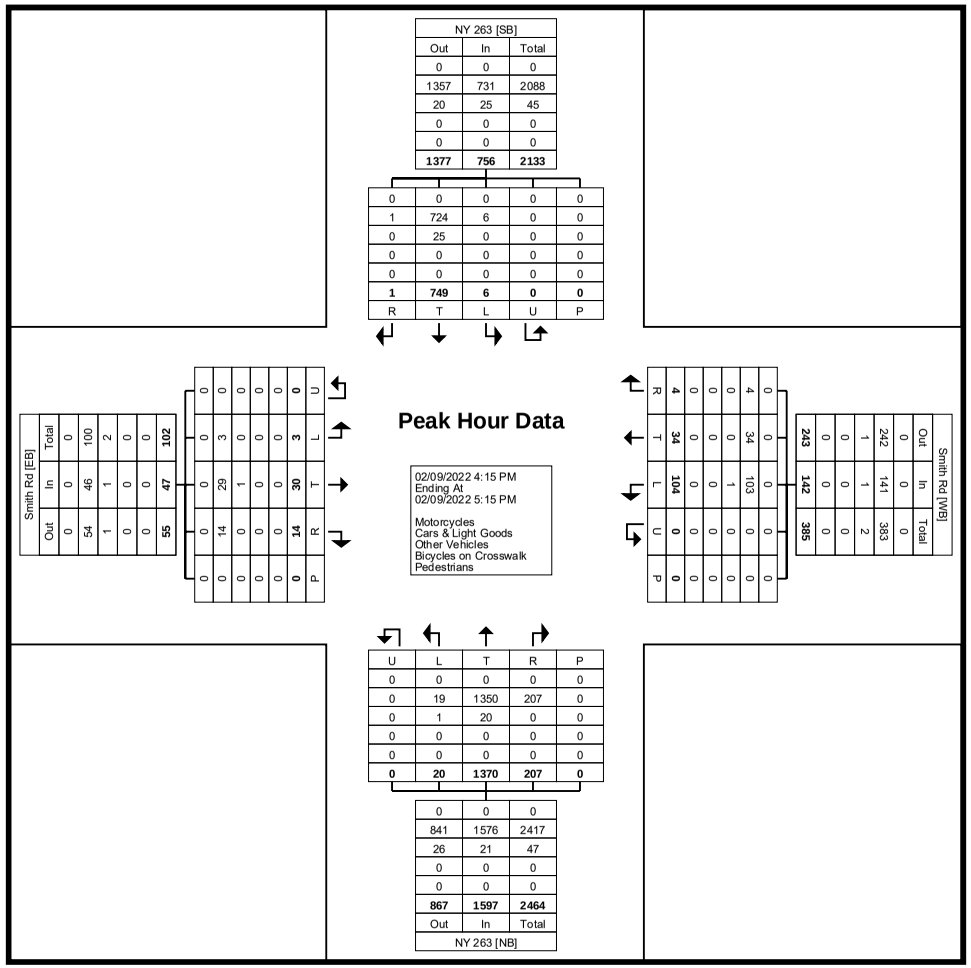


Turning Movement Peak Hour Data Plot (4:15 PM)

APPENDIX B: MISCELLANEOUS CALCULATIONS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

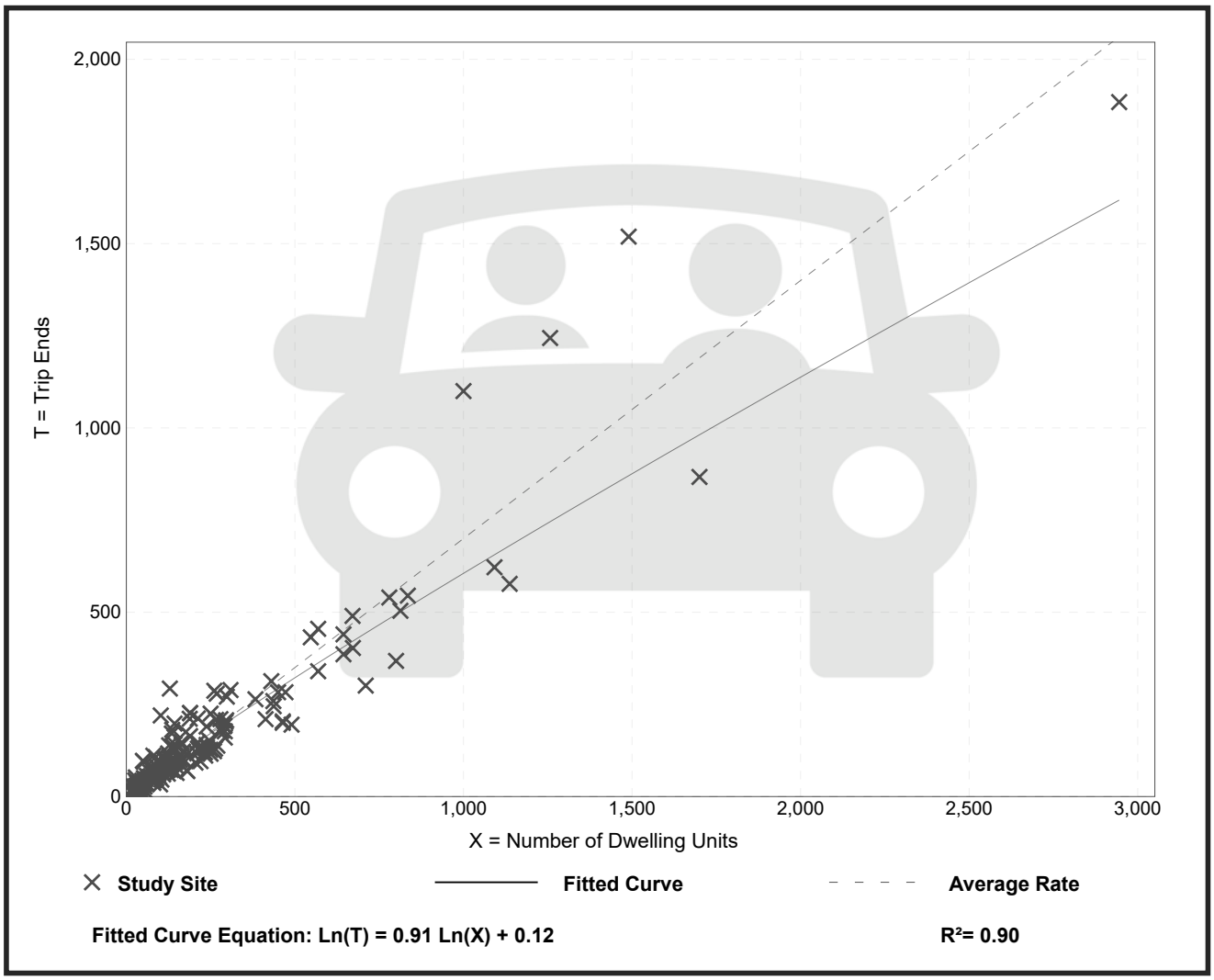
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 192
Avg. Num. of Dwelling Units: 226
Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



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Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

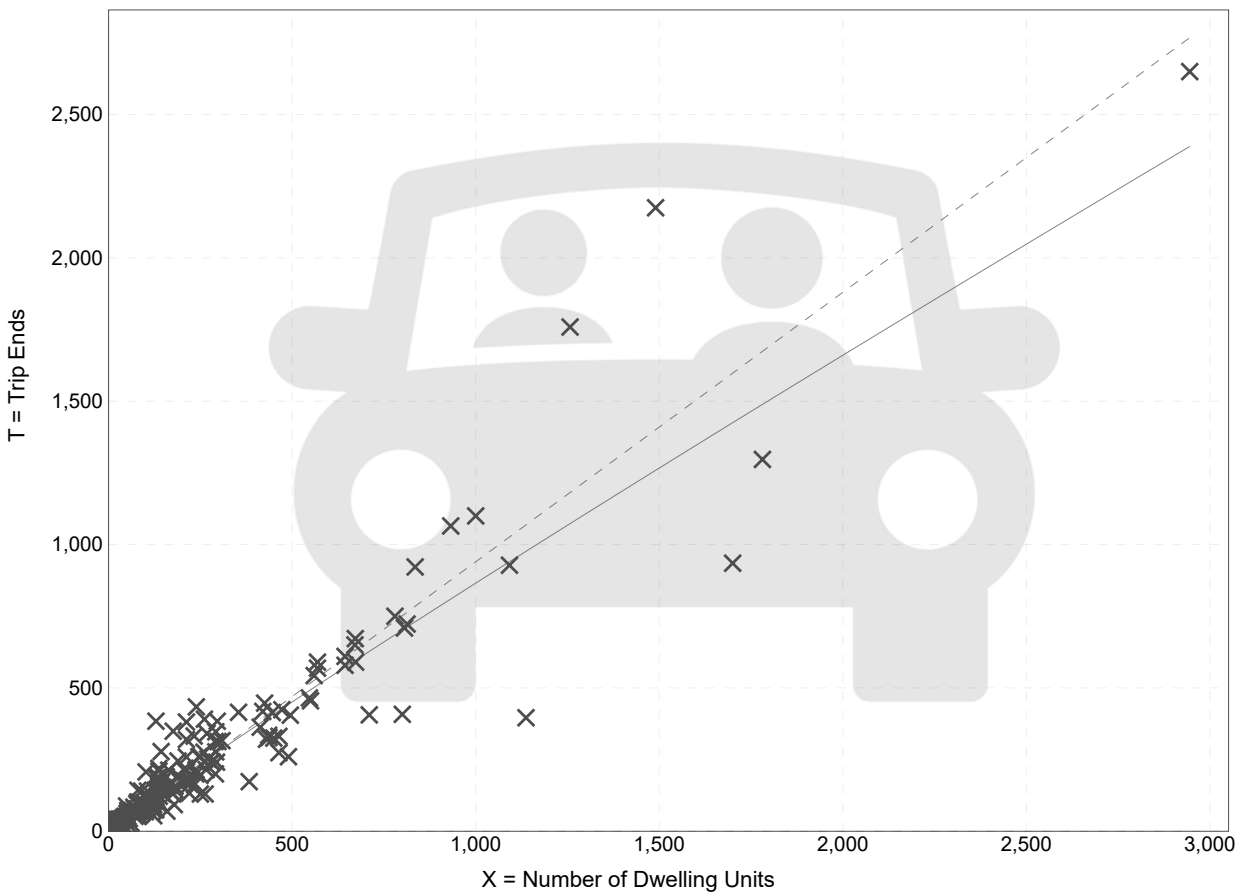
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 208
Avg. Num. of Dwelling Units: 248
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.94 Ln(X) + 0.27 **R^2= 0.92**

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Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

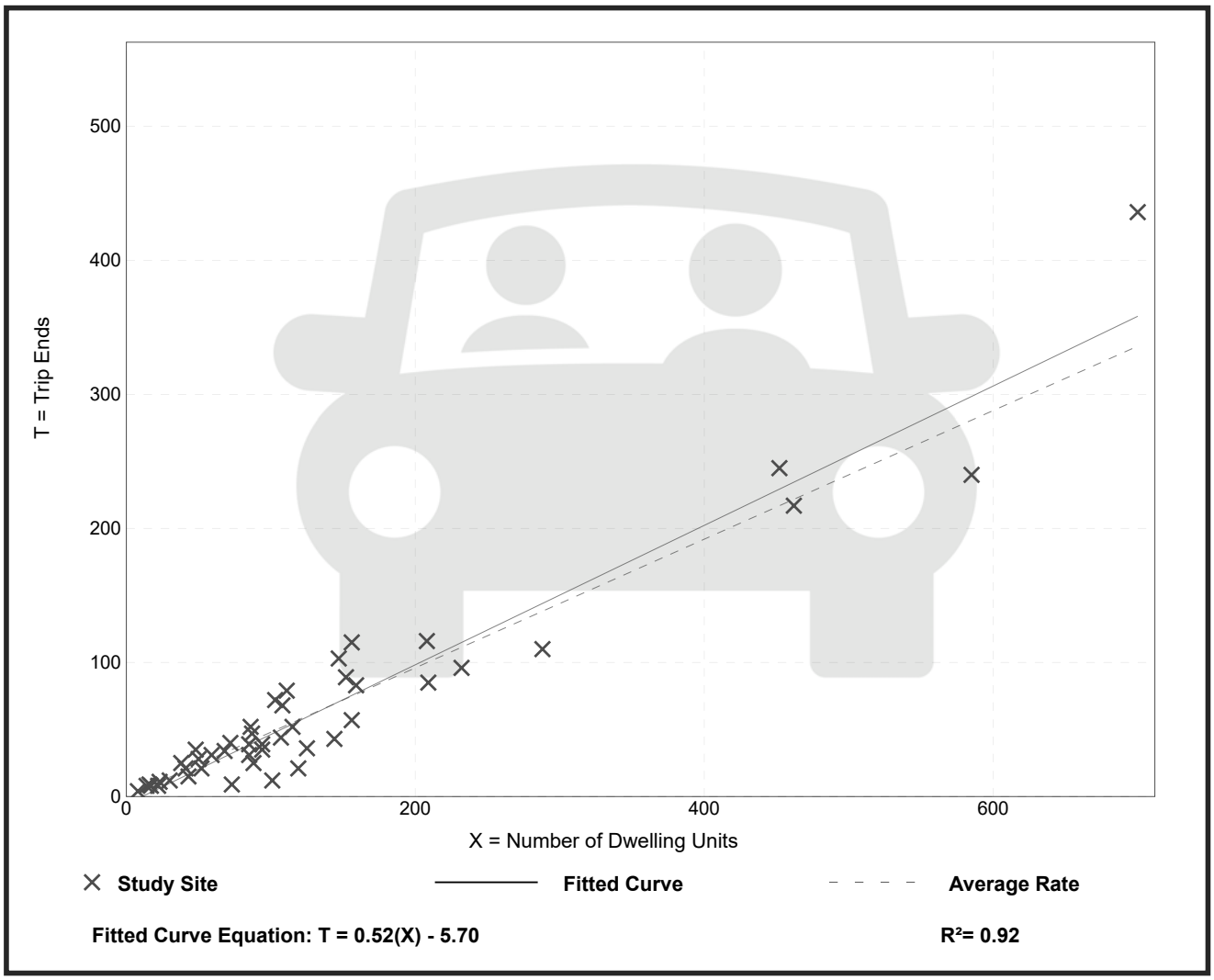
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 46
Avg. Num. of Dwelling Units: 135
Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.48	0.12 - 0.74	0.14

Data Plot and Equation



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Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

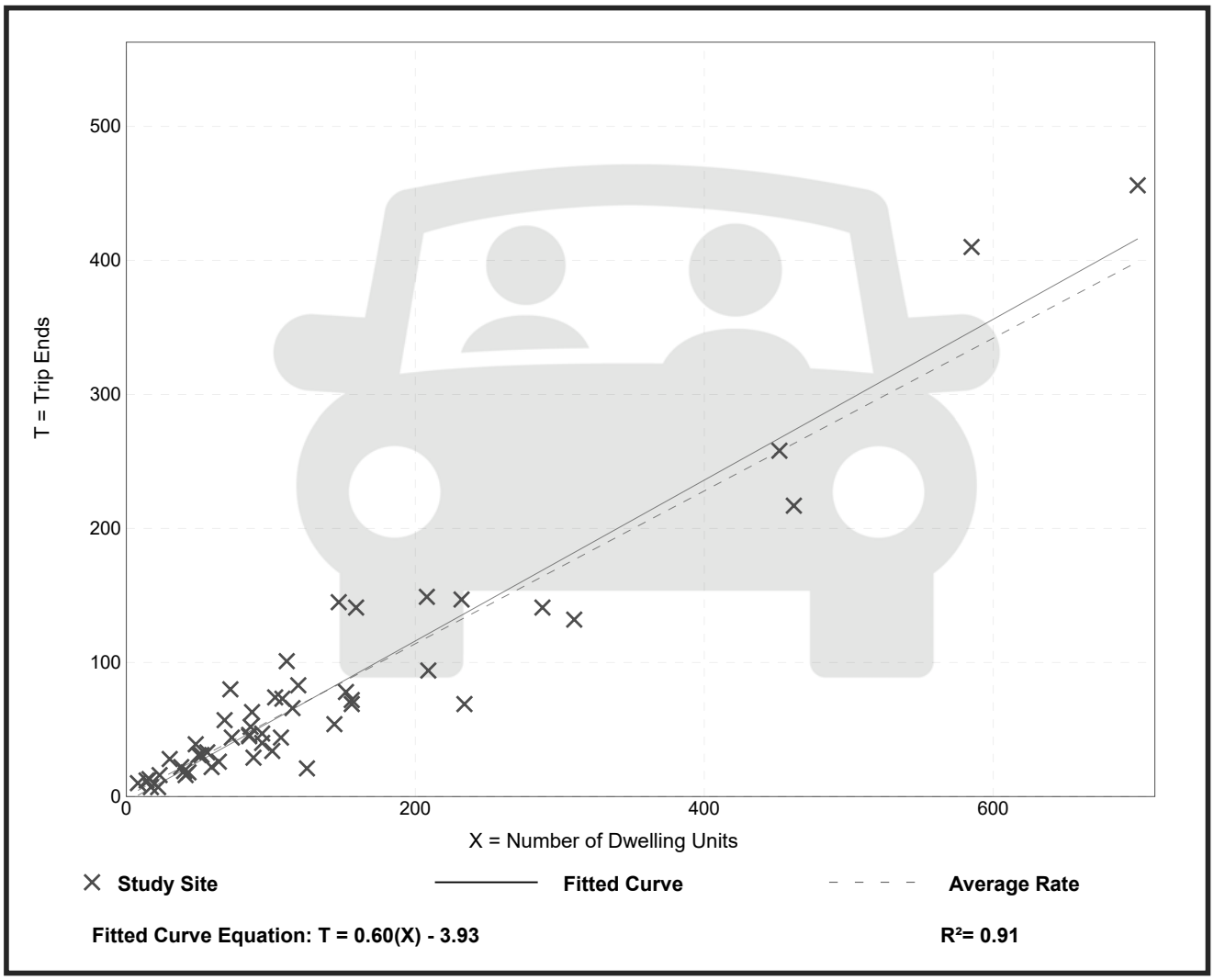
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 51
Avg. Num. of Dwelling Units: 136
Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.17 - 1.25	0.18

Data Plot and Equation



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Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Strip Retail Plaza (<40k)
(822)

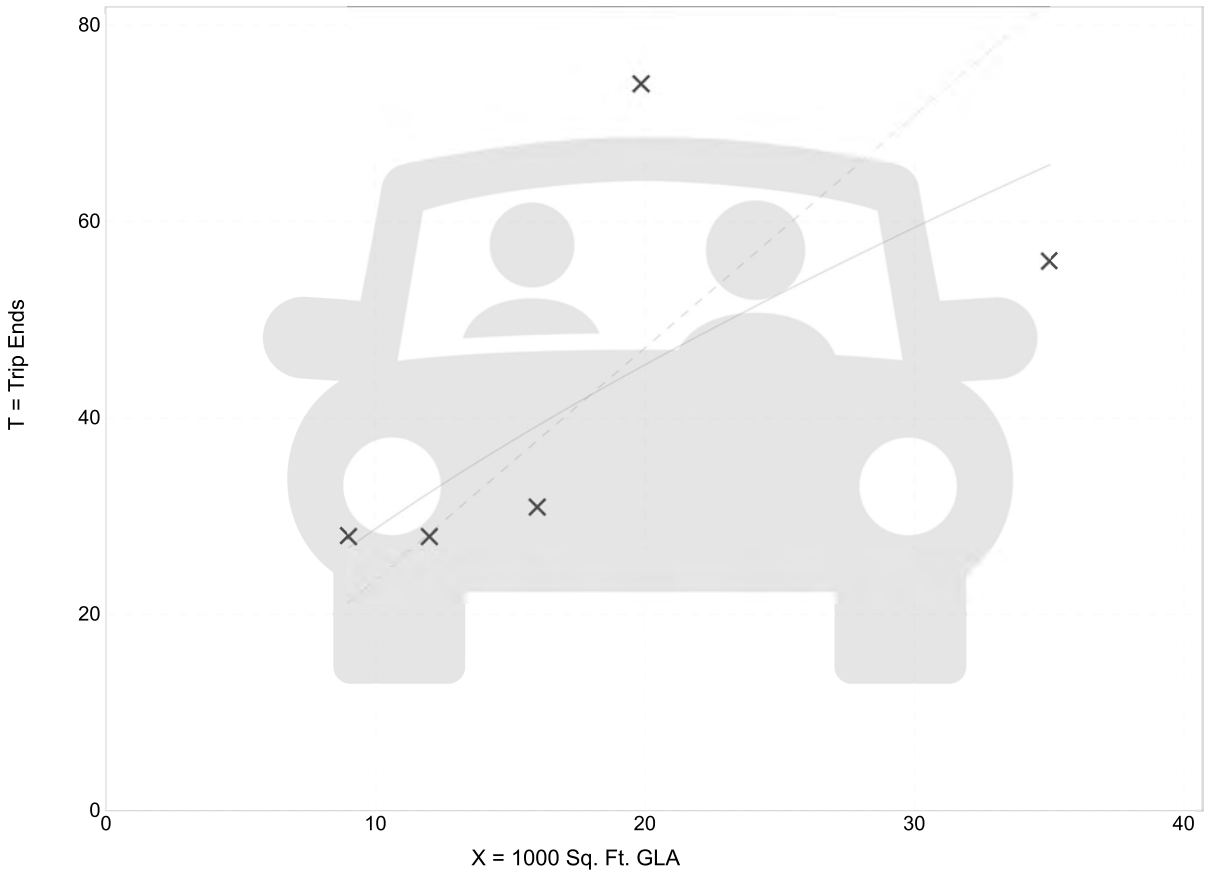
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. 1000 Sq. Ft. GLA: 18
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Ln(T) = 0.66 Ln(X) + 1.84

R^2= 0.57

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Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

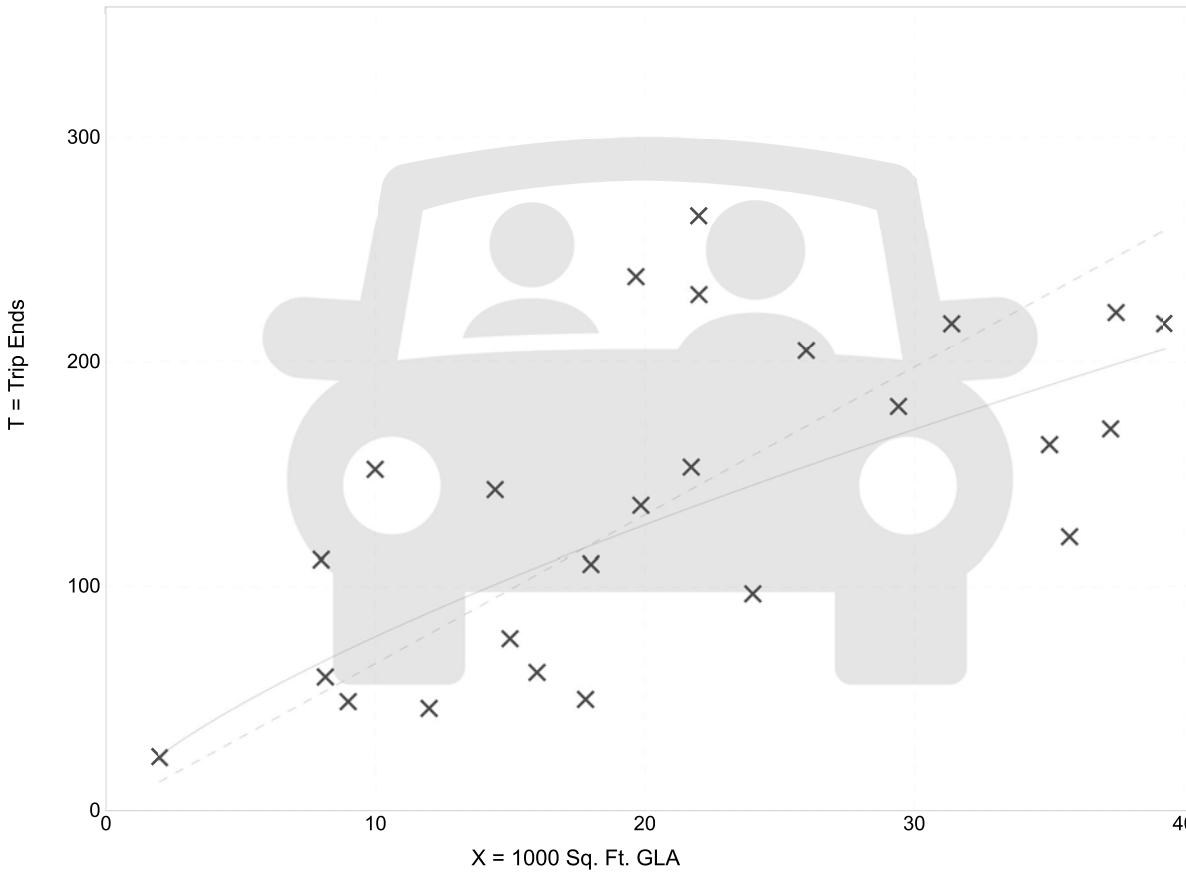
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 25
Avg. 1000 Sq. Ft. GLA: 21
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.71 Ln(X) + 2.72

R^2= 0.56

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Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Int #	Millersport Highway/New Road															
1	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	**Total**	Injury	Non Injury	Non-Repo	**Sum**
	1	4	1										**6**	1	5		**6**
TOTALS	**1**	**4**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**1**	**5**	**0**	

	Northbound	Southbound	Eastbound	Westbound	Unknown	**Totals**
Left turn	1					**1**
Rear-end	1	3				**4**
Overtaking	1					**1**
Right Angle						**0**
Right Turn						**0**
Head On						**0**
Side-swipe						**0**
Fixed Object						**0**
Backing						**0**
Other						**0**
Bike/Ped						**0**
Animal						**0**
Totals	**3**	**3**	**0**	**0**	**0**	**6**

ADT = Peak hour entering volume / k factor

ADT = 2389 VPH / 0.10 = 25147.3684 VPD

Rate = 6 Acc. x 1,000,000 / (25147.3684 VPD x 365 Days x 3.000 Yrs.) = 0.22 Crash / MEV

Int #	New Road/Smith Road															
1	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	**Total**	Injury	Non Injury	Non-Repo	**Sum**
		1		2									**3**	2	1		**3**
TOTALS	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**2**	**1**	**0**	

	Northbound	Southbound	Eastbound	Westbound	Unknown	**Totals**
Left turn						**0**
Rear-end			1			**1**
Overtaking						**0**
Right Angle	1	1				**2**
Right Turn						**0**
Head On						**0**
Side-swipe						**0**
Fixed Object						**0**
Backing						**0**
Other						**0**
Bike/Ped						**0**
Animal						**0**
Totals	**1**	**1**	**1**	**0**	**0**	**3**

ADT = Peak hour entering volume / k factor

ADT = 644 VPH / 0.10 = 6778.94737 VPD

Rate = $\frac{3 \text{ Acc.} \times 1{,}000{,}000}{6778.94737 \text{ VPD} \times 365 \text{ Days} \times 3.000 \text{ Yrs.}}$ = 0.40 Crash / MEV

Int #	Millersport Highway/Smith Road															
1	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	**Total**	Injury	Non Injury	Non-Repo	**Sum**
		5	1	1									**7**	2	4	1	**7**
TOTALS	**0**	**5**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**2**	**4**	**1**	

	Northbound	Southbound	Eastbound	Westbound	Unknown	**Totals**
Left turn						**0**
Rear-end	1	4				**5**
Overtaking		1				**1**
Right Angle		1				**1**
Right Turn						**0**
Head On						**0**
Side-swipe						**0**
Fixed Object						**0**
Backing						**0**
Other						**0**
Bike/Ped						**0**
Animal						**0**
Totals	**1**	**6**	**0**	**0**	**0**	**7**

ADT = Peak hour entering volume / k factor

ADT = 2542 VPH / 0.10 = 26757.8947 VPD

Rate = $\frac{7 \text{ Acc.} \times 1{,}000{,}000}{26757.8947 \text{ VPD} \times 365 \text{ Days} \times 3.000 \text{ Yrs.}}$ = 0.24 Crash / MEV

Int #	Millersport Highway/I-990 On-ramp															
1	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	**Total**	Injury	Non Injury	Non-Repo	**Sum**
			1		1						1		**3**	1	2		**3**
TOTALS	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**		**1**	**2**	**0**	

	Northbound	Southbound	Eastbound	Westbound	Unknown	**Totals**
Left turn						**0**
Rear-end						**0**
Overtaking		1				**1**
Right Angle						**0**
Right Turn		1				**1**
Head On						**0**
Side-swipe						**0**
Fixed Object						**0**
Backing						**0**
Other						**0**
Bike/Ped						**0**
Animal		1				**1**
Totals	**0**	**3**	**0**	**0**	**0**	**3**

ADT = Peak hour entering volume / k factor

ADT = 2487 VPH / 0.10 = 26178.9474 VPD

Rate = $\frac{3 \text{ Acc.} \times 1{,}000{,}000}{26178.9474 \text{ VPD} \times 365 \text{ Days} \times 3.000 \text{ Yrs.}}$ = 0.10 Crash / MEV

Int #																
1	Millersport Highway/I-990 Off-ramp															
	Left turn	Rear-end	Overtaking	Right Angle	Right Turn	Head On	Side-swipe	Fixed Object	Backing	Other	Animal	Bike/Ped	**Total**	Injury	Non Injury	Non-Repo	**Sum**
	1	10	1					2					**14**	5	7	2	**14**
TOTALS	**1**	**10**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**		**5**	**7**	**2**	

	Northbound	Southbound	Eastbound	Westbound	Unknown	**Totals**
Left turn	1					**1**
Rear-end	5	3	2			**10**
Overtaking		1				**1**
Right Angle						**0**
Right Turn						**0**
Head On						**0**
Side-swipe						**0**
Fixed Object	1	1				**2**
Backing						**0**
Other						**0**
Bike/Ped						**0**
Animal						**0**
Totals	**7**	**5**	**2**	**0**	**0**	**14**

ADT = Peak hour entering volume / k factor

ADT = 1922 VPH / 0.10 = 20231.5789 VPD

Rate = 14 Acc. / (20231.5789 VPD x 1,000,000 / 365 Days x 3.000 Yrs.) = 0.63 Crash / MEV

SRF ASSOCIATES
Transportation Planning / Engineering / Design

Proposed 4300 Millersport Highway Development, Town of Amherst, Erie County, NY

Documentation of Ambient Traffic Volume Growth

Roadway	Segment starts at	Segment end at	2011	2014	2017	2020	Annual Growth (2011-2017)
Millersport Hwy	Dodge Rd	French Rd	21,085	21,812	22,592	17,931	1.16%

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Project: **Proposed Mixed-Use Development**
Location: **4300 Millersport Highway, Town of Amherst, NY**
Peak Hour **Weekday AM**

Figure Number: 3A | 3B Num of yrs 2 | 4 Num of yrs 3 | 5A | 5B | 6 | 7

Location Number	Intersection	2022 Volumes	2024 Base Volumes 1.50%	No Build Volumes 1.00%	Residential Enter Dist. %	Residential Exit Dist. %	Residential Trips IN 12	Residential Trips OUT 34	Commercial Enter Dist. %	Commercial Exit Dist. %	Commercial Trips IN 31	Commercial Trips OUT 21	Total Site Trips	Full Build Volumes
1	New Road at Proposed Driveway													
	SR				5%		1		5%		2		2	2
	ST	260	268	276										276
	SL													
	WR													
	WT													
	WL													
	NR													
	NT	87	90	93										93
	NL				6%		1						1	1
	ER					6%		2		15%		4	6	6
	ET													
	EL					5%		2		5%		1	3	3
2	Millersport Highway at New Road													
	SR	184	190	196										196
	ST - New Road	71	73	75		1%		0					0	75
	SL	5	5	5		5%		2		15%		4	6	11
	WR	3	3	3	5%		1						1	4
	WT - Millersport Highway	1219	1256	1294	15%		2		55%		17		19	1313
	WL	61	63	65										65
	NR	32	33	34										34
	NT - New Road	23	24	25	1%		0						0	25
	NL	3	3	3										3
	ER	1	1	1										1
	ET - Millersport Highway	501	516	532		15%		5		40%		8	14	546
	EL	61	63	65										65
3	New Road at Smith Road													
	SR	1	1	1										1
	ST	108	111	114										114
	SL	23	24	25		1%		0					0	25
	WR	9	9	9	1%		0						0	9
	WT	186	192	198	4%		0		5%		2		2	200
	WL	10	10	10										10
	NR	13	13	13										13
	NT	41	42	43										43
	NL	113	116	120										120
	ER	7	7	7										7
	ET	69	71	73		4%		1		5%		1	2	75
	EL													
4	Millersport Highway at Smith Road													
	SR	4	4	4										4
	ST - Millersport Highway	1399	1441	1485		48%		17		34%		7	24	1509
	SL	4	4	4		3%		1		5%		1	2	6
	WR	3	3	3	3%		0		5%		2		2	5
	WT - Smith Road	17	18	19	1%		0						0	19
	WL	276	284	293										293
	NR	51	53	55										55
	NT - Millersport Highway	551	568	585	48%		6		34%		10		16	601
	NL				21%		2						2	2
	ER	20	21	22		21%		7					7	29
	ET - Smith Road	33	34	35		1%		0					0	35
	EL	4	4	4										4
5	Millersport Highway at Proposed Access													
	SR				15%		2		55%		17		19	19
	ST - Millersport Highway	1407	1450	1494										1494
	SL													
	WR													
	WT													
	WL													
	NR													
	NT - Millersport Highway	558	575	592										592
	NL				51%		6		39%		12		18	18
	ER					51%		18		39%		8	26	26
	ET - Proposed Driveway													
	EL					15%		5		40%		8	14	14
6	Smith Road at Proposed Access													
	SR					1%		0		1%		0	1	1
	ST													
	SL					22%		7					7	7
	WR				22%		2						2	2
	WT	21	22	23										23
	WL													
	NR													
	NT													
	NL													
	ER													
	ET	57	59	61										61
	EL				1%		0		1%		0		0	0
7	Millersport Highway at I-990 On-Ramp													
	SR	1403	1445	1489		55%		19		24%		5	24	1513
	ST	364	375	386		14%		5		10%		2	7	393
	SL													
	WR													
	WT													
	WL													
	NR													
	NT	638	657	677	69%		8		34%		10		18	695
	NL	28	29	30										30
	ER													
	ET													
	EL													
8	Millersport Highway at I-990 Off-Ramp													
	SR													
	ST	367	378	389		14%		5		10%		2	7	396
	SL													
	WR													
	WT													
	WL													
	NR													
	NT	162	167	172	14%		2		10%		3		5	177
	NL													
	ER	36	37	38										38
	ET													
	EL	506	521	537	55%		6		24%		7		13	550

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Project: **Proposed Mixed-Use Development**
Location: **4300 Millersport Highway, Town of Amherst, NY**
Peak Hour **Weekday PM**

Figure Number: 3A | 3B | 4 | 5A | 5B | 6 | 7

			Num of yrs 2	Num of yrs 3											
Location Number	**Intersection**	**2022 Volumes**	**2024 Base Volumes** 1.50%	**No Build Volumes** 1.00%	**Residential** Enter Dist. %	Exit Dist. %	Trips IN 36	Trips OUT 23	**Commercial** Enter Dist. %	Exit Dist. %	Trips IN 54	Trips OUT 55	**Pass-by Trips**	**Total Site Trips**	**Full Build Volumes**
1	New Road at Proposed Driveway														
	SR				5%		2		5%		3			5	5
	ST	130	134	138											138
	SL														
	WR														
	WT														
	WL														
	NR														
	NT	297	306	315											315
	NL				6%		2							2	2
	ER					6%		1		15%		8		10	10
	ET														
	EL					5%		1		5%		3		4	4
2	Millersport Highway at New Road														
	SR	93	96	99											99
	ST - New Road	28	29	30		1%		0						0	30
	SL	9	9	9		5%		1		15%		8		9	18
	WR	8	8	8	5%		2							2	10
	WT - Millersport Highway	646	666	686	15%		6		55%		29			35	721
	WL	40	41	42											42
	NR	63	65	67											67
	NT - New Road	76	78	80	1%		0							0	80
	NL	6	6	6											6
	ER	3	3	3											3
	ET - Millersport Highway	1204	1240	1278		15%		4		40%		21		25	1303
	EL	213	219	226											226
3	New Road at Smith Road														
	SR	1	1	1											1
	ST	54	56	58											58
	SL	20	21	22		1%		0						0	22
	WR	33	34	35	1%		0							0	35
	WT	106	109	112	4%		1		5%		3			4	116
	WL	15	15	15											15
	NR	16	16	16											16
	NT	114	117	121											121
	NL	39	40	41											41
	ER	85	88	91											91
	ET	158	163	168		4%		1		5%		3		4	172
	EL	4	4	4											4
4	Millersport Highway at Smith Road														
	SR	1	1	1											1
	ST - Millersport Highway	749	772	795		48%		11		34%		19		30	825
	SL	6	6	6		3%		1		5%		3		3	9
	WR	4	4	4	3%		1		5%		3			4	8
	WT - Smith Road	34	35	36	1%		0							0	36
	WL	104	107	110											110
	NR	207	213	219											219
	NT - Millersport Highway	1370	1411	1454	48%		17		34%		18			36	1490
	NL	20	21	22	21%		8							8	30
	ER	14	14	14		21%		5						5	19
	ET - Smith Road	30	31	32		1%		0						0	32
	EL	3	3	3											3
5	Millersport Highway at Proposed Access														
	SR				15%		6		55%		29		6	41	41
	ST - Millersport Highway	756	779	803									-6	-6	797
	SL														
	WR														
	WT														
	WL														
	NR														
	NT - Millersport Highway	1377	1419	1462									-12	-12	1450
	NL				51%		18		39%		21		12	51	51
	ER					51%		12		39%		21	6	39	39
	ET - Proposed Driveway														
	EL					15%		4		40%		21	12	37	37
6	Smith Road at Proposed Access														
	SR					1%		0		1%		1		1	1
	ST														
	SL					22%		5						5	5
	WR				22%		8							8	8
	WT	55	57	59											59
	WL														
	NR														
	NT														
	NL														
	ER														
	ET	47	48	49											49
	EL				1%		0		1%		1			1	1
7	Millersport Highway at I-990 On-Ramp														
	SR	656	676	696		55%		13		24%		13		26	722
	ST	224	231	238		14%		3		10%		6		9	247
	SL														
	WR														
	WT														
	WL														
	NR														
	NT	1578	1626	1675	69%		25		34%		18			43	1718
	NL	29	30	31											31
	ER														
	ET														
	EL														
8	Millersport Highway at I-990 Off-Ramp														
	SR														
	ST	218	225	232		14%		3		10%		6		9	241
	SL														
	WR														
	WT														
	WL														
	NR														
	NT	407	419	432	14%		5		10%		5			10	442
	NL														
	ER	42	43	44											44
	ET														
	EL	1255	1293	1332	55%		20		24%		13			33	1365

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX C: LOS CALCULATIONS – EXISTING CONDITIONS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	3	24	33	5	73	190	63	516	1	63	1256	3
Future Volume (vph)	3	24	33	5	73	190	63	516	1	63	1256	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.925			0.904							
Flt Protected		0.998			0.999		0.950			0.950		
Satd. Flow (prot)	0	1666	0	0	1704	0	1752	3374	0	1770	3471	0
Flt Permitted		0.970			0.995		0.114			0.432		
Satd. Flow (perm)	0	1620	0	0	1697	0	210	3374	0	805	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			146							
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		1060			576			1323			1361	
Travel Time (s)		18.1			9.8			16.4			16.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	3%	0%	0%	1%	3%	7%	0%	2%	4%	0%
Adj. Flow (vph)	3	26	36	5	79	207	68	561	1	68	1365	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	65	0	0	291	0	68	562	0	68	1368	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Detector Phase	3	3		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	25.0		6.0	25.0	
Minimum Split (s)	48.9	48.9		48.9	48.9		11.9	31.0		11.9	31.0	
Total Split (s)	30.0	30.0		30.0	30.0		15.0	40.0		15.0	40.0	
Total Split (%)	35.3%	35.3%		35.3%	35.3%		17.6%	47.1%		17.6%	47.1%	
Maximum Green (s)	24.1	24.1		24.1	24.1		9.1	34.0		9.1	34.0	
Yellow Time (s)	3.9	3.9		3.9	3.9		3.9	5.0		3.9	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			5.9		5.9	6.0		5.9	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	Min		None	Min	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
3: Millersport Highway & New Road

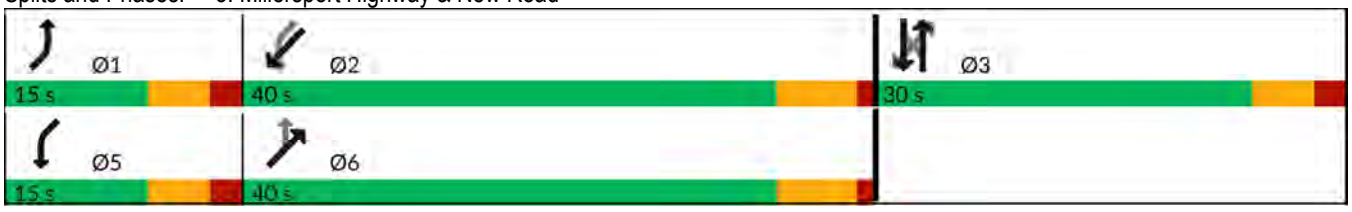
2024 Existing AM
04/17/2024

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	36.0	36.0		36.0	36.0			15.0			15.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		12.0			12.0		39.5	35.1		39.5	35.1	
Actuated g/C Ratio		0.18			0.18		0.59	0.53		0.59	0.53	
v/c Ratio		0.20			0.68		0.22	0.31		0.11	0.75	
Control Delay (s/veh)		15.5			22.4		7.6	12.1		6.1	19.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		15.5			22.4		7.6	12.1		6.1	19.3	
LOS		B			C		A	B		A	B	
Approach Delay (s/veh)		15.5			22.5			11.7			18.7	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)		11			59		9	76		9	257	
Queue Length 95th (ft)		42			137		28	141		28	#486	
Internal Link Dist (ft)		980			496			1243			1281	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		625			723		342	1771		617	1822	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.10			0.40		0.20	0.32		0.11	0.75	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 66.8			
Natural Cycle: 105			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay (s/veh): 17.2		Intersection LOS: B	
Intersection Capacity Utilization 72.0%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

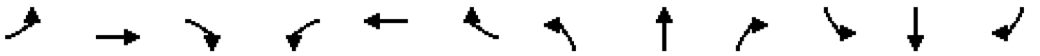
Splits and Phases: 3: Millersport Highway & New Road



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

2024 Existing AM
04/17/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	34	21	284	18	3	0	568	53	4	1441	4
Future Volume (vph)	4	34	21	284	18	3	0	568	53	4	1441	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		25	0		25	100		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			55			40		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.987				
Flt Protected		0.995			0.955					0.950		
Satd. Flow (prot)	0	1844	1538	0	1791	1615	1900	3349	0	1805	3469	0
Flt Permitted		0.969			0.709					0.383		
Satd. Flow (perm)	0	1796	1538	0	1330	1615	1900	3349	0	728	3469	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			41		19				
Link Speed (mph)		35			35			55			55	
Link Distance (ft)		1683			779			2581			1323	
Travel Time (s)		32.8			15.2			32.0			16.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	25%	0%	5%	1%	6%	0%	0%	7%	0%	0%	4%	25%
Adj. Flow (vph)	4	36	22	302	19	3	0	604	56	4	1533	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	40	22	0	321	3	0	660	0	4	1537	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	26.0	26.0		26.0	26.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0		50.0	50.0	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	25.4	25.4	25.4	25.4	25.4	25.4	44.0	44.0		44.0	44.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.4	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.6	4.6		4.6	4.6	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		21.8	21.8		21.8	21.8		38.9		38.9	38.9	
Actuated g/C Ratio		0.30	0.30		0.30	0.30		0.54		0.54	0.54	
v/c Ratio		0.07	0.04		0.79	0.00		0.36		0.01	0.81	
Control Delay (s/veh)		19.4	3.2		40.1	0.0		9.9		8.2	18.2	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay (s/veh)		19.4	3.2		40.1	0.0		9.9		8.2	18.2	
LOS		B	A		D	A		A		A	B	
Approach Delay (s/veh)		13.7			39.7			9.9			18.2	
Approach LOS		B			D			A			B	
Queue Length 50th (ft)		14	0		143	0		86		1	303	
Queue Length 95th (ft)		35	9		#270	0		121		5	398	
Internal Link Dist (ft)		1603			699			2501			1243	
Turn Bay Length (ft)			25			25				100		
Base Capacity (vph)		655	587		485	615		2124		460	2193	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.06	0.04		0.66	0.00		0.31		0.01	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 71.7			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay (s/veh): 18.7		Intersection LOS: B	
Intersection Capacity Utilization 77.6%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Millersport Highway & Smith Road



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	71	7	10	192	9	116	42	13	24	111	1
Future Volume (vph)	0	71	7	10	192	9	116	42	13	24	111	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.994			0.990			0.999	
Flt Protected					0.998			0.967			0.991	
Satd. Flow (prot)	0	1877	0	0	1868	0	0	1754	0	0	1866	0
Flt Permitted					0.998			0.967			0.991	
Satd. Flow (perm)	0	1877	0	0	1868	0	0	1754	0	0	1866	0
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		779			931			1347			1060	
Travel Time (s)		15.2			18.1			23.0			18.1	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	5%	15%	0%	1%	0%
Adj. Flow (vph)	0	89	9	13	240	11	145	53	16	30	139	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	98	0	0	264	0	0	214	0	0	170	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.6%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

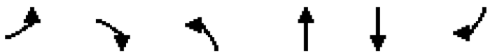
Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	71	7	10	192	9	116	42	13	24	111	1
Future Vol, veh/h	0	71	7	10	192	9	116	42	13	24	111	1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	0	0	0	0	1	0	2	5	15	0	1	0
Mvmt Flow	0	89	9	13	240	11	145	53	16	30	139	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.2	11.1	10.6	10
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	68%	0%	5%	18%
Vol Thru, %	25%	91%	91%	82%
Vol Right, %	8%	9%	4%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	171	78	211	136
LT Vol	116	0	10	24
Through Vol	42	71	192	111
RT Vol	13	7	9	1
Lane Flow Rate	214	98	264	170
Geometry Grp	1	1	1	1
Degree of Util (X)	0.312	0.143	0.372	0.247
Departure Headway (Hd)	5.258	5.286	5.079	5.223
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	686	679	712	689
Service Time	3.272	3.316	3.091	3.25
HCM Lane V/C Ratio	0.312	0.144	0.371	0.247
HCM Control Delay, s/veh	10.6	9.2	11.1	10
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.3	0.5	1.7	1

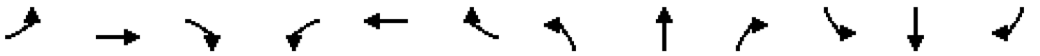
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	29	657	375	1445
Future Volume (vph)	0	0	29	657	375	1445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	95			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.881	
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1805	3406	3075	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1805	3406	3075	0
Link Speed (mph)	65			55	55	
Link Distance (ft)	1332			352	2581	
Travel Time (s)	14.0			4.4	32.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	6%	5%	3%
Adj. Flow (vph)	0	0	31	706	403	1554
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	31	706	1957	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



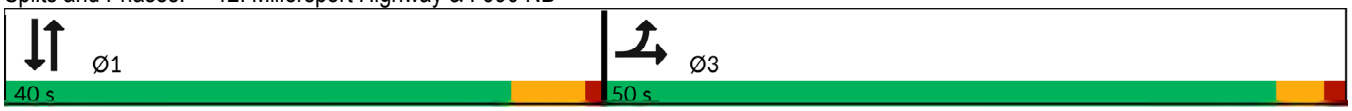
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	521	0	37	0	0	0	0	167	0	0	378	0
Future Volume (vph)	521	0	37	0	0	0	0	167	0	0	378	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.980										
Flt Protected	0.950	0.958										
Satd. Flow (prot)	1633	1612	0	0	0	0	0	3406	0	0	3438	0
Flt Permitted	0.950	0.958										
Satd. Flow (perm)	1633	1612	0	0	0	0	0	3406	0	0	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36										
Link Speed (mph)		40			30			55			55	
Link Distance (ft)		1256			239			439			352	
Travel Time (s)		21.4			5.4			5.4			4.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	0%	6%	0%	0%	0%	0%	6%	0%	0%	5%	0%
Adj. Flow (vph)	554	0	39	0	0	0	0	178	0	0	402	0
Shared Lane Traffic (%)	46%											
Lane Group Flow (vph)	299	294	0	0	0	0	0	178	0	0	402	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA			NA	
Protected Phases	3	3						1			1	
Permitted Phases												
Detector Phase	3	3						1			1	
Switch Phase												
Minimum Initial (s)	6.0	6.0						10.0			10.0	
Minimum Split (s)	22.7	22.7						24.0			24.0	
Total Split (s)	50.0	50.0						40.0			40.0	
Total Split (%)	55.6%	55.6%						44.4%			44.4%	
Maximum Green (s)	45.3	45.3						34.0			34.0	
Yellow Time (s)	3.2	3.2						5.0			5.0	
All-Red Time (s)	1.5	1.5						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	4.7	4.7						6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0						4.0			4.0	
Recall Mode	None	None						Min			Min	
Act Effct Green (s)	24.3	24.3						55.0			55.0	
Actuated g/C Ratio	0.27	0.27						0.61			0.61	
v/c Ratio	0.67	0.63						0.08			0.19	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	36.3	30.6						8.7			9.1	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay (s/veh)	36.3	30.6						8.7			9.1	
LOS	D	C						A			A	
Approach Delay (s/veh)		33.5						8.7			9.1	
Approach LOS		C						A			A	
Queue Length 50th (ft)	160	135						20			47	
Queue Length 95th (ft)	215	192						43			92	
Internal Link Dist (ft)		1176			159			359			272	
Turn Bay Length (ft)												
Base Capacity (vph)	821	829						2080			2100	
Starvation Cap Reductn	0	0						0			0	
Spillback Cap Reductn	0	0						0			0	
Storage Cap Reductn	0	0						0			0	
Reduced v/c Ratio	0.36	0.35						0.09			0.19	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 21.4		Intersection LOS: C	
Intersection Capacity Utilization 93.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 12: Millersport Highway & I-990 NB



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	6	78	65	9	29	96	219	1240	3	41	666	8
Future Volume (vph)	6	78	65	9	29	96	219	1240	3	41	666	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.941			0.903						0.998	
Flt Protected		0.998			0.997		0.950			0.950		
Satd. Flow (prot)	0	1769	0	0	1684	0	1787	3539	0	1805	3499	0
Flt Permitted		0.986			0.974		0.303			0.155		
Satd. Flow (perm)	0	1748	0	0	1645	0	570	3539	0	294	3499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			100						2	
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		1060			576			1323			1361	
Travel Time (s)		18.1			9.8			16.4			16.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	2%	0%	4%	1%	1%	2%	0%	0%	3%	0%
Adj. Flow (vph)	6	81	68	9	30	100	228	1292	3	43	694	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	155	0	0	139	0	228	1295	0	43	702	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Detector Phase	3	3		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	25.0		6.0	25.0	
Minimum Split (s)	48.9	48.9		48.9	48.9		11.9	31.0		11.9	31.0	
Total Split (s)	30.0	30.0		30.0	30.0		15.0	40.0		15.0	40.0	
Total Split (%)	35.3%	35.3%		35.3%	35.3%		17.6%	47.1%		17.6%	47.1%	
Maximum Green (s)	24.1	24.1		24.1	24.1		9.1	34.0		9.1	34.0	
Yellow Time (s)	3.9	3.9		3.9	3.9		3.9	5.0		3.9	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			5.9		5.9	6.0		5.9	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	Min		None	Min	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	36.0	36.0		36.0	36.0			15.0			15.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		9.7			9.7		42.0	36.9		36.9	29.6	
Actuated g/C Ratio		0.15			0.15		0.64	0.56		0.56	0.45	
v/c Ratio		0.52			0.42		0.43	0.65		0.13	0.44	
Control Delay (s/veh)		25.9			14.4		7.4	14.5		5.5	13.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		25.9			14.4		7.4	14.5		5.5	13.9	
LOS		C			B		A	B		A	B	
Approach Delay (s/veh)		26.0			14.5			13.5			13.5	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)		43			15		28	213		5	97	
Queue Length 95th (ft)		97			61		64	341		16	157	
Internal Link Dist (ft)		980			496			1243			1281	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		674			670		532	1974		383	1823	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.23			0.21		0.43	0.66		0.11	0.39	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 66.1			
Natural Cycle: 95			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 14.3		Intersection LOS: B	
Intersection Capacity Utilization 65.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Millersport Highway & New Road



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

2024 Existing PM
04/17/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	31	14	107	35	4	21	1411	213	6	772	1
Future Volume (vph)	3	31	14	107	35	4	21	1411	213	6	772	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		25	0		25	100		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			55			40		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.980				
Flt Protected		0.996			0.964		0.950			0.950		
Satd. Flow (prot)	0	1842	1615	0	1818	1615	1719	3477	0	1805	3505	0
Flt Permitted		0.972			0.756		0.347			0.098		
Satd. Flow (perm)	0	1797	1615	0	1426	1615	628	3477	0	186	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			41		33				
Link Speed (mph)		35			35			55			55	
Link Distance (ft)		1683			779			2581			1323	
Travel Time (s)		32.8			15.2			32.0			16.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	0%	1%	0%	0%	5%	2%	0%	0%	3%	0%
Adj. Flow (vph)	3	32	14	110	36	4	22	1455	220	6	796	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	35	14	0	146	4	22	1675	0	6	797	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	26.0	26.0		26.0	26.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0		50.0	50.0	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	25.4	25.4	25.4	25.4	25.4	25.4	44.0	44.0		44.0	44.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.4	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.6	4.6		4.6	4.6	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		13.5	13.5		13.5	13.5	42.8	42.8		42.8	42.8	
Actuated g/C Ratio		0.22	0.22		0.22	0.22	0.70	0.70		0.70	0.70	
v/c Ratio		0.08	0.03		0.46	0.01	0.05	0.68		0.04	0.32	
Control Delay (s/veh)		21.9	1.7		28.6	0.0	5.8	10.0		6.6	6.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)		21.9	1.7		28.6	0.0	5.8	10.0		6.6	6.0	
LOS		C	A		C	A	A	B		A	A	
Approach Delay (s/veh)		16.2			27.9			10.0			6.1	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		12	0		53	0	3	203		1	66	
Queue Length 95th (ft)		33	3		106	0	12	360		6	120	
Internal Link Dist (ft)		1603			699			2501			1243	
Turn Bay Length (ft)			25			25	100			100		
Base Capacity (vph)		778	722		617	722	462	2567		136	2579	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.04	0.02		0.24	0.01	0.05	0.65		0.04	0.31	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 61.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay (s/veh): 9.9 Intersection LOS: A
Intersection Capacity Utilization 75.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Millersport Highway & Smith Road



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	163	88	15	109	34	40	117	16	21	56	1
Future Volume (vph)	4	163	88	15	109	34	40	117	16	21	56	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.953			0.971			0.988			0.998	
Flt Protected		0.999			0.995			0.988			0.987	
Satd. Flow (prot)	0	1797	0	0	1811	0	0	1842	0	0	1847	0
Flt Permitted		0.999			0.995			0.988			0.987	
Satd. Flow (perm)	0	1797	0	0	1811	0	0	1842	0	0	1847	0
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		779			931			1347			1060	
Travel Time (s)		15.2			18.1			23.0			18.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	7%	1%	0%	0%	1%	0%	5%	0%	0%
Adj. Flow (vph)	4	173	94	16	116	36	43	124	17	22	60	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	271	0	0	168	0	0	184	0	0	83	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.3%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

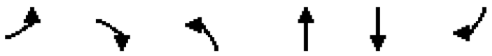
Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	163	88	15	109	34	40	117	16	21	56	1
Future Vol, veh/h	4	163	88	15	109	34	40	117	16	21	56	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	1	0	7	1	0	0	1	0	5	0	0
Mvmt Flow	4	173	94	16	116	36	43	124	17	22	60	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.1	9.5	9.9	9.2
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	2%	9%	27%
Vol Thru, %	68%	64%	69%	72%
Vol Right, %	9%	35%	22%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	173	255	158	78
LT Vol	40	4	15	21
Through Vol	117	163	109	56
RT Vol	16	88	34	1
Lane Flow Rate	184	271	168	83
Geometry Grp	1	1	1	1
Degree of Util (X)	0.257	0.346	0.229	0.123
Departure Headway (Hd)	5.028	4.589	4.914	5.315
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	709	779	724	667
Service Time	3.106	2.653	2.988	3.403
HCM Lane V/C Ratio	0.26	0.348	0.232	0.124
HCM Control Delay, s/veh	9.9	10.1	9.5	9.2
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	1	1.5	0.9	0.4

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	30	1626	231	676
Future Volume (vph)	0	0	30	1626	231	676
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	95			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.888	
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1805	3574	3105	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1805	3574	3105	0
Link Speed (mph)	65			55	55	
Link Distance (ft)	1332			352	2581	
Travel Time (s)	14.0			4.4	32.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	1%	1%	4%
Adj. Flow (vph)	0	0	32	1712	243	712
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	32	1712	955	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



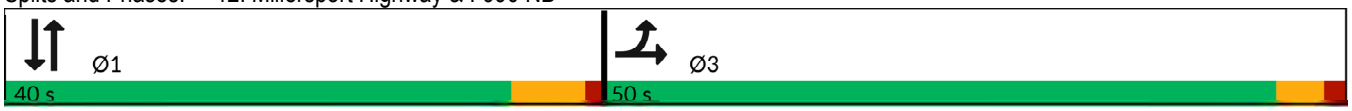
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1293	0	43	0	0	0	0	419	0	0	225	0
Future Volume (vph)	1293	0	43	0	0	0	0	419	0	0	225	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.990										
Flt Protected	0.950	0.955										
Satd. Flow (prot)	1681	1675	0	0	0	0	0	3574	0	0	3574	0
Flt Permitted	0.950	0.955										
Satd. Flow (perm)	1681	1675	0	0	0	0	0	3574	0	0	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36										
Link Speed (mph)		40			30			55			55	
Link Distance (ft)		1256			239			439			352	
Travel Time (s)		21.4			5.4			5.4			4.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	1347	0	45	0	0	0	0	436	0	0	234	0
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	700	692	0	0	0	0	0	436	0	0	234	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA			NA	
Protected Phases	3	3						1			1	
Permitted Phases												
Detector Phase	3	3						1			1	
Switch Phase												
Minimum Initial (s)	6.0	6.0						10.0			10.0	
Minimum Split (s)	22.7	22.7						24.0			24.0	
Total Split (s)	50.0	50.0						40.0			40.0	
Total Split (%)	55.6%	55.6%						44.4%			44.4%	
Maximum Green (s)	45.3	45.3						34.0			34.0	
Yellow Time (s)	3.2	3.2						5.0			5.0	
All-Red Time (s)	1.5	1.5						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	4.7	4.7						6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0						4.0			4.0	
Recall Mode	None	None						Min			Min	
Act Effct Green (s)	45.9	45.9						33.4			33.4	
Actuated g/C Ratio	0.51	0.51						0.37			0.37	
v/c Ratio	0.81	0.79						0.32			0.17	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	26.4	23.8						22.8			21.4	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay (s/veh)	26.4	23.8						22.8			21.4	
LOS	C	C						C			C	
Approach Delay (s/veh)		25.2						22.8			21.4	
Approach LOS		C						C			C	
Queue Length 50th (ft)	328	303						93			46	
Queue Length 95th (ft)	374	349						156			87	
Internal Link Dist (ft)		1176			159			359			272	
Turn Bay Length (ft)												
Base Capacity (vph)	898	912						1436			1436	
Starvation Cap Reductn	0	0						0			0	
Spillback Cap Reductn	0	0						0			0	
Storage Cap Reductn	0	0						0			0	
Reduced v/c Ratio	0.78	0.76						0.30			0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay (s/veh): 24.2		Intersection LOS: C	
Intersection Capacity Utilization 89.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 12: Millersport Highway & I-990 NB



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX D: LOS CALCULATIONS – BACKGROUND CONDITIONS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
3: Millersport Highway & New Road

2027 Background AM
04/17/2024

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	3	25	34	5	75	196	65	532	1	65	1294	3
Future Volume (vph)	3	25	34	5	75	196	65	532	1	65	1294	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.925			0.904							
Flt Protected		0.998			0.999		0.950			0.950		
Satd. Flow (prot)	0	1666	0	0	1704	0	1752	3374	0	1770	3471	0
Flt Permitted		0.968			0.995		0.115			0.417		
Satd. Flow (perm)	0	1616	0	0	1697	0	212	3374	0	777	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			145							
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		1060			576			1323			1361	
Travel Time (s)		18.1			9.8			16.4			16.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	3%	0%	0%	1%	3%	7%	0%	2%	4%	0%
Adj. Flow (vph)	3	27	37	5	82	213	71	578	1	71	1407	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	0	0	300	0	71	579	0	71	1410	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Detector Phase	3	3		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	25.0		6.0	25.0	
Minimum Split (s)	48.9	48.9		48.9	48.9		11.9	31.0		11.9	31.0	
Total Split (s)	30.0	30.0		30.0	30.0		15.0	40.0		15.0	40.0	
Total Split (%)	35.3%	35.3%		35.3%	35.3%		17.6%	47.1%		17.6%	47.1%	
Maximum Green (s)	24.1	24.1		24.1	24.1		9.1	34.0		9.1	34.0	
Yellow Time (s)	3.9	3.9		3.9	3.9		3.9	5.0		3.9	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			5.9		5.9	6.0		5.9	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	Min		None	Min	

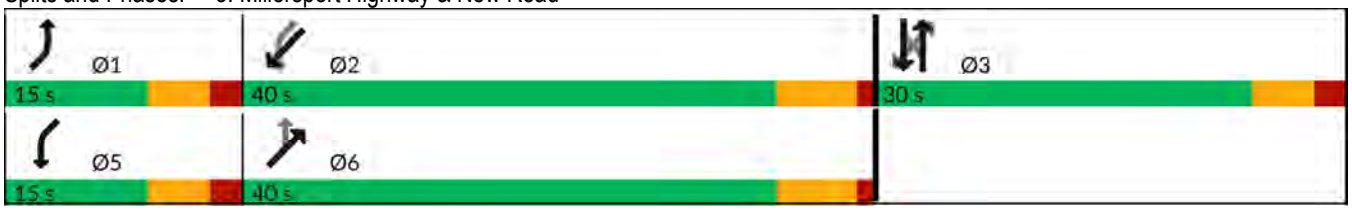
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	36.0	36.0		36.0	36.0			15.0			15.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		12.4			12.4		40.8	34.8		40.8	34.8	
Actuated g/C Ratio		0.18			0.18		0.58	0.50		0.58	0.50	
v/c Ratio		0.21			0.71		0.24	0.34		0.12	0.81	
Control Delay (s/veh)		15.3			24.3		8.0	13.4		6.2	22.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		15.3			24.3		8.0	13.4		6.2	22.8	
LOS		B			C		A	B		A	C	
Approach Delay (s/veh)		15.3			24.4			12.9			22.0	
Approach LOS		B			C			B			C	
Queue Length 50th (ft)		11			63		9	81		9	276	
Queue Length 95th (ft)		42			144		30	148		30	#519	
Internal Link Dist (ft)		980			496			1243			1281	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		595			693		332	1682		597	1730	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.11			0.43		0.21	0.34		0.12	0.82	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 69.8			
Natural Cycle: 105			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay (s/veh): 19.7		Intersection LOS: B	
Intersection Capacity Utilization 73.5%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

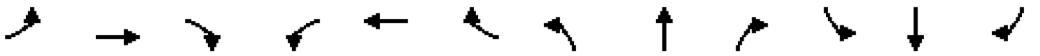
Splits and Phases: 3: Millersport Highway & New Road



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
6: Millersport Highway & Smith Road

2027 Background AM
04/17/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	35	22	293	19	3	0	585	55	4	1485	4
Future Volume (vph)	4	35	22	293	19	3	0	585	55	4	1485	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		25	0		25	100		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			55			40		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.987				
Flt Protected		0.995			0.955					0.950		
Satd. Flow (prot)	0	1845	1538	0	1791	1615	1900	3349	0	1805	3469	0
Flt Permitted		0.969			0.709					0.371		
Satd. Flow (perm)	0	1797	1538	0	1330	1615	1900	3349	0	705	3469	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			41		20				
Link Speed (mph)		35			35			55			55	
Link Distance (ft)		1683			779			2581			1323	
Travel Time (s)		32.8			15.2			32.0			16.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	25%	0%	5%	1%	6%	0%	0%	7%	0%	0%	4%	25%
Adj. Flow (vph)	4	37	23	312	20	3	0	622	59	4	1580	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	23	0	332	3	0	681	0	4	1584	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	26.0	26.0		26.0	26.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0		50.0	50.0	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	25.4	25.4	25.4	25.4	25.4	25.4	44.0	44.0		44.0	44.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.4	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.6	4.6		4.6	4.6	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		22.3	22.3		22.3	22.3		39.7		39.7	39.7	
Actuated g/C Ratio		0.31	0.31		0.31	0.31		0.54		0.54	0.54	
v/c Ratio		0.07	0.04		0.81	0.00		0.37		0.01	0.83	
Control Delay (s/veh)		19.5	3.4		42.3	0.0		10.0		8.2	19.3	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay (s/veh)		19.5	3.4		42.3	0.0		10.0		8.2	19.3	
LOS		B	A		D	A		B		A	B	
Approach Delay (s/veh)		13.7			42.0			10.1			19.3	
Approach LOS		B			D			B			B	
Queue Length 50th (ft)		14	0		149	0		90		1	320	
Queue Length 95th (ft)		36	9		#284	0		125		5	420	
Internal Link Dist (ft)		1603			699			2501			1243	
Turn Bay Length (ft)			25			25				100		
Base Capacity (vph)		641	576		475	603		2079		436	2146	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.06	0.04		0.70	0.00		0.33		0.01	0.74	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 72.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay (s/veh): 19.7 Intersection LOS: B
Intersection Capacity Utilization 79.4% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Millersport Highway & Smith Road



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	73	7	10	198	9	120	43	13	25	114	1
Future Volume (vph)	0	73	7	10	198	9	120	43	13	25	114	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.995			0.990			0.999	
Flt Protected					0.998			0.967			0.991	
Satd. Flow (prot)	0	1877	0	0	1870	0	0	1754	0	0	1866	0
Flt Permitted					0.998			0.967			0.991	
Satd. Flow (perm)	0	1877	0	0	1870	0	0	1754	0	0	1866	0
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		779			931			1347			1060	
Travel Time (s)		15.2			18.1			23.0			18.1	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	5%	15%	0%	1%	0%
Adj. Flow (vph)	0	91	9	13	248	11	150	54	16	31	143	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	100	0	0	272	0	0	220	0	0	175	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.2%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

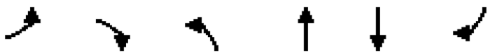
Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	73	7	10	198	9	120	43	13	25	114	1
Future Vol, veh/h	0	73	7	10	198	9	120	43	13	25	114	1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	0	0	0	0	1	0	2	5	15	0	1	0
Mvmt Flow	0	91	9	13	248	11	150	54	16	31	143	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.3	11.3	10.9	10.1
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	68%	0%	5%	18%
Vol Thru, %	24%	91%	91%	81%
Vol Right, %	7%	9%	4%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	80	217	140
LT Vol	120	0	10	25
Through Vol	43	73	198	114
RT Vol	13	7	9	1
Lane Flow Rate	220	100	271	175
Geometry Grp	1	1	1	1
Degree of Util (X)	0.324	0.148	0.387	0.256
Departure Headway (Hd)	5.294	5.342	5.136	5.272
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	680	671	705	681
Service Time	3.324	3.377	3.136	3.304
HCM Lane V/C Ratio	0.324	0.149	0.384	0.257
HCM Control Delay, s/veh	10.9	9.3	11.3	10.1
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.4	0.5	1.8	1

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	30	677	386	1489
Future Volume (vph)	0	0	30	677	386	1489
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	95			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.881	
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1805	3406	3075	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1805	3406	3075	0
Link Speed (mph)	65			55	55	
Link Distance (ft)	1332			352	2581	
Travel Time (s)	14.0			4.4	32.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	6%	5%	3%
Adj. Flow (vph)	0	0	32	728	415	1601
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	32	728	2016	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

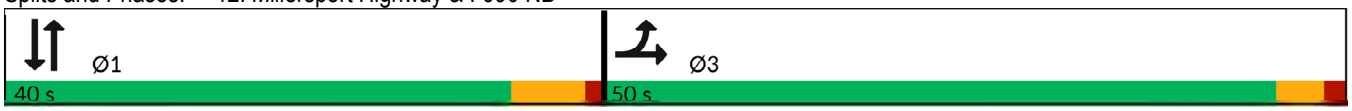
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	537	0	38	0	0	0	0	172	0	0	389	0
Future Volume (vph)	537	0	38	0	0	0	0	172	0	0	389	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.980										
Flt Protected	0.950	0.958										
Satd. Flow (prot)	1633	1612	0	0	0	0	0	3406	0	0	3438	0
Flt Permitted	0.950	0.958										
Satd. Flow (perm)	1633	1612	0	0	0	0	0	3406	0	0	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36										
Link Speed (mph)		40			30			55			55	
Link Distance (ft)		1256			239			439			352	
Travel Time (s)		21.4			5.4			5.4			4.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	0%	6%	0%	0%	0%	0%	6%	0%	0%	5%	0%
Adj. Flow (vph)	571	0	40	0	0	0	0	183	0	0	414	0
Shared Lane Traffic (%)	46%											
Lane Group Flow (vph)	308	303	0	0	0	0	0	183	0	0	414	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA			NA	
Protected Phases	3	3						1			1	
Permitted Phases												
Detector Phase	3	3						1			1	
Switch Phase												
Minimum Initial (s)	6.0	6.0						10.0			10.0	
Minimum Split (s)	22.7	22.7						24.0			24.0	
Total Split (s)	50.0	50.0						40.0			40.0	
Total Split (%)	55.6%	55.6%						44.4%			44.4%	
Maximum Green (s)	45.3	45.3						34.0			34.0	
Yellow Time (s)	3.2	3.2						5.0			5.0	
All-Red Time (s)	1.5	1.5						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	4.7	4.7						6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0						4.0			4.0	
Recall Mode	None	None						Min			Min	
Act Effct Green (s)	24.8	24.8						54.5			54.5	
Actuated g/C Ratio	0.28	0.28						0.61			0.61	
v/c Ratio	0.68	0.64						0.08			0.19	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	36.1	30.5						8.9			9.4	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay (s/veh)	36.1	30.5						8.9			9.4	
LOS	D	C						A			A	
Approach Delay (s/veh)		33.4						9.0			9.4	
Approach LOS		C						A			A	
Queue Length 50th (ft)	164	140						21			50	
Queue Length 95th (ft)	220	196						45			95	
Internal Link Dist (ft)		1176			159			359			272	
Turn Bay Length (ft)												
Base Capacity (vph)	821	829						2061			2080	
Starvation Cap Reductn	0	0						0			0	
Spillback Cap Reductn	0	0						0			0	
Storage Cap Reductn	0	0						0			0	
Reduced v/c Ratio	0.38	0.37						0.09			0.20	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 21.5		Intersection LOS: C	
Intersection Capacity Utilization 95.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 12: Millersport Highway & I-990 NB



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
3: Millersport Highway & New Road

2027 Background AM
04/17/2024

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	6	80	67	9	30	99	226	1278	3	42	686	8
Future Volume (vph)	6	80	67	9	30	99	226	1278	3	42	686	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.941			0.903						0.998	
Flt Protected		0.998			0.997		0.950			0.950		
Satd. Flow (prot)	0	1769	0	0	1684	0	1787	3539	0	1805	3499	0
Flt Permitted		0.987			0.975		0.290			0.144		
Satd. Flow (perm)	0	1749	0	0	1647	0	546	3539	0	274	3499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			103						2	
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		1060			576			1323			1361	
Travel Time (s)		18.1			9.8			16.4			16.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	2%	0%	4%	1%	1%	2%	0%	0%	3%	0%
Adj. Flow (vph)	6	83	70	9	31	103	235	1331	3	44	715	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	159	0	0	143	0	235	1334	0	44	723	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Detector Phase	3	3		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	25.0		6.0	25.0	
Minimum Split (s)	48.9	48.9		48.9	48.9		11.9	31.0		11.9	31.0	
Total Split (s)	30.0	30.0		30.0	30.0		15.0	40.0		15.0	40.0	
Total Split (%)	35.3%	35.3%		35.3%	35.3%		17.6%	47.1%		17.6%	47.1%	
Maximum Green (s)	24.1	24.1		24.1	24.1		9.1	34.0		9.1	34.0	
Yellow Time (s)	3.9	3.9		3.9	3.9		3.9	5.0		3.9	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			5.9		5.9	6.0		5.9	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	Min		None	Min	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
3: Millersport Highway & New Road

2027 Background AM
04/17/2024

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	36.0	36.0		36.0	36.0			15.0			15.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		9.9			9.9		42.1	36.9		36.9	29.6	
Actuated g/C Ratio		0.15			0.15		0.63	0.56		0.56	0.45	
v/c Ratio		0.53			0.42		0.46	0.67		0.13	0.46	
Control Delay (s/veh)		26.1			14.3		7.8	15.0		5.7	14.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		26.1			14.3		7.8	15.0		5.7	14.2	
LOS		C			B		A	B		A	B	
Approach Delay (s/veh)		26.2			14.4			14.0			13.7	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)		44			15		30	225		5	102	
Queue Length 95th (ft)		100			62		66	358		16	163	
Internal Link Dist (ft)		980			496			1243			1281	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		672			671		518	1971		373	1818	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.24			0.21		0.45	0.68		0.12	0.40	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 66.3			
Natural Cycle: 105			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 14.7		Intersection LOS: B	
Intersection Capacity Utilization 66.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Millersport Highway & New Road



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	32	14	110	36	4	22	1454	219	6	795	1
Future Volume (vph)	3	32	14	110	36	4	22	1454	219	6	795	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		25	0		25	100		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			55			40		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.980				
Flt Protected		0.996			0.964		0.950			0.950		
Satd. Flow (prot)	0	1842	1615	0	1818	1615	1719	3477	0	1805	3505	0
Flt Permitted		0.977			0.756		0.329			0.094		
Satd. Flow (perm)	0	1807	1615	0	1426	1615	595	3477	0	179	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			41		33				
Link Speed (mph)		35			35			55			55	
Link Distance (ft)		1683			779			2581			1323	
Travel Time (s)		32.8			15.2			32.0			16.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	0%	1%	0%	0%	5%	2%	0%	0%	3%	0%
Adj. Flow (vph)	3	33	14	113	37	4	23	1499	226	6	820	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	14	0	150	4	23	1725	0	6	821	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	26.0	26.0		26.0	26.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0		50.0	50.0	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	25.4	25.4	25.4	25.4	25.4	25.4	44.0	44.0		44.0	44.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.4	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.6	4.6		4.6	4.6	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		13.6	13.6		13.6	13.6	42.7	42.7		42.7	42.7	
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.64	0.64		0.64	0.64	
v/c Ratio		0.09	0.03		0.51	0.01	0.06	0.77		0.05	0.36	
Control Delay (s/veh)		22.1	1.7		30.6	0.0	6.0	12.1		7.0	6.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)		22.1	1.7		30.6	0.0	6.0	12.1		7.0	6.6	
LOS		C	A		C	A	A	B		A	A	
Approach Delay (s/veh)		16.5			29.9			12.1			6.7	
Approach LOS		B			C			B			A	
Queue Length 50th (ft)		12	0		57	0	3	216		1	70	
Queue Length 95th (ft)		34	3		108	0	13	386		6	125	
Internal Link Dist (ft)		1603			699			2501			1243	
Turn Bay Length (ft)			25			25	100			100		
Base Capacity (vph)		689	641		544	641	394	2314		118	2322	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.05	0.02		0.28	0.01	0.06	0.75		0.05	0.35	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 67
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay (s/veh): 11.5 — Intersection LOS: B
Intersection Capacity Utilization 76.5% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Millersport Highway & Smith Road



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	168	91	15	112	35	41	121	16	22	58	1
Future Volume (vph)	4	168	91	15	112	35	41	121	16	22	58	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.953			0.971			0.988			0.998	
Flt Protected		0.999			0.995			0.989			0.987	
Satd. Flow (prot)	0	1797	0	0	1811	0	0	1844	0	0	1847	0
Flt Permitted		0.999			0.995			0.989			0.987	
Satd. Flow (perm)	0	1797	0	0	1811	0	0	1844	0	0	1847	0
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		779			931			1347			1060	
Travel Time (s)		15.2			18.1			23.0			18.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	7%	1%	0%	0%	1%	0%	5%	0%	0%
Adj. Flow (vph)	4	179	97	16	119	37	44	129	17	23	62	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	280	0	0	172	0	0	190	0	0	86	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.9%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

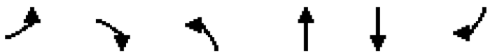
Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	168	91	15	112	35	41	121	16	22	58	1
Future Vol, veh/h	4	168	91	15	112	35	41	121	16	22	58	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	1	0	7	1	0	0	1	0	5	0	0
Mvmt Flow	4	179	97	16	119	37	44	129	17	23	62	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.3	9.6	10	9.3
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	2%	9%	27%
Vol Thru, %	68%	64%	69%	72%
Vol Right, %	9%	35%	22%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	178	263	162	81
LT Vol	41	4	15	22
Through Vol	121	168	112	58
RT Vol	16	91	35	1
Lane Flow Rate	189	280	172	86
Geometry Grp	1	1	1	1
Degree of Util (X)	0.267	0.359	0.237	0.128
Departure Headway (Hd)	5.067	4.62	4.951	5.358
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	703	772	719	661
Service Time	3.152	2.69	3.031	3.457
HCM Lane V/C Ratio	0.269	0.363	0.239	0.13
HCM Control Delay, s/veh	10	10.3	9.6	9.3
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	1.1	1.6	0.9	0.4

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	31	1675	238	696
Future Volume (vph)	0	0	31	1675	238	696
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	95			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.888	
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1805	3574	3105	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1805	3574	3105	0
Link Speed (mph)	65			55	55	
Link Distance (ft)	1332			352	2581	
Travel Time (s)	14.0			4.4	32.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	1%	1%	4%
Adj. Flow (vph)	0	0	33	1763	251	733
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	33	1763	984	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

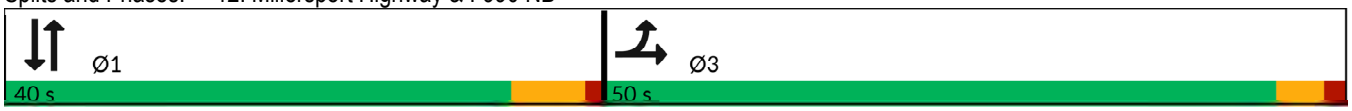
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1332	0	44	0	0	0	0	432	0	0	232	0
Future Volume (vph)	1332	0	44	0	0	0	0	432	0	0	232	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.990										
Flt Protected	0.950	0.955										
Satd. Flow (prot)	1681	1675	0	0	0	0	0	3574	0	0	3574	0
Flt Permitted	0.950	0.955										
Satd. Flow (perm)	1681	1675	0	0	0	0	0	3574	0	0	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36										
Link Speed (mph)		40			30			55			55	
Link Distance (ft)		1256			239			439			352	
Travel Time (s)		21.4			5.4			5.4			4.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	1388	0	46	0	0	0	0	450	0	0	242	0
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	722	712	0	0	0	0	0	450	0	0	242	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA			NA	
Protected Phases	3	3						1			1	
Permitted Phases												
Detector Phase	3	3						1			1	
Switch Phase												
Minimum Initial (s)	6.0	6.0						10.0			10.0	
Minimum Split (s)	22.7	22.7						24.0			24.0	
Total Split (s)	50.0	50.0						40.0			40.0	
Total Split (%)	55.6%	55.6%						44.4%			44.4%	
Maximum Green (s)	45.3	45.3						34.0			34.0	
Yellow Time (s)	3.2	3.2						5.0			5.0	
All-Red Time (s)	1.5	1.5						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	4.7	4.7						6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0						4.0			4.0	
Recall Mode	None	None						Min			Min	
Act Effct Green (s)	47.2	47.2						32.1			32.1	
Actuated g/C Ratio	0.52	0.52						0.36			0.36	
v/c Ratio	0.82	0.79						0.35			0.18	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	25.8	23.3						23.7			22.2	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay (s/veh)	25.8	23.3						23.7			22.2	
LOS	C	C						C			C	
Approach Delay (s/veh)		24.6						23.8			22.2	
Approach LOS		C						C			C	
Queue Length 50th (ft)	340	312						97			49	
Queue Length 95th (ft)	403	375						160			89	
Internal Link Dist (ft)		1176			159			359			272	
Turn Bay Length (ft)												
Base Capacity (vph)	911	924						1415			1415	
Starvation Cap Reductn	0	0						0			0	
Spillback Cap Reductn	0	0						0			0	
Storage Cap Reductn	0	0						0			0	
Reduced v/c Ratio	0.79	0.77						0.32			0.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay (s/veh): 24.2		Intersection LOS: C	
Intersection Capacity Utilization 91.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 12: Millersport Highway & I-990 NB



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX E: LOS CALCULATIONS – FULL BUILD CONDITIONS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
1: Millersport Highway & New Road

2027 Full AM
04/17/2024

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	3	25	34	11	75	196	65	546	1	65	1313	4
Future Volume (vph)	3	25	34	11	75	196	65	546	1	65	1313	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.925			0.906							
Flt Protected		0.998			0.998		0.950			0.950		
Satd. Flow (prot)	0	1666	0	0	1706	0	1752	3374	0	1770	3472	0
Flt Permitted		0.975			0.986		0.115			0.406		
Satd. Flow (perm)	0	1628	0	0	1686	0	212	3374	0	756	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			134							
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		1060			576			732			1361	
Travel Time (s)		18.1			9.8			9.1			16.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	9%	3%	0%	0%	1%	3%	7%	0%	2%	4%	0%
Adj. Flow (vph)	3	27	37	12	82	213	71	593	1	71	1427	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	0	0	307	0	71	594	0	71	1431	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Detector Phase	3	3		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	25.0		6.0	25.0	
Minimum Split (s)	48.9	48.9		48.9	48.9		11.9	31.0		11.9	31.0	
Total Split (s)	30.0	30.0		30.0	30.0		15.0	40.0		15.0	40.0	
Total Split (%)	35.3%	35.3%		35.3%	35.3%		17.6%	47.1%		17.6%	47.1%	
Maximum Green (s)	24.1	24.1		24.1	24.1		9.1	34.0		9.1	34.0	
Yellow Time (s)	3.9	3.9		3.9	3.9		3.9	5.0		3.9	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			5.9		5.9	6.0		5.9	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	Min		None	Min	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
1: Millersport Highway & New Road

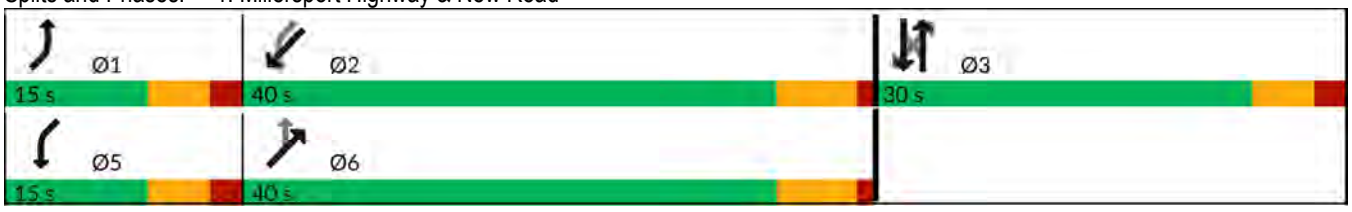
2027 Full AM
04/17/2024

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	36.0	36.0		36.0	36.0			15.0			15.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		13.3			13.3		40.9	34.8		40.9	34.8	
Actuated g/C Ratio		0.19			0.19		0.58	0.49		0.58	0.49	
v/c Ratio		0.20			0.72		0.24	0.35		0.12	0.83	
Control Delay (s/veh)		14.9			25.7		8.3	13.9		6.6	24.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		14.9			25.7		8.3	13.9		6.6	24.3	
LOS		B			C		A	B		A	C	
Approach Delay (s/veh)		14.9			25.8			13.4			23.5	
Approach LOS		B			C			B			C	
Queue Length 50th (ft)		11			72		10	85		10	290	
Queue Length 95th (ft)		42			155		31	156		31	#544	
Internal Link Dist (ft)		980			496			652			1281	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		593			676		328	1662		580	1711	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.11			0.45		0.22	0.36		0.12	0.84	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 70.7			
Natural Cycle: 105			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay (s/veh): 20.9		Intersection LOS: C	
Intersection Capacity Utilization 76.3%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Millersport Highway & New Road



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	75	7	10	200	9	120	43	13	25	114	1
Future Volume (vph)	0	75	7	10	200	9	120	43	13	25	114	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.995			0.990			0.999	
Flt Protected					0.998			0.967			0.991	
Satd. Flow (prot)	0	1877	0	0	1870	0	0	1754	0	0	1866	0
Flt Permitted					0.998			0.967			0.991	
Satd. Flow (perm)	0	1877	0	0	1870	0	0	1754	0	0	1866	0
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		779			931			1347			1060	
Travel Time (s)		15.2			18.1			23.0			18.1	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	5%	15%	0%	1%	0%
Adj. Flow (vph)	0	94	9	13	250	11	150	54	16	31	143	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	274	0	0	220	0	0	175	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.3%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	75	7	10	200	9	120	43	13	25	114	1
Future Vol, veh/h	0	75	7	10	200	9	120	43	13	25	114	1
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	0	0	0	0	1	0	2	5	15	0	1	0
Mvmt Flow	0	94	9	13	250	11	150	54	16	31	143	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.4	11.4	10.9	10.2
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	68%	0%	5%	18%
Vol Thru, %	24%	91%	91%	81%
Vol Right, %	7%	9%	4%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	176	82	219	140
LT Vol	120	0	10	25
Through Vol	43	75	200	114
RT Vol	13	7	9	1
Lane Flow Rate	220	103	274	175
Geometry Grp	1	1	1	1
Degree of Util (X)	0.325	0.152	0.391	0.257
Departure Headway (Hd)	5.311	5.352	5.145	5.289
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	678	669	704	679
Service Time	3.34	3.387	3.145	3.321
HCM Lane V/C Ratio	0.324	0.154	0.389	0.258
HCM Control Delay, s/veh	10.9	9.4	11.4	10.2
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.4	0.5	1.9	1

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
3: Millersport Highway & Smith Road

2027 Full AM
04/17/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	35	29	293	19	5	2	601	55	6	1509	4
Future Volume (vph)	4	35	29	293	19	5	2	601	55	6	1509	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		25	0		25	100		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			55			40		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.987				
Flt Protected		0.995			0.955		0.950			0.950		
Satd. Flow (prot)	0	1845	1538	0	1791	1615	1805	3348	0	1805	3469	0
Flt Permitted		0.969			0.709		0.100			0.363		
Satd. Flow (perm)	0	1797	1538	0	1330	1615	190	3348	0	690	3469	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			41		19				
Link Speed (mph)		35			35			55			55	
Link Distance (ft)		938			779			2581			591	
Travel Time (s)		18.3			15.2			32.0			7.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	25%	0%	5%	1%	6%	0%	0%	7%	0%	0%	4%	25%
Adj. Flow (vph)	4	37	31	312	20	5	2	639	59	6	1605	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	31	0	332	5	2	698	0	6	1609	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	26.0	26.0		26.0	26.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0		50.0	50.0	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	25.4	25.4	25.4	25.4	25.4	25.4	44.0	44.0		44.0	44.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.4	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.6	4.6		4.6	4.6	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
3: Millersport Highway & Smith Road

2027 Full AM
04/17/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		22.4	22.4		22.4	22.4	40.2	40.2		40.2	40.2	
Actuated g/C Ratio		0.30	0.30		0.30	0.30	0.55	0.55		0.55	0.55	
v/c Ratio		0.07	0.06		0.81	0.00	0.01	0.37		0.01	0.84	
Control Delay (s/veh)		19.5	5.5		42.8	0.0	9.0	10.1		8.3	19.8	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)		19.5	5.5		42.8	0.0	9.0	10.1		8.3	19.8	
LOS		B	A		D	A	A	B		A	B	
Approach Delay (s/veh)		13.5			42.2			10.2			19.8	
Approach LOS		B			D			B			B	
Queue Length 50th (ft)		14	0		149	0	0	93		1	329	
Queue Length 95th (ft)		36	15		#284	0	4	130		7	433	
Internal Link Dist (ft)		858			699			2501			511	
Turn Bay Length (ft)			25			25	100			100		
Base Capacity (vph)		635	570		470	597	116	2056		422	2123	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.06	0.05		0.71	0.01	0.02	0.34		0.01	0.76	

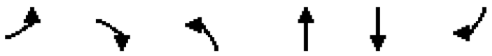
Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 73.5
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay (s/veh): 19.9 Intersection LOS: B
Intersection Capacity Utilization 80.1% ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Millersport Highway & Smith Road



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	26	18	592	1494	19
Future Volume (vph)	14	26	18	592	1494	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			250
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	3374	3471	1615
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	3374	3471	1615
Link Speed (mph)	30			55	55	
Link Distance (ft)	1189			591	732	
Travel Time (s)	15.0			7.3	9.1	
Peak Hour Factor	0.80	0.80	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	7%	4%	0%
Adj. Flow (vph)	18	33	19	630	1589	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	33	19	630	1589	20
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.3%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Intersection	
Int Delay, s/veh	0.6

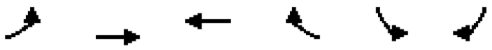
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	26	18	592	1494	19
Future Vol, veh/h	14	26	18	592	1494	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	94	94	94	94
Heavy Vehicles, %	0	0	0	7	4	0
Mvmt Flow	18	33	19	630	1589	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1943	795	1610	0	-	0
Stage 1	1589	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	58	335	411	-	-	-
Stage 1	156	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	56	335	411	-	-	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	149	-	-	-	-	-
Stage 2	688	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	24.45	0.42	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	411	-	125	335	-	-
HCM Lane V/C Ratio	0.047	-	0.14	0.097	-	-
HCM Control Delay (s/veh)	14.2	-	38.5	16.9	-	-
HCM Lane LOS	B	-	E	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	0.3	-	-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	61	23	2	7	1
Future Volume (vph)	0	61	23	2	7	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.987		0.986	
Flt Protected					0.957	
Satd. Flow (prot)	0	1827	1810	0	1793	0
Flt Permitted					0.957	
Satd. Flow (perm)	0	1827	1810	0	1793	0
Link Speed (mph)		35	35		30	
Link Distance (ft)		745	938		1373	
Travel Time (s)		14.5	18.3		16.5	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	4%	4%	0%	0%	0%
Adj. Flow (vph)	0	76	29	3	9	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	76	32	0	10	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Intersection	
Int Delay, s/veh	0.8

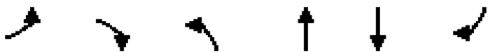
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	61	23	2	7	1
Future Vol, veh/h	0	61	23	2	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	4	4	0	0	0
Mvmt Flow	0	76	29	3	9	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	31	0	-	0	106	30
Stage 1	-	-	-	-	30	-
Stage 2	-	-	-	-	76	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1594	-	-	-	896	1050
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	952	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1594	-	-	-	896	1050
Mov Cap-2 Maneuver	-	-	-	-	896	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	952	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	8.99
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1594	-	-	-	913
HCM Lane V/C Ratio	-	-	-	-	0.011
HCM Control Delay (s/veh)	0	-	-	-	9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



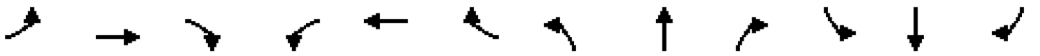
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	30	695	393	1513
Future Volume (vph)	0	0	30	695	393	1513
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	95			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.881	
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1805	3406	3075	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1805	3406	3075	0
Link Speed (mph)	65			55	55	
Link Distance (ft)	1332			352	2581	
Travel Time (s)	14.0			4.4	32.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	6%	5%	3%
Adj. Flow (vph)	0	0	32	747	423	1627
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	32	747	2050	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
7: Millersport Highway & I-990 NB

2027 Full AM
04/17/2024



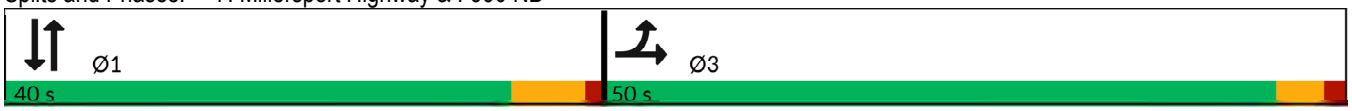
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	550	0	38	0	0	0	0	177	0	0	396	0
Future Volume (vph)	550	0	38	0	0	0	0	177	0	0	396	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.981										
Flt Protected	0.950	0.958										
Satd. Flow (prot)	1633	1614	0	0	0	0	0	3406	0	0	3438	0
Flt Permitted	0.950	0.958										
Satd. Flow (perm)	1633	1614	0	0	0	0	0	3406	0	0	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36										
Link Speed (mph)		40			30			55			55	
Link Distance (ft)		1256			239			439			352	
Travel Time (s)		21.4			5.4			5.4			4.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	0%	6%	0%	0%	0%	0%	6%	0%	0%	5%	0%
Adj. Flow (vph)	585	0	40	0	0	0	0	188	0	0	421	0
Shared Lane Traffic (%)	46%											
Lane Group Flow (vph)	316	309	0	0	0	0	0	188	0	0	421	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA			NA	
Protected Phases	3	3						1			1	
Permitted Phases												
Detector Phase	3	3						1			1	
Switch Phase												
Minimum Initial (s)	6.0	6.0						10.0			10.0	
Minimum Split (s)	22.7	22.7						24.0			24.0	
Total Split (s)	50.0	50.0						40.0			40.0	
Total Split (%)	55.6%	55.6%						44.4%			44.4%	
Maximum Green (s)	45.3	45.3						34.0			34.0	
Yellow Time (s)	3.2	3.2						5.0			5.0	
All-Red Time (s)	1.5	1.5						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	4.7	4.7						6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0						4.0			4.0	
Recall Mode	None	None						Min			Min	
Act Effct Green (s)	25.4	25.4						53.9			53.9	
Actuated g/C Ratio	0.28	0.28						0.60			0.60	
v/c Ratio	0.68	0.64						0.09			0.20	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

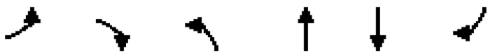
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	35.6	30.0						9.2			9.7	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay (s/veh)	35.6	30.0						9.2			9.7	
LOS	D	C						A			A	
Approach Delay (s/veh)		32.9						9.2			9.8	
Approach LOS		C						A			A	
Queue Length 50th (ft)	168	143						21			52	
Queue Length 95th (ft)	224	198						47			98	
Internal Link Dist (ft)		1176			159			359			272	
Turn Bay Length (ft)												
Base Capacity (vph)	821	830						2038			2057	
Starvation Cap Reductn	0	0						0			0	
Spillback Cap Reductn	0	0						0			0	
Storage Cap Reductn	0	0						0			0	
Reduced v/c Ratio	0.38	0.37						0.09			0.20	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay (s/veh): 21.4		Intersection LOS: C	
Intersection Capacity Utilization 96.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 7: Millersport Highway & I-990 NB



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	6	1	93	276	2
Future Volume (vph)	3	6	1	93	276	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.910				0.999	
Flt Protected	0.984					
Satd. Flow (prot)	1701	0	0	1828	1879	0
Flt Permitted	0.984					
Satd. Flow (perm)	1701	0	0	1828	1879	0
Link Speed (mph)	30			40	40	
Link Distance (ft)	1181			576	823	
Travel Time (s)	26.8			9.8	14.0	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	4%	1%	0%
Adj. Flow (vph)	4	8	1	116	345	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	117	348	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.6%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	6	1	93	276	2
Future Vol, veh/h	3	6	1	93	276	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	4	1	0
Mvmt Flow	4	8	1	116	345	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	465	346	348	0	-	0
Stage 1	346	-	-	-	-	-
Stage 2	119	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	559	701	1223	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	559	701	1223	-	-	-
Mov Cap-2 Maneuver	559	-	-	-	-	-
Stage 1	720	-	-	-	-	-
Stage 2	911	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.67	0.08	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	19	-	646	-	-
HCM Lane V/C Ratio	0.001	-	0.017	-	-
HCM Control Delay (s/veh)	7.9	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
1: Millersport Highway & New Road

2027 Full PM
04/17/2024

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	6	80	67	18	30	99	226	1303	3	42	721	10
Future Volume (vph)	6	80	67	18	30	99	226	1303	3	42	721	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.941			0.909						0.998	
Flt Protected		0.998			0.994		0.950			0.950		
Satd. Flow (prot)	0	1769	0	0	1692	0	1787	3539	0	1805	3499	0
Flt Permitted		0.987			0.926		0.274			0.137		
Satd. Flow (perm)	0	1749	0	0	1576	0	515	3539	0	260	3499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			103						2	
Link Speed (mph)		40			40			55			55	
Link Distance (ft)		1060			576			732			1361	
Travel Time (s)		18.1			9.8			9.1			16.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	2%	0%	4%	1%	1%	2%	0%	0%	3%	0%
Adj. Flow (vph)	6	83	70	19	31	103	235	1357	3	44	751	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	159	0	0	153	0	235	1360	0	44	761	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Detector Phase	3	3		3	3		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	25.0		6.0	25.0	
Minimum Split (s)	48.9	48.9		48.9	48.9		11.9	31.0		11.9	31.0	
Total Split (s)	30.0	30.0		30.0	30.0		15.0	40.0		15.0	40.0	
Total Split (%)	35.3%	35.3%		35.3%	35.3%		17.6%	47.1%		17.6%	47.1%	
Maximum Green (s)	24.1	24.1		24.1	24.1		9.1	34.0		9.1	34.0	
Yellow Time (s)	3.9	3.9		3.9	3.9		3.9	5.0		3.9	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	1.0		2.0	1.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		5.9			5.9		5.9	6.0		5.9	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	Min		None	Min	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
1: Millersport Highway & New Road

2027 Full PM
04/17/2024

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	36.0	36.0		36.0	36.0			15.0			15.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		9.9			9.9		42.4	37.2		37.2	29.9	
Actuated g/C Ratio		0.15			0.15		0.64	0.56		0.56	0.45	
v/c Ratio		0.53			0.47		0.47	0.68		0.14	0.48	
Control Delay (s/veh)		26.4			16.1		8.1	15.3		5.7	14.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		26.4			16.1		8.1	15.3		5.7	14.4	
LOS		C			B		A	B		A	B	
Approach Delay (s/veh)		26.4			16.1			14.3			14.0	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)		44			19		30	232		5	108	
Queue Length 95th (ft)		100			69		66	370		16	174	
Internal Link Dist (ft)		980			496			652			1281	
Turn Bay Length (ft)							100			100		
Base Capacity (vph)		669			642		503	1979		366	1809	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.24			0.24		0.47	0.69		0.12	0.42	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 66.6			
Natural Cycle: 105			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay (s/veh): 15.0		Intersection LOS: B	
Intersection Capacity Utilization 71.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Millersport Highway & New Road



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	172	91	15	116	35	41	121	16	22	58	1
Future Volume (vph)	4	172	91	15	116	35	41	121	16	22	58	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.954			0.972			0.988			0.998	
Flt Protected		0.999			0.995			0.989			0.987	
Satd. Flow (prot)	0	1799	0	0	1813	0	0	1844	0	0	1847	0
Flt Permitted		0.999			0.995			0.989			0.987	
Satd. Flow (perm)	0	1799	0	0	1813	0	0	1844	0	0	1847	0
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		779			931			1347			1060	
Travel Time (s)		15.2			18.1			23.0			18.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	7%	1%	0%	0%	1%	0%	5%	0%	0%
Adj. Flow (vph)	4	183	97	16	123	37	44	129	17	23	62	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	284	0	0	176	0	0	190	0	0	86	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.1%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	172	91	15	116	35	41	121	16	22	58	1
Future Vol, veh/h	4	172	91	15	116	35	41	121	16	22	58	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	1	0	7	1	0	0	1	0	5	0	0
Mvmt Flow	4	183	97	16	123	37	44	129	17	23	62	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.4	9.7	10.1	9.3
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	1%	9%	27%
Vol Thru, %	68%	64%	70%	72%
Vol Right, %	9%	34%	21%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	178	267	166	81
LT Vol	41	4	15	22
Through Vol	121	172	116	58
RT Vol	16	91	35	1
Lane Flow Rate	189	284	177	86
Geometry Grp	1	1	1	1
Degree of Util (X)	0.268	0.365	0.243	0.129
Departure Headway (Hd)	5.089	4.631	4.962	5.382
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	699	770	717	658
Service Time	3.175	2.703	3.044	3.481
HCM Lane V/C Ratio	0.27	0.369	0.247	0.131
HCM Control Delay, s/veh	10.1	10.4	9.7	9.3
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	1.1	1.7	0.9	0.4

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
3: Millersport Highway & Smith Road

2027 Full PM
04/17/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	32	19	110	36	8	30	1490	219	9	825	1
Future Volume (vph)	3	32	19	110	36	8	30	1490	219	9	825	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		25	0		25	100		0	100		0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (ft)	25			25			55			40		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.981				
Flt Protected		0.996			0.964		0.950			0.950		
Satd. Flow (prot)	0	1842	1615	0	1818	1615	1719	3481	0	1805	3505	0
Flt Permitted		0.977			0.756		0.316			0.092		
Satd. Flow (perm)	0	1807	1615	0	1426	1615	572	3481	0	175	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			41		32				
Link Speed (mph)		35			35			55			55	
Link Distance (ft)		938			779			2581			591	
Travel Time (s)		18.3			15.2			32.0			7.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	0%	1%	0%	0%	5%	2%	0%	0%	3%	0%
Adj. Flow (vph)	3	33	20	113	37	8	31	1536	226	9	851	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	20	0	150	8	31	1762	0	9	852	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane								Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	26.0	26.0		26.0	26.0	
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0		50.0	50.0	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	25.4	25.4	25.4	25.4	25.4	25.4	44.0	44.0		44.0	44.0	
Yellow Time (s)	3.2	3.2	3.2	3.2	3.2	3.2	5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4	1.4	1.4	1.4	1.4	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.6	4.6		4.6	4.6	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		13.6	13.6		13.6	13.6	43.6	43.6		43.6	43.6	
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.64	0.64		0.64	0.64	
v/c Ratio		0.09	0.05		0.52	0.02	0.08	0.78		0.08	0.37	
Control Delay (s/veh)		22.2	3.5		31.1	0.1	6.2	12.5		7.7	6.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)		22.2	3.5		31.1	0.1	6.2	12.5		7.7	6.7	
LOS		C	A		C	A	A	B		A	A	
Approach Delay (s/veh)		15.6			29.5			12.4			6.7	
Approach LOS		B			C			B			A	
Queue Length 50th (ft)		12	0		57	0	4	226		1	73	
Queue Length 95th (ft)		34	8		108	0	17	404		8	132	
Internal Link Dist (ft)		858			699			2501			511	
Turn Bay Length (ft)			25			25	100			100		
Base Capacity (vph)		679	633		536	633	375	2298		114	2303	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.05	0.03		0.28	0.01	0.08	0.77		0.08	0.37	

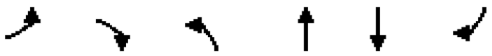
Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 67.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay (s/veh): 11.7 Intersection LOS: B
Intersection Capacity Utilization 77.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Millersport Highway & Smith Road



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	37	39	51	1450	797	41
Future Volume (vph)	37	39	51	1450	797	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			250
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	3539	3505	1615
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	3539	3505	1615
Link Speed (mph)	30			30	30	
Link Distance (ft)	1068			591	732	
Travel Time (s)	15.0			13.4	16.6	
Peak Hour Factor	0.80	0.80	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%
Adj. Flow (vph)	46	49	53	1495	822	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	49	53	1495	822	42
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.1%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Intersection	
Int Delay, s/veh	0.9

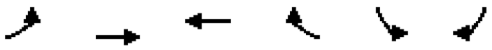
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	39	51	1450	797	41
Future Vol, veh/h	37	39	51	1450	797	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	97	97	97	97
Heavy Vehicles, %	0	0	0	2	3	0
Mvmt Flow	46	49	53	1495	822	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1674	411	864	0	-	0
Stage 1	822	-	-	-	-	-
Stage 2	853	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	88	596	787	-	-	-
Stage 1	397	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	82	596	787	-	-	-
Mov Cap-2 Maneuver	210	-	-	-	-	-
Stage 1	371	-	-	-	-	-
Stage 2	383	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	19.08	0.34	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	787	-	210	596	-	-
HCM Lane V/C Ratio	0.067	-	0.221	0.082	-	-
HCM Control Delay (s/veh)	9.9	-	27	11.6	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.8	0.3	-	-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	49	59	8	5	1
Future Volume (vph)	1	49	59	8	5	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.983		0.977	
Flt Protected		0.999			0.960	
Satd. Flow (prot)	0	1844	1836	0	1782	0
Flt Permitted		0.999			0.960	
Satd. Flow (perm)	0	1844	1836	0	1782	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		745	938		1120	
Travel Time (s)		16.9	21.3		16.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	2%	0%	0%	0%
Adj. Flow (vph)	1	53	64	9	5	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	54	73	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.6%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Intersection	
Int Delay, s/veh	0.5

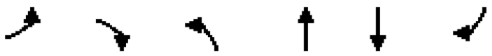
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	49	59	8	5	1
Future Vol, veh/h	1	49	59	8	5	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	3	2	0	0	0
Mvmt Flow	1	53	64	9	5	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	73	0	-	0	124	68
Stage 1	-	-	-	-	68	-
Stage 2	-	-	-	-	55	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1540	-	-	-	876	1000
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	972	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1540	-	-	-	875	1000
Mov Cap-2 Maneuver	-	-	-	-	875	-
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	972	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.15	0	9.06
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	36	-	-	-	894
HCM Lane V/C Ratio	0.001	-	-	-	0.007
HCM Control Delay (s/veh)	7.3	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



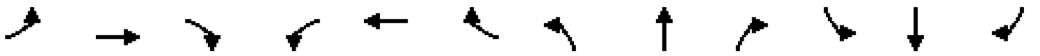
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	31	1718	247	722
Future Volume (vph)	0	0	31	1718	247	722
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	95			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		50			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.888	
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1805	3574	3105	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1805	3574	3105	0
Link Speed (mph)	65			55	55	
Link Distance (ft)	1332			352	2581	
Travel Time (s)	14.0			4.4	32.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	1%	1%	4%
Adj. Flow (vph)	0	0	33	1808	260	760
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	33	1808	1020	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane					Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lanes, Volumes, Timings
7: Millersport Highway & I-990 NB

2027 Full PM
04/17/2024



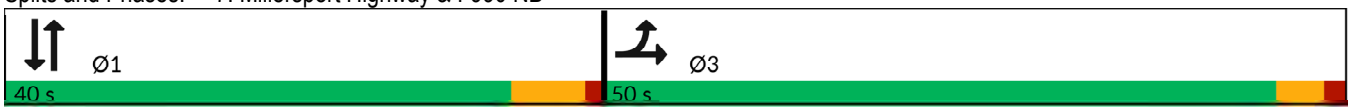
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1365	0	44	0	0	0	0	442	0	0	241	0
Future Volume (vph)	1365	0	44	0	0	0	0	442	0	0	241	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.991										
Flt Protected	0.950	0.955										
Satd. Flow (prot)	1681	1677	0	0	0	0	0	3574	0	0	3574	0
Flt Permitted	0.950	0.955										
Satd. Flow (perm)	1681	1677	0	0	0	0	0	3574	0	0	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36										
Link Speed (mph)		40			30			55			55	
Link Distance (ft)		1256			239			439			352	
Travel Time (s)		21.4			5.4			5.4			4.4	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	1422	0	46	0	0	0	0	460	0	0	251	0
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	739	729	0	0	0	0	0	460	0	0	251	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA						NA			NA	
Protected Phases	3	3						1			1	
Permitted Phases												
Detector Phase	3	3						1			1	
Switch Phase												
Minimum Initial (s)	6.0	6.0						10.0			10.0	
Minimum Split (s)	22.7	22.7						24.0			24.0	
Total Split (s)	50.0	50.0						40.0			40.0	
Total Split (%)	55.6%	55.6%						44.4%			44.4%	
Maximum Green (s)	45.3	45.3						34.0			34.0	
Yellow Time (s)	3.2	3.2						5.0			5.0	
All-Red Time (s)	1.5	1.5						1.0			1.0	
Lost Time Adjust (s)	0.0	0.0						0.0			0.0	
Total Lost Time (s)	4.7	4.7						6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0						4.0			4.0	
Recall Mode	None	None						Min			Min	
Act Effct Green (s)	47.9	47.9						31.4			31.4	
Actuated g/C Ratio	0.53	0.53						0.35			0.35	
v/c Ratio	0.82	0.80						0.36			0.20	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	25.8	23.2						24.3			22.6	
Queue Delay	0.0	0.0						0.0			0.0	
Total Delay (s/veh)	25.8	23.2						24.3			22.6	
LOS	C	C						C			C	
Approach Delay (s/veh)		24.6						24.4			22.7	
Approach LOS		C						C			C	
Queue Length 50th (ft)	351	323						101			51	
Queue Length 95th (ft)	435	405						161			90	
Internal Link Dist (ft)		1176			159			359			272	
Turn Bay Length (ft)												
Base Capacity (vph)	918	932						1399			1399	
Starvation Cap Reductn	0	0						0			0	
Spillback Cap Reductn	0	0						0			0	
Storage Cap Reductn	0	0						0			0	
Reduced v/c Ratio	0.81	0.78						0.33			0.18	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2: and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay (s/veh): 24.3		Intersection LOS: C	
Intersection Capacity Utilization 93.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 7: Millersport Highway & I-990 NB



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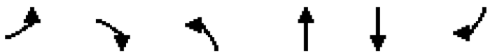


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	10	2	315	138	5
Future Volume (vph)	4	10	2	315	138	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.901				0.996	
Flt Protected	0.987					
Satd. Flow (prot)	1690	0	0	1881	1874	0
Flt Permitted	0.987					
Satd. Flow (perm)	1690	0	0	1881	1874	0
Link Speed (mph)	30			40	40	
Link Distance (ft)	1370			576	823	
Travel Time (s)	31.1			9.8	14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%
Adj. Flow (vph)	4	11	2	342	150	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	0	344	155	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.2%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	10	2	315	138	5
Future Vol, veh/h	4	10	2	315	138	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	1	1	0
Mvmt Flow	4	11	2	342	150	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	499	153	155	0	-	0
Stage 1	153	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	534	899	1437	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	720	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	533	899	1437	-	-	-
Mov Cap-2 Maneuver	533	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	720	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.89	0.05	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	11	-	752	-	-
HCM Lane V/C Ratio	0.002	-	0.02	-	-
HCM Control Delay (s/veh)	7.5	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

AGRICULTURAL DATA STATEMENT

Per § 305-a of the New York State Agriculture and Markets Law, any application for a special use permit, site plan approval, use variance, or subdivision approval requiring municipal review and approval that would occur on property within a New York State Certified Agricultural District containing a farm operation or property with boundaries within 500 feet of a farm operation located in an Agricultural District shall include an Agricultural Data Statement.

A. Name of applicant: Cimato Enterprises, LLC

Mailing address: 9220 Transit Road

East Amherst, NY 14051

B. Description of the proposed project: Proposed Traditional Neighborhood Development on 17.2 acres of teh total 66.8+/- acre project site. Development to include a combination of patio homes, townhomes and two structures with combination commercial/residential use

C. Project site address: 4300 Millersport Highway Town: Amherst

D. Project site tax map number: 16.00-2-20

E: The project is located on property:
☐ within an Agricultural District containing a farm operation, or
☒ with boundaries within 500 feet of a farm operation located in an Agricultural District.

F. Number of acres affected by project: _____

G. Is any portion of the project site currently being farmed?
☐ Yes. If yes, how many acres_____ or square feet_____ ?
☒ No.

H. Name and address of any owner of land containing farm operations within the Agricultural District and is located within 500 feet of the boundary of the property upon which the project is proposed.

3157 Hopkins Road (SBL # 16.00-1-2.12)

Owner - Donald F. Spoth

I. Attach a copy of the current tax map showing the site of the proposed project relative to the location of farm operations identified in Item H above.

~ ~ ~

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ERIK KULLESEID
Commissioner

July 1, 2019

Ms. Lesta Ammons
USACE
1776 Niagara Street
Buffalo, NY 14207

Re: USACE
4300 Millerspoort Highway 67-Lot Residential Subdivision Construction Project
4300 Millerspoort Highway, Amherst, Erie County, NY
19PR01607
2006-00698

Dear Ms. Ammons:

The New York State Historic Preservation Office (SHPO) is in the process of reviewing the above noted project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

Based upon discussions with Dr. Doug Perrelli of the University at Buffalo's Archaeological Survey, it is the SHPO's understanding that the project sponsor intends to avoid impacts to the previously identified PCI/Smith Road-1 Historic Site (USN 02902.000856) located within/adjacent to the proposed project's Area of Potential Effects (APE). The SHPO thus recommends that the attached Short- and Long-term Avoidance/Protection Plan measures be implemented to ensure the protection and preservation of the archaeological site.

Please submit 1) site construction plans with the intended site avoidance language and boundaries clearly mapped; 2) site avoidance boundary area mapped on a modified aerial photo; and 3) a written commitment from the sponsor to follow the attached OPRHP/SHPO Site Avoidance Plan for the Protection of Archaeological Sites. Once the SHPO has received these documents we will rescind our recommendation for further archaeological investigations and render our effect finding.

If you have any questions, I can be reached at 518-268-2218 or via e-mail at Josalyn.Ferguson@parks.ny.gov. Please refer to the project number (PR) noted above if further correspondence regarding this project is required.

Sincerely,

Josalyn Ferguson, Ph.D.
Scientist Archaeology

via e-mail only

Encl.
c.c. Doug Perrelli, Archaeological Survey
c.c. Scott Livingstone, Earth Dimensions

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Office of Parks, Recreation and Historic Preservation (OPRHP)/New York State Historic Preservation Office (SHPO)
Avoidance Plan for the Protection of Archeological Sites

Short Term Site Avoidance/Protection

- The site(s) boundary (including buffer) will be clearly delineated on the final construction plans and identified as "Environmentally Sensitive Area—No Access."
- Temporary fencing shall be installed around the boundaries of the avoidance area prior to any clearing or construction activities within the APE and shall be maintained until all construction has ceased.
- A preconstruction meeting with the construction contractor(s) is to be required to notify those in charge of the requirements to protect and avoid the archaeological site(s).
- Inadvertent construction impacts are to be reported to the SHPO immediately. Activity shall cease in the vicinity of the site, so the damage can be assessed, and a recommendation provided to remediate the situation.
- Existing landscape at the site(s) will be maintained. Any proposed modifications will require consultation with the SHPO.
- In the event that human remains are encountered during construction, all work must stop in the vicinity of the find and be reported to the SHPO.
- After construction is fully completed, protective fences may be removed.

Long Term Site Avoidance/Protection

- State and federal regulations that include restrictions associated with this project will include provisions for site(s) avoidance/protection.
- Unauthorized activities within the site boundaries will require notification to the SHPO at (518) 237-8643.
- Should impacts to the site be proposed in the future, SHPO must be consulted prior to construction and the project submitted to our office for review and comment.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NEW YORK STATE | Department of Environmental Conservation | Office of General Services | Department of State | US Army Corps of Engineers

JOINT APPLICATION FORM

For Permits for activities activities affecting streams, waterways, waterbodies, wetlands, coastal areas, sources of water, and endangered and threatened species.

You must separately apply for and obtain Permits from each involved agency before starting work. Please read all instructions.

1. Applications To:

>NYS Department of Environmental Conservation ☑ Check here to confirm you sent this form to NYSDEC.

Check all permits that apply:
- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☑ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Coastal Erosion Management
- ☐ Water Withdrawal
- ☐ Long Island Well
- ☐ Incidental Take of Endangered / Threatened Species

>US Army Corps of Engineers ☑ Check here to confirm you sent this form to USACE.

Check all permits that apply: ☑ Section 404 Clean Water Act ☐ Section 10 Rivers and Harbors Act

Is the project Federally funded? Yes • No

If yes, name of Federal Agency:

General Permit Type(s), if known: NWP29

Preconstruction Notification: • Yes No

>NYS Office of General Services ☐ Check here to confirm you sent this form to NYSOGS.

Check all permits that apply:
- ☐ State Owned Lands Under Water
- ☐ Utility Easement (pipelines, conduits, cables, etc.)
- ☐ Docks, Moorings or Platforms

>NYS Department of State ☐ Check here to confirm you sent this form to NYSDOS.

Check if this applies: ☐ Coastal Consistency Concurrence

2. Name of Applicant

Cimato & Sons

Taxpayer ID (if applicant is NOT an individual)

Mailing Address	Post Office / City	State	Zip
9220 Transit Road	East Amherst	NY	14051

Telephone 716-688-3536 Email Cimatoenterprises5647@gmail.com

Applicant Must be (check all that apply): ☑ Owner ☑ Operator ☐ Lessee

3. Name of Property Owner (if different than Applicant)

Mailing Address	Post Office / City	State	Zip

Telephone Email

For Agency Use Only | Agency Application Number:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

JOINT APPLICATION FORM – Continued. Submit this completed page as part of your Application.

4. **Name of Contact / Agent**

Tom Somerville (Earth Dimensions, Inc.)

Mailing Address	Post Office / City	State	Zip
1091 Jamison Road	Elma	NY	14059

Telephone 716-655-1717 Email tsomerville@earthdimensions.com

5. **Project / Facility Name**

4300 Transit Road subdivision & Townhomes

Property Tax Map Section / Block / Lot Number: 16.00-2-20

Project Street Address, if applicable	Post Office / City	State	Zip
4300 Millersport Highway	Amherst	NY	14228

Provide directions and distances to roads, intersections, bridges and bodies of water

The site is located on the northwest side of Millersport Highway on the west side of New Road and north side of Smith Road.

✓ Town	Village	City	County	Stream/Waterbody Name
Amherst			Erie	Tributary to Ransom Creek

Project Location Coordinates: Enter Latitude and Longitude in degrees, minutes, seconds:

Latitude: 43 ° 03 ' 20.56N " Longitude: 78 ° 43 ' 41.91W "

6. **Project Description**: Provide the following information about your project. Continue each response and provide any additional information on other pages. **Attach plans on separate pages.**

a. Purpose of the proposed project:

The project purpose is the construction of a 38 patio homes and 13 townhouses on a 66.89-acre parcel.

b. Description of current site conditions:

The site is currently vacant and is dominated by a mown field with trees.

c. Proposed site changes:

Proposed site changes include the development of a 38 patio homes and 13 townhouses. The project will impact 0.39 acre of federally jurisdictional wetland. A 0.59 acre wetland creation area will be created on-site.

d. Type of structures and fill materials to be installed, and quantity of materials to be used (e.g., square feet of coverage, cubic yards of fill material, structures below ordinary/mean high water, etc.):

The proposed project encompasses an 23 acre development area on a 66.89 acre site.

e. Area of excavation or dredging, volume of material to be removed, location of dredged material placement:

The project does not involve dredging of material.

f. Is tree cutting or clearing proposed? ✓ Yes If Yes, explain below. No

Timing of the proposed cutting or clearing (month/year): unknown

Number of trees to be cut: Acreage of trees to be cleared: 0.5 acre

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

JOINT APPLICATION FORM – Continued. Submit this completed page as part of your Application.

g. Work methods and type of equipment to be used:

Typical work methods will be used to complete the construction of the project. Equipment will include the use of excavators and dozers.

h. Describe the planned sequence of activities:

Following installation of erosion control devices, topsoil will be stripped within the work area and stockpiled. Earthwork and rough grading will occur followed by utility installation, building and parking lot construction and final grading/stabilization.

i. Pollution control methods and other actions proposed to mitigate environmental impacts:

Silt fencing and/or silt sock will be used to control sedimentation into the regulated wetland/waterway.

j. Erosion and silt control methods that will be used to prevent water quality impacts:

Installation of stabilized construction entrances where accessing the site from public roads. Installation of perimeter silt sock/fence, installation of the proposed detention basins to act as a sediment traps, installation of temporary inlet protection at all existing and new inlets within the work area. Disturbed areas will be topsoiled and seeded in a timely manner. An E&SC plan will be prepared in accordance with NYDEC requirements.

k. Alternatives considered to avoid regulated areas. If no feasible alternatives exist, explain how the project will minimize impacts:

The project site contains approximately 34.84 acres of federally jurisdictional wetland. The project has been designed to avoid all but 0.39 acre of wetland. Several alternatives have been explored; the least impacting to wetlands is provided as the current plan.

l. Proposed use: ☑ Private ☐ Public ☐ Commercial

m. Proposed Start Date: Spring 2024 Estimated Completion Date: Fall 2024

n. Has work begun on project? Yes If Yes, explain below. ☑ No

o. Will project occupy Federal, State, or Municipal Land? Yes If Yes, explain below. ☑ No

p. List any previous DEC, USACE, OGS or DOS Permit / Application numbers for activities at this location:

LRB 2006-00698
DEC 9-1422-00452

q. Will this project require additional Federal, State, or Local authorizations, including zoning changes?

☑ Yes If Yes, list below. No

Town of Amherst Site Plan Approval
Erie County Health Department Approval

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

JOINT APPLICATION FORM – Continued. Submit this completed page as part of your Application.

7. **Signatures.**
Applicant and Owner (If different) must sign the application.
Append additional pages of this Signature section if there are multiple Applicants, Owners or Contact/Agents.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief.

Permission to Inspect - I hereby consent to Agency inspection of the project site and adjacent property areas. Agency staff may enter the property without notice between 7:00 am and 7:00 pm, Monday - Friday. Inspection may occur without the owner, applicant or agent present. If the property is posted with "keep out" signs or fenced with an unlocked gate, Agency staff may still enter the property. Agency staff may take measurements, analyze site physical characteristics, take soil and vegetation samples, sketch and photograph the site. I understand that failure to give this consent may result in denial of the permit(s) sought by this application.

False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the NYS Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant | Date: Feb 2, 2024

Applicant Must be (check all that apply): ☑ Owner ☑ Operator ☐ Lessee

Printed Name: Fred Cimato | Title: Owner

Signature of Owner (if different than Applicant) | Date:

Printed Name: | Title:

Signature of Contact / Agent | Date: 2/2/24

Printed Name: Thomas Somerville | Title: Ecologist

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

Agency Application Number:

(Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative:

Printed Name: | Title:

Signature: | Date:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Wetland Mitigation Plan

for

4300 MILLERSPORT HIGHWAY

Town of Amherst

Erie County, New York

for

Cimato & Sons

EARTH DIMENSIONS, INC.
Wetland Delineations • Wetland Mitigation

February 2, 2024

EDI Project Code: **W1F06f**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

WETLAND MITIGATION PLAN

FOR

4300 MILLERSPORT HIGHWAY

Prepared for Submission to:

U.S. ARMY CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207

Prepared By:

EARTH DIMENSIONS, INC.
1091 JAMISON ROAD
ELMA, NEW YORK 14059

Prepared For:

FRED CIMATO
CIMATO & SONS
9220 TRANSIT ROAD
EAST AMHERST, NEW YORK 14051

REPORT DATE: February 2, 2024

EDI PROJECT CODE: W1F06f

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

PROJECT INFORMATION

Project Site Information

Project Name	4300 Millersport Highway
Street Address	4300 Millersport Highway
SBL Number	16.00-2-20
Town	Amherst
County	Erie
State	New York
Latitude/Longitude (NAD83)	43.05621°N, 78.72564°W
Investigation Area	66.89 ± acres
Hydrologic Unit Code	04120104

Mitigation Site Information

Street Address	4300 Millersport Highway
SBL Number	16.00-2-20
Town	Amherst
County	Erie
State	New York
Latitude/Longitude (NAD83)	43.05521°N, 78.72940°W

General Information

Property Owner (Mitigation and Project Site)	Cimato & Sons 9220 Transit Road East Amherst, New York 14051
Waterway	Town of Amherst Ditch 26 C (tributary to Ransom Creek)
Previous NYSDEC & Army Corps of Engineers Actions	2006-00698
Permit(s) Being Requested	Section 404

Responsible Parties

Consultant	Earth Dimensions, Inc. 1091 Jamison Road Elma, New York 14095
Point of Contact	Thomas Somerville (716) 655-1717 tsomerville@earthdimensions.com
Engineer	WM Schutt & Associates

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TABLE OF CONTENTS

TABLE OF CONTENTS iv

EXECUTIVE SUMMARY 1

SECTION I: OVERALL MITIGATION GOALS & OBJECTIVES 2

SECTION II: BASELINE INFORMATION 3

2.1 IMPACT SITE CONDITIONS 3

2.1.1 RESOURCE TO BE IMPACTED 3

2.1.2 FUNCTIONAL ASSESSMENT 3

2.1.3 UPLAND BUFFERS AND ADJACENT LAND USES 3

2.2 MITIGATION SITE CONDITIONS 3

2.2.1 EXISTING RESOURCES 3

2.2.2 ADJACENT LAND USES 4

2.2.3 PRESENCE OF INVASIVE PLANT SPECIES 4

2.2.4 CONTRIBUTIONS OF MITIGATION TO WATERSHED AND/OR REGIONAL FUNCTION 4

SECTION III: MITIGATION SITE SELECTION & JUSTIFICATION 5

3.1 SITE SELECTION 5

3.2 SITE RESTRICTIONS 5

SECTION IV: MITIGATION CONSTRUCTION PLAN 6

4.1 TIMING OF WORK AUTHORIZED BY THE PERMIT(S) 6

4.1.1 REQUIRED DOCUMENTATION 6

4.1.2 SWPPP 6

4.2. SITE PREPARATION 6

4.2.1 SURVEY CONTROL 6

4.2.2 INVASIVE PLANT SPECIES CONTROL PLAN 7

4.2.3 SOILS 7

4.2.4 HYDROLOGY 9

4.2.5 PLANTING/SEEDING 9

SECTION V: PLANTING AND ENHANCEMENT PLAN 11

5.1 SPECIFICATIONS AND CHARACTERISTICS 11

5.2 PLANTING PLAN 11

5.2.1 WETLAND CREATION AREA 11

5.2.2 UPLAND AREAS DISTURBED BY CONSTRUCTION, UPLAND BERMS AND/OR BUFFERS 14

5.3 HABITAT ENHANCEMENT EFFORTS 16

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

5.3.1 NATURAL HABITAT ENHANCEMENTS 16
5.3.2 BUFFERS 16
5.3.3 EXPECTED VOLUNTEER SPECIES 16
SECTION VI: PERFORMANCE STANDARDS 17
6.1 CREATION ACREAGE 17
6.2 VEGETATION STRUCTURE 17
6.3 HYDROLOGY/ WATER LEVELS 17
6.4 HABITAT ATTRIBUTES 17
SECTION VII: CONSTRUCTION MONITORING & POST CONSTRUCTION MONITORING REQUIREMENTS 18
7.1 BASELINE POST CONSTRUCTION REPORT 18
7.2 ANNUAL MONITORING REQUIREMENTS 18
SECTION VIII: LONG-TERM SITE MANAGEMENT 20
8.1 FUTURE LAND USE PLANS 20
8.2 REAL ESTATE RESTRICTIONS 20
8.3 MITIGATION SUSTAINABILITY 20
8.4 MAINTENANCE PLAN 20
8.5 FINANCIAL ASSURANCES 20
8.6 LEGAL PROTECTION INSTRUMENT 21
8.7 ADAPTIVE MANAGEMENT PLAN 21

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

LIST OF APPENDICES

Appendix A: Figures

Figure 1: Aerial Photograph

Figure 2: USGS 7.5 Minute Topographical Map

Figure 3: National Wetlands Inventory Map

Figure 4: NRCS Soil Survey Map

Figure 5: NYSDEC Environmental Resource Mapper

Figure 6: Approximate Watershed Map

Appendix B: Overall Site Plan & Wetland Impact Map

Appendix C: Functional Assessment Data Forms

Appendix D: Mitigation plans

Drawing 1: Topography Map

Drawing 2: Mitigation overview

Drawing 3: Mitigation Details

Drawing 4: Cross-section

Drawing 5: Planting Plan

Drawing 6: Annual Monitoring Benchmark Map

Appendix E: Maintenance and Inspection Schedule

Appendix F: Agency Correspondence

Appendix G: Legal Protection Instrument

Appendix H: Mitigation Site Photographs

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

EXECUTIVE SUMMARY

Cimato & Sons has proposed the development of a portion of a 66.89 acre site located northwest of the intersection of Millersport Highway and New Road in the Town of Amherst, County of Erie, and State of New York. The applicant is proposing the impact of 0.39± acre of Federal wetland associated with the construction of the proposed project at 4300 Millersport Highway.

To compensate for the total loss of 0.39± acres of wetland, Cimato & Sons is proposing the creation of 0.59± acres of a combination of scrub/shrub swamp and shallow emergent marsh communities by constructing wetland areas that will be seeded and planted with a variety of species in order to compensate for the loss of 0.39± acre of wetland. Please refer to Appendix B for the Site Plan & Wetland Impact Map. Appendix F includes agency correspondences associated with the 4300 Millersport Highway project.

The proposed 0.39± acre of wetland impact at the 4300 Millersport Highway development site consists primarily of scrub/shrub swamp and emergent wetland (PSS/PEM). The areas surrounding the proposed impacted wetlands have been disturbed from past agricultural activities and have minimal functions and values. The principal functions of these wetlands include nutrient removal, production export, and wildlife habitat. The proposed wetland mitigation is intended to compensate for these impacts through the creation of 0.59± acres of scrub/shrub swamp and shallow emergent marsh that will be planted with shrubs and seeded with an approved wetland seed mix. The created wetland will consist of a shrub/scrub swamp and shallow emergent marsh habitat intended to enhance the functions lost at the impact site. The impact site and the mitigation site are located within the Tonawanda Creek watershed.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SECTION I: OVERALL MITIGATION GOALS & OBJECTIVES

The goal of this mitigation project is to create a sustainable scrub/shrub swamp and shallow emergent marsh complex that will replace the wetlands to be impacted at the proposed 4300 Millersport Highway project site.

The objective of the wetland mitigation plan is to replace the wetland impact area at a ratio of 1.5:1, creating a minimum of 0.59± acres of scrub/shrub and shallow emergent marsh. The ratio was chosen based on the previously disturbed habitat (land manipulated from past farming practices) and existence of invasive species within the wetlands to be impacted.

The project design will rely on using the appropriate seed mix and supplemental shrub plantings. Please refer to Section 4 for specific seeding and planting details. The Mitigation Plan (Appendix D) includes: a map showing the existing topography within the mitigation area, an overview of the proposed mitigation area location and details of the proposed wetland creation area, the proposed planting plan and the proposed monitoring locations.

It is anticipated that the creation area will attract a wide variety of wildlife species and increase the diversity of wildlife utilizing the area. The proposed mitigation design will allow for contrasting diversified habitats for mammals, amphibians, reptiles, and bird species. The newly created wetland will serve as refuge for many of the smaller and more ubiquitous members of the desired wetland community, namely invertebrates.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SECTION II: BASELINE INFORMATION

Appendix A contains Figures that depict the proposed project impact and wetland mitigation site. The proposed impact site is located to the northwest of the intersection of Millersport Highway and New Road in the Town of Amherst, County of Erie, and State of New York. The proposed wetland mitigation area is located within the same Property as the proposed wetland impacts.

2.1 IMPACT SITE CONDITIONS

2.1.1 RESOURCE TO BE IMPACTED

The project includes the construction of a residential development (38 patio home units and 13 townhouses), two commercial buildings, roadways, stormwater facilities and associated infrastructure. The project will impact 0.39 ± acre of federally jurisdictional wetland consisting of scrub/shrub and emergent marsh communities.

2.1.2 FUNCTIONAL ASSESSMENT

Appendix C includes the Functions and Values Assessment forms prepared by EDI. The primary function and values provided by the wetland areas proposed for impact include floodflow alteration, nutrient removal, production export (nutrient), and wildlife habitat.

2.1.3 UPLAND BUFFERS AND ADJACENT LAND USES

The upland buffer areas adjacent to the proposed impact sites are a combination of successional hardwood forest, successional shrubland and successional old field communities. The majority of the site is surrounded by undeveloped land although sparse, residential and commercial uses are adjacent.

2.2 MITIGATION SITE CONDITIONS

2.2.1 EXISTING RESOURCES

The mitigation site consists of a successional old field community. The published Soil Survey of Erie County identified Odessa silt loam and Cosad loamy fine sand as dominating the mitigation site.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

2.2.2 ADJACENT LAND USES

Land uses adjacent to the project site are the same as described in Section 2.1.3 for the development site. Upon project completion, the mitigation site will be surrounded on three sides by existing regulated wetland and bounded to the south by residential development.

2.2.3 PRESENCE OF INVASIVE PLANT SPECIES

The mitigation site contains existing populations of reed canary grass (*Phalaris arundinacea)* and creeping jennie (*Lysimachia nummularia)* along with scattered occurrences of purple loosestrife (*Lythrum salicaria*) and Tartarian honeysuckle (*Lonicera tatarica)*. Please refer to Section 4.2.2 for specific recommendation regarding invasive species.

2.2.4 CONTRIBUTIONS OF MITIGATION TO WATERSHED AND/OR REGIONAL FUNCTION

Functions and values to be gained by the watershed include enhanced floodflow alteration, nutrient removal, production export and wildlife habitat. The wetland mitigation creation area will have the ability to hold excess storm water, and in turn, remove nutrients and sediment by settling as well as provide quality wildlife habitat.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SECTION III: MITIGATION SITE SELECTION & JUSTIFICATION

3.1 SITE SELECTION

The mitigation site is within the parcel proposed for development and was chosen based on the proximity to the impact site, site availability, location within the same watershed, vegetative cover and potential for successful wetland creation due to soil conditions and available hydrology. The mitigation property is currently owned by Cimato & Sons, and therefore available for carrying out the proposed mitigation.

3.2 SITE RESTRICTIONS

The site has been previously used as an agricultural field and contains several narrow ditches and old farm furrows throughout the site. The adjacent uses include residential, commercial and undeveloped land. Several invasive species are present including reed canary grass (*Phalaris arundinacea),* Tartarian honeysuckle (*Lonicera tatarica),* creeping jennie (*Lysimachia nummularia)* and purple loosestrife (*Lythrum salicaria*).

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SECTION IV: MITIGATION CONSTRUCTION PLAN

EDI recommends that a Pre-Construction meeting take place between the project design team, the earthwork contractor(s) and the project sponsor in order to ensure design specifications are understood.

4.1 TIMING OF WORK AUTHORIZED BY THE PERMIT(S)

4.1.1 REQUIRED DOCUMENTATION

Prior to conducting any work authorized in the USACE and or NYSDEC Permits, the permittee must comply with any pre-construction Permit requirements including but not limited to any required financial assurances, deed restrictions and pre-notification requirements. In addition, the wetland mitigation must be constructed prior to or concurrently with the construction of the proposed project, unless otherwise specified in the permits.

4.1.2 SWPPP

A Stormwater Pollution Prevention Control Plan will be prepared in accordance with NYS blue book standards by the project engineer.

Silt fencing or other approved siltation control measures should be installed where necessary per NYS bluebook standards to prevent siltation. Silt fence should be installed to prevent inadvertent disturbance to adjacent wetlands and/or water ways. Straw bales may be required within channels to act as water breaks and siltation barriers while vegetation reestablishes. When required, any Permits and or SWPPP approvals must be posted on-site.

4.2. SITE PREPARATION

4.2.1 SURVEY CONTROL

A licensed land surveyor should locate the footprint of the proposed creation area based on the Mitigation Plans (Appendix D). The perimeter of the work area is to be outlined; using wooden stakes marked with cut and fill information. All contractors should be fully

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

aware of work limits, as well as adjacent wetlands to be avoided. This also includes areas off limits for storage of equipment. Survey control measures must be implemented during construction of the mitigation area to ensure the wetland is built according to the proposed specifications.

4.2.2 INVASIVE PLANT SPECIES CONTROL PLAN

Prior to mitigation construction, a qualified Ecologist should walk the mitigation area(s) to document any significant populations of invasive plant species. If any significant populations of invasive plant species are identified within or adjacent to the mitigation area, the permitee will implement control measures prior to constructing the mitigation area. The control measures may include herbicide application, excavation, mowing, pulling, burning, etc. It is critical that soils encumbered with invasive species propagules not be re-applied to mitigation area.

To prevent the unintentional introduction or spread of invasive species, the applicant must ensure that all construction equipment be cleaned of mud, seeds, vegetation and other debris before entering either the project or mitigation site. The construction contractor should guarantee that all equipment and vehicles will be cleaned prior to entering mitigation area. Loose plant and soil material shall be removed from clothing and boots of any persons entering the mitigation area.

The mitigation area was designed to limit the spread of invasive species. The monitoring protocol calls for close monitoring of invasive species. If invasive species are found, at any time, removal methods will include, but are not limited to manual removal. Contingent on the extent of potential invasions, other methods may be employed.

4.2.3 SOILS

It is recommended that the wetland be constructed during a dryer time of the year in order to aid in the ease of construction and to minimize the disturbance of the surrounding areas and the destruction of the granular soil structure of the topsoil. Soil compaction and destruction of the subsoil /substratum soil structure will inhibit proper drainage and

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

desired plant growth as well as encourage invasive plant establishment. The project will be constructed using on-site soils. The excavated subsoil from the construction of the wetland mitigation area will be utilized on the low level berm and within the development footprint. Excess soils will not be placed in any regulated wetlands or waterways.

The following Earthwork protocols are being recommended:
(1) Strip the topsoil from the creation area and stockpile in a separate staging area for re-use as a seed bed in the appropriate zone and as fill for future construction. (No stockpiling of topsoil or subsoil will occur within any regulated wetlands or waterways).

(2) Excavate as per specifications shown on the Mitigation Plans included in Appendix D. It is recommended that low impact and or tracked equipment is utilized in the construction of the mitigation area. Rough finish grading should create rough surfaces on all side slopes and a ragged shoreline. It is important that survey control be established in order to assure that the final planned elevations are obtained. The wetland mitigation area should be over-excavated by six (6) inches to allow for the reapplication of topsoil.

(3) Place a minimum of six inches of topsoil within the wetland creation area and to bring the creation area to the proposed elevations. This soil should come from the topsoil excavated from this area unless the soil contains invasive species propagules, in which case the topsoil should be sourced from an area that does not contain invasive plant parts or seeds.

(4) It is critical if heavy equipment and or untracked equipment is utilized within the mitigation areas that the soils are decompacted prior to planting. The soils should be fluffed-ripped using a disc, chisel plow or other means prior to planting. Disc the surface to an approximate depth of six (6) inches after topsoil has been replaced within ALL creation areas. While performing decompacting efforts, avoid mixing subsoil and topsoil to the maximum extent possible. After disking, a hand operated cone penetrometer or

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

other method should be used to confirm acceptable compaction levels and planting can commence.

4.2.4 HYDROLOGY

The success of mitigation relies primarily on attaining wetland hydrology. The creation areas are underlain by Cosad loamy fine sand, Lakemont silt loam and Odessa silt loam. The parent material consists of somewhat poorly drained soils formed in clayey lacustrine deposits. These soils are in moderately low areas on lake plains and somewhat poorly drained soils formed in sandy deposits that overlie clayey lacustrine sediments. Depth to the top of a seasonal high water table ranges from 6 to 18 inches.

As shown on the wetland cross-sectional drawing included as Appendix D-4, EDI is proposing one hydrologic zone within the mitigation cell to correspond with the proposed vegetation. The creation area is proposed to have average seasonal depths of water between two (2) and six (6) inches. The side slopes to the mitigation basins are proposed at a 4:1 slope. It is anticipated that the creation areas will have periods of fluctuation and will likely have decreased water levels and/or draw down during dry summer months or increased amounts in certain cases of high precipitation or runoff.

4.2.5 PLANTING/SEEDING

Immediately following mitigation construction, all areas including wetland creation areas, berm and disturbed upland areas should be seeded with the respective seed mixtures and rates specified in Section 5. The disturbed upland areas, low level berm and side slopes to the creation areas should be seeded and mulched with clean straw to reduce soil erosion and to keep the soil moist for germination

The following Seeding/Planting protocols are being recommended:

(1) It is recommended that an appropriate cover crop be added to seeded areas to promote the proper moisture and shade levels for optimal plant growth. Annual rye germinates rather quickly and provides nursery crop for wetland seed as well as adding to the organic layer when dies back. In addition, straw mulch is recommended to further optimize

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

germination and growth. Hay is not to be used as mulch as it may contain many seeds of undesirable invasive species that may spread throughout the mitigation area.

(2) It is recommended that seeding be completed prior to June 15th or after September 15th. Seeding during drier times may require some type of irrigation to promote germination. It is also recommended that hydro-seeding techniques be avoided due to the light requirements required for the germination of many wetland species. Hydro-seeding fibers can block the solar rays and deter the wetland seed mixture from proper germination and ultimately affect the success of the mitigation.

(3) Upon completion of seeding the mitigation areas, the shrub stake plantings are to be installed as per specifications outlined in Section 5.2.1.

(4) Branches and logs will be placed opportunistically throughout the wetland creation area. The additional woody material will not only increase the habitat diversity within the area, but also deter potential anthropogenic impacts (e.g., all-terrain vehicle damage).

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SECTION V: PLANTING AND ENHANCEMENT PLAN

5.1 SPECIFICATIONS AND CHARACTERISTICS

The mitigation areas are proposed as scrub/shrub swamp and shallow emergent marsh communities. The purpose is to create a diverse habitat, maximizing the variety of species to inhabit this area. The project design relies on natural colonization and growth of existing propagules as well as the appropriate seed mix and supplemental shrub plantings.

It is anticipated that the water levels in the scrub/shrub swamp and emergent marsh areas will fluctuate between 2 and 6 inches during the wetter portions of the growing season. The proposed bottom elevation of the two creation areas are set at an elevation of 577.5'. The areas are anticipated to remain saturated during the early summer months. Appendix A, Figure 6 includes a copy of the estimated contributing watershed map. The map outlines an area approximately 4± acres in size contributing to the wetland mitigation area.

5.2 PLANTING PLAN

As outlined below, the mitigation area, berm and surrounding disturbed uplands are proposed to contain wetland and upland seed application (including an annual cover crop to all seeded areas). In addition, shrub plantings will be planted in the wetland creation area.

5.2.1 WETLAND CREATION AREA

WETLAND SHRUB PLANTING

One hundred and eighteen (118) shrub plantings are proposed for the mitigation area. The shrubs proposed for planting within the mitigation areas were selected by considering soil conditions, climate, hydrology, inundation tolerance, shade tolerance, wildlife benefit and other factors in determining suitable species for planting. The following species and amounts were selected:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Common Name	Latin Name	Indicator Status	Number of Plantings
Silky Dogwood	*Cornus amomum*	FACW	30
Pussy Willow	*Salix discolor*	FACW	30
Silky Willow	*Salix sericea*	OBL	29
White Meadowsweet	*Spiraea alba*	FACW	29

The establishment of a shrub cover has two purposes: to help prevent erosion along the side slopes and to control the establishment of invasive vegetative species. *Please note that the planting scheme utilized a design layout to be on 8-12 foot centers and will densely ring the outer edges of the mitigation basin. The planting scheme is random to mimic what occurs naturally.

WETLAND SEEDING

Wetland seeding with a cover crop is scheduled for this area followed immediately by straw mulch to retain moisture. It is expected that ground water and precipitation will allow for proper hydrology within the basin. Vegetation is expected to come from species present in adjacent wetlands as well as the seed mixes. The seed mix can take up to a year to germinate as wetland seeds need to cold stratify before emerging. The applicant is proposing the following seed mixes for the mitigation basins:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

COVER CROP* *Annual Rye as a cover crop is recommended at 10 lbs. per acre*			
Common Name	**Latin Name**	**Indicator Status**	**Percent by Number of seeds (not weight)**
Annual Rye Grass	*Lolium multiflorum*	NI	100%
NORTHEAST WETLAND DIVERSITY MIX *Recommended rate is 4 lbs. per acre; project requires 2.4 lbs.*			
Common Name	**Latin Name**	**Indicator Status**	**Percent by Number of seeds (not weight)**
Green Bulrush	*Scirpus atrovirens*	OBL	28.82%
Soft Rush	*Juncus effusus*	FACW	13.05%
Monkey Flower	*Mimulus ringens*	OBL	12.01%
Fox Sedge	*Carex vulpinoidea*	OBL	8.35%
Ditch Stone Crop	*Penthorum sedoides*	OBL	7.83%
Reed Meadowgrass	*Glyceria grandis*	OBL	6.68%
Wool Grass	*Scirpus cyperinus*	FACW	5.22%
Blue Vervain	*Verbena hastata*	FACW	4.18%
Boneset	*Eupatorium perfoliatum*	FACW	2.09%
Rice Cut Grass	*Leersia oryzoides*	OBL	1.57%
Common Sneezeweed	*Helenium autumnale*	FACW	1.48%
Canada Mannagrass	*Glyceria canadensis*	OBL	1.36%
Joe Pye Weed	*Eupatorium maculatum*	FACW	0.89%
New England Aster	*Aster novae-angliae*	FACW	0.73%
Water Plantain	*Alisma plantago-aquatica*	OBL	0.52%
Grassleaf Goldenrod	*Euthamia graminifolia*	FAC	0.47%
Wrinkled Goldenrod	*Solidago rugosa*	FAC	0.47%
Straw Colored Flatsedge	*Cyperus strigosus*	FACW	0.47%
Purple Stemmed Aster	*Aster puniceus*	OBL	0.42%
Buttonbush	*Cephalanthus occidentalis*	OBL	0.38%
Soft Stem Bulrush	*Scirpus tabernaemontanii*	OBL	0.36%
Flat-Top White Aster	*Aster umbellatus*	FACW	0.35%
Bearded Sedge	*Carex comosa*	OBL	0.31%

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Fringed Sedge	*Carex crinita*	OBL	0.26%
Giant Goldenrod	*Solidago gigantea*	OBL	0.24%
Deertongue	*Panicum clandestinum*	FAC	0.24%
Nodding Beggar-Ticks	*Bidens cernua*	OBL	0.22%
Water Parsnip	*Sium suave*	OBL	0.21%
Small Fruited Bulrush	*Scirpus microcarpus*	OBL	0.18%
Water Hemlock	*Cicuta maculata*	OBL	0.16%
Wild Rye	*Elymus canadensis*	FACU	0.10%
Devil's Beggar-Ticks	*Bidens frondosa*	FACW	0.08%
Purple-Stem Angelica	*Angelica atropurpurea*	OBL	0.06%
Water Dock	*Rumex verticillatus*	OBL	0.05%
Shallow Sedge	*Carex lurida*	OBL	0.05%
Pennsylvania Smartweed	*Polygonum pensylvanicum*	FAC	0.04%
Swamp Milkweed	*Asclepias incarnata*	OBL	0.04%
Riverbank Wild Rye	*Elymus riparius*	FACW	0.03%
Hop Sedge	*Carex lupulina*	OBL	0.02%
Blue Flag	*Iris versicolor*	OBL	0.01%

5.2.2 UPLAND AREAS DISTURBED BY CONSTRUCTION, UPLAND BERMS AND/OR BUFFERS

UPLAND SEEDING

The upland areas disturbed by the construction of the wetland creation areas will need to be seeded and mulched immediately after the earthwork has been completed in order to stabilize these areas and minimize the risk of soil erosion and spread of invasive species. The Applicant is proposing the following seed mixes for the berm and all disturbed upland areas:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

COVER CROP* *Annual Rye as a cover crop is recommended at 10 lbs. per acre*			
Common Name	**Latin Name**	**Indicator Status**	**Percent by Number of seeds (not weight)**
Annual Rye Grass	*Lolium multiflorum*	NI	100%
NORTHEAST UPLAND NATIVE/NATURALIZED WILDFLOWER MIX Recommended rate is 23 lbs. per acre; project requires 10 lbs.			
Common Name	**Latin Name**	**Indicator Status**	**Percent by Number of seeds (not weight)**
Sheep Fescue	*Festuca ovina*	UPL	28.1%
Switchgrass	*Panicum virgatum*	FAC	26.0%
Foxtail Millet	*Setaria italica*	FACU	15.3%
Sweet Vernal Grass	*Anthoxanthum odoratum*	FAC	12.8%
Annual Ryegrass	*Lolium multiflorum*	FAC	11.1%
Wild Rye	*Elymus canadensis*	FACU	6.7%
Common Yarrow	*Achillea millefolium*	FACU	47.5%
Black Eyed Susan	*Rudbeckia hirta*	FACU	9.1%
Ox-Eye Daisy	*Chrysanthemum leucanthemum*	FACU	7.5%
Blue Vervain	*Verbena hastata*	FACW	7.4%
Chickory	*Cichorium intybus*	FACU	7.3%
Bird's Foot Trefoil	*Lotus corniculatus*	FACU	6.8%
Dame's Rocket	*Hesperis matronalis*	FACU	5.0%
Queen Anne's Lace	*Daucus carota*	UPL	2.2%
Canada Goldenrod	*Solidago canadensis*	FACU	2.0%
Grass Leaf Goldenrod	*Euthamia graminifolia*	FAC	2.0%
Wild Bergamot	*Monarda fistulosa*	FACU	1.5%
New England Aster	*Aster novae-angliae*	FACW	1.3%
Common Milkweed	*Asclepias syriaca*	FACU	0.4%

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

5.3 HABITAT ENHANCEMENT EFFORTS

5.3.1 NATURAL HABITAT ENHANCEMENTS

Natural wetlands often contain branches and logs. Placing branches and logs in the created wetlands will greatly increase the number of wildlife species that use the new environment. Salamanders will attach their eggs to tree branches that have fallen into the water or lay their eggs beneath a log or under leaf litter in an ephemeral wetland during the fall when it is dry. The autumn rains help hatch the eggs, giving them a head start over other breeding amphibians. Emerging salamanders find protective cover in the logs near wetlands as they wait for suitable conditions to migrate from the water to the forest. Woody vegetation planted in and along the created wetland will provide sufficient habitat, cover and food source.

5.3.2 BUFFERS

The mitigation area will be buffered from the adjacent development by regulated wetland.

5.3.3 EXPECTED VOLUNTEER SPECIES

It is expected that existing native volunteer species will also establish in the proposed mitigation area. Most of these will come from adjacent seed sources. The species in the vicinity of the mitigation area which are anticipated to establish include green ash (*Fraxinus pennsylvanica),* white meadowsweet (*Spiraea alba),* Virginia wildrye (*Elymus virginiana),* silky dogwood (*Cornus amomum),* broom sedge (*Carex scoparia)* and bladder sedge (*Carex intumescens).*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SECTION VI: PERFORMANCE STANDARDS

Performance goals for scrub/shrub swamp and shallow emergent marsh:

6.1 CREATION ACREAGE

The project will include at a minimum, the creation of 0.59 acre of combination scrub/shrub swamp and shallow emergent marsh to compensate for the loss of 0.39 acres of federally regulated wetlands.

6.2 VEGETATION STRUCTURE

Establish and maintain 85% coverage of beneficial FAC, FACW, and OBL species; total coverage shall meet or exceed 80%, with no more than 50% coverage of one species. Less than 5% of the wetland vegetative composition will include invasive species (i.e., *Lythrum salicaria* and *Phragmites australis*).

6.3 HYDROLOGY/ WATER LEVELS

Establish and maintain seasonal inundation/saturation of between 2 and 6 inches of water, for at least 12.5% of the growing season for 80% of the monitoring years.

6.4 HABITAT ATTRIBUTES

The scrub/shrub swamp and shallow emergent marsh wetland creation areas will provide adequate protection and habitat for an array of nesting birds, amphibians and reptiles.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SECTION VII: CONSTRUCTION MONITORING & POST CONSTRUCTION MONITORING REQUIREMENTS

7.1 BASELINE POST CONSTRUCTION REPORT

A Baseline Post-Construction report must be submitted to the U.S. Army Corps of Engineers by December 31 of the year of construction completion (including all site grading, seeding and/or planting activities).

This baseline report must include the following:

1. An as-built topographic survey of the mitigation area including all as-built elevations completed by a licensed land surveyor at 0.5' (1/2') contour intervals.
2. Photographs from fixed locations including a photo-location map.
3. A list of plants introduced through seeding and/or planting including approximate planting and/ or seeding dates.
4. Water depth and date of measurement from representative locations within the mitigation area. The sample points will be fixed locations and shall be plotted on a map.
5. A detailed description of all time-of-construction field design modifications to the original design plans.

7.2 ANNUAL MONITORING REQUIREMENTS

The permittee is required to submit annual monitoring reports to the USACE for the first five (5) years following completion of construction and initial planting efforts. Please see Appendix E for the proposed Maintenance and Inspection Schedule. The report must include a summary of the data collected between June and October for that monitoring year.

These reports must include the following:

1. Comparison of site conditions to an as-built survey.
2. Wetland Delineation including a map of the wetland boundary.
3. Photographs (minimum of 5) from fixed locations including a photo-location map.
4. A plants species list including wetland indicator status, strata, dominant plants and aerial coverage.
5. A list of plants introduced through seeding and/or planting.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

6. Water depth and date of measurement from representative locations within the mitigation area during the growing season. The sample points will be fixed locations and shall be plotted on a map.

7. Fish and wildlife observations at the mitigation site.

8. A summary statement regarding the perceived success of the wetland creation project. The report will evaluate the goals/performance standards as set forth in the permit or mitigation plan as well as current wetland functions. These reports must also address any potential problem areas and include suggestions and a timetable for correction if it is anticipated that projected goals may not be met.

9. Date(s) of field inspection(s).

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SECTION VIII: LONG-TERM SITE MANAGEMENT

8.1 FUTURE LAND USE PLANS

There are no future planned uses for the mitigation site. It is anticipated that the mitigation site will be utilized for aesthetics, recreation and educational purposes by nearby residents. It is EDI's opinion that these future land use plans are compatible with the mitigation project.

8.2 REAL ESTATE RESTRICTIONS

There are no known existing deed restrictions which would prevent or restrict the development of the mitigation area. The Applicant does have restrictions related to any utility right-of-ways but it is assumed that all mitigation activities are planned outside of these areas.

8.3 MITIGATION SUSTAINABILITY

The project has been designed to be sustainable and self-maintaining. Once the wetland hydrology and hydrophytic vegetation has been established, it is anticipated that the wetlands will continue to function without human intervention.

8.4 MAINTENANCE PLAN

The mitigation project will be managed by Cimato & Sons or a Homeowners Association (HOA) after performance standards have been achieved to ensure the long-term sustainability of the resource.

8.5 FINANCIAL ASSURANCES

The Applicant proposes to obtain a performance bond in the amount of $46,500 based on the following cost break down:

Line item	Cost (Actual)	Cost (Estimated)	Performance Bond Amt.
Land Acquisition	NA		$0
Planning/Engineering	NA		$0
Legal Fees		$1500	$1500

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Construction (includes earthwork & seed/plant materials and labor)		$30,000	$30,000
Monitoring & Maintenance (5 years)		$15,000	$15,000
TOTAL BOND AMT.			**$46,500**

8.6 LEGAL PROTECTION INSTRUMENT

After the performance standards have been achieved, the mitigation site will be managed by Cimato & Sons or its successive owner. Ensured long term sustainability will be achieved through a deed restrictive covenant. Appendix G includes a sample of the proposed Legal Protection Instrument.

8.7 ADAPTIVE MANAGEMENT PLAN

The Applicant will be responsible for first successfully meeting the short-term requirements of the permit, including any necessary adaptive management measures. If invasive species control measures are required, the Applicant will develop a plan to control the species that establish and present a plan to USACE for approval. Minor occurrences of invasive species will be manually removed during scheduled monitoring visits. Should hydrology not properly establish, the Applicant will develop a plan to attain the planned hydrology.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4300 MILLERSPORT HIGHWAY

Appendix A - Figures

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Figure 1: Aerial Photograph

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

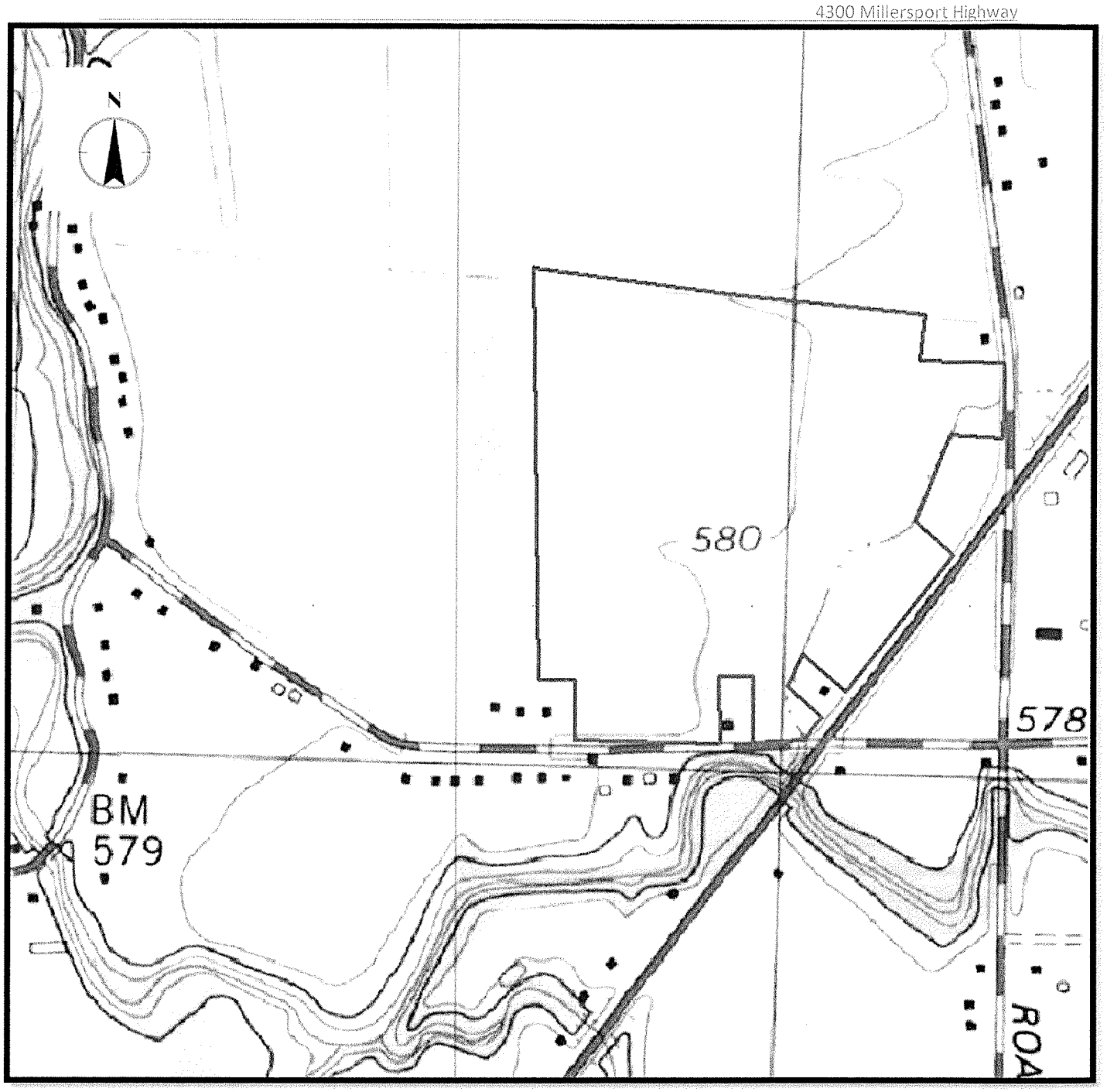


Figure 2: USGS 7.5 Minute Topographical Map

Tonawanda East Quadrangle / 2002 DeLorme

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Figure 3: National Wetlands Inventory Map

http://www.fws.gov/wetlands/data/mapper.HTML

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

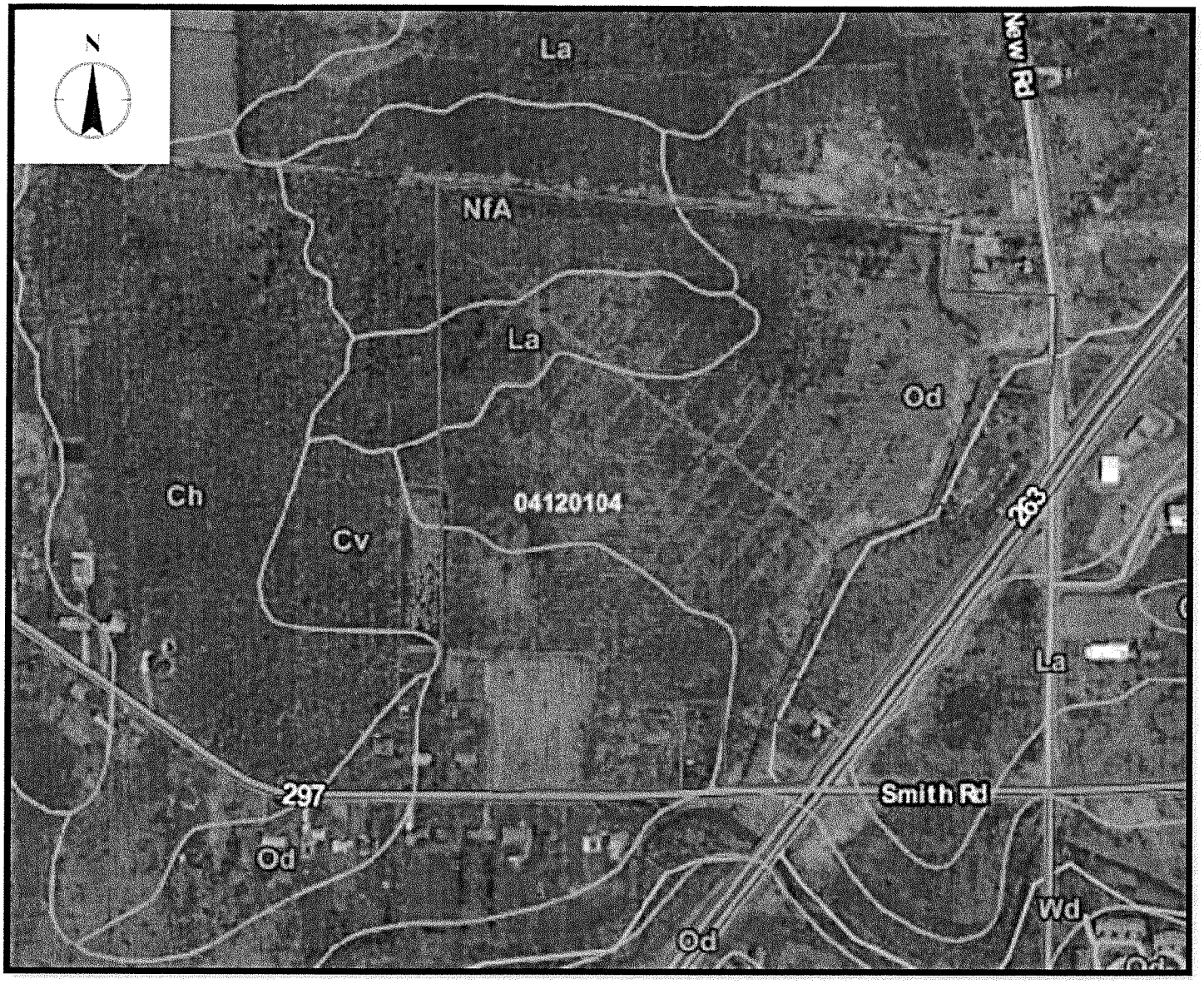


Figure 4: NRCS Erie County Soil Survey Map

http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

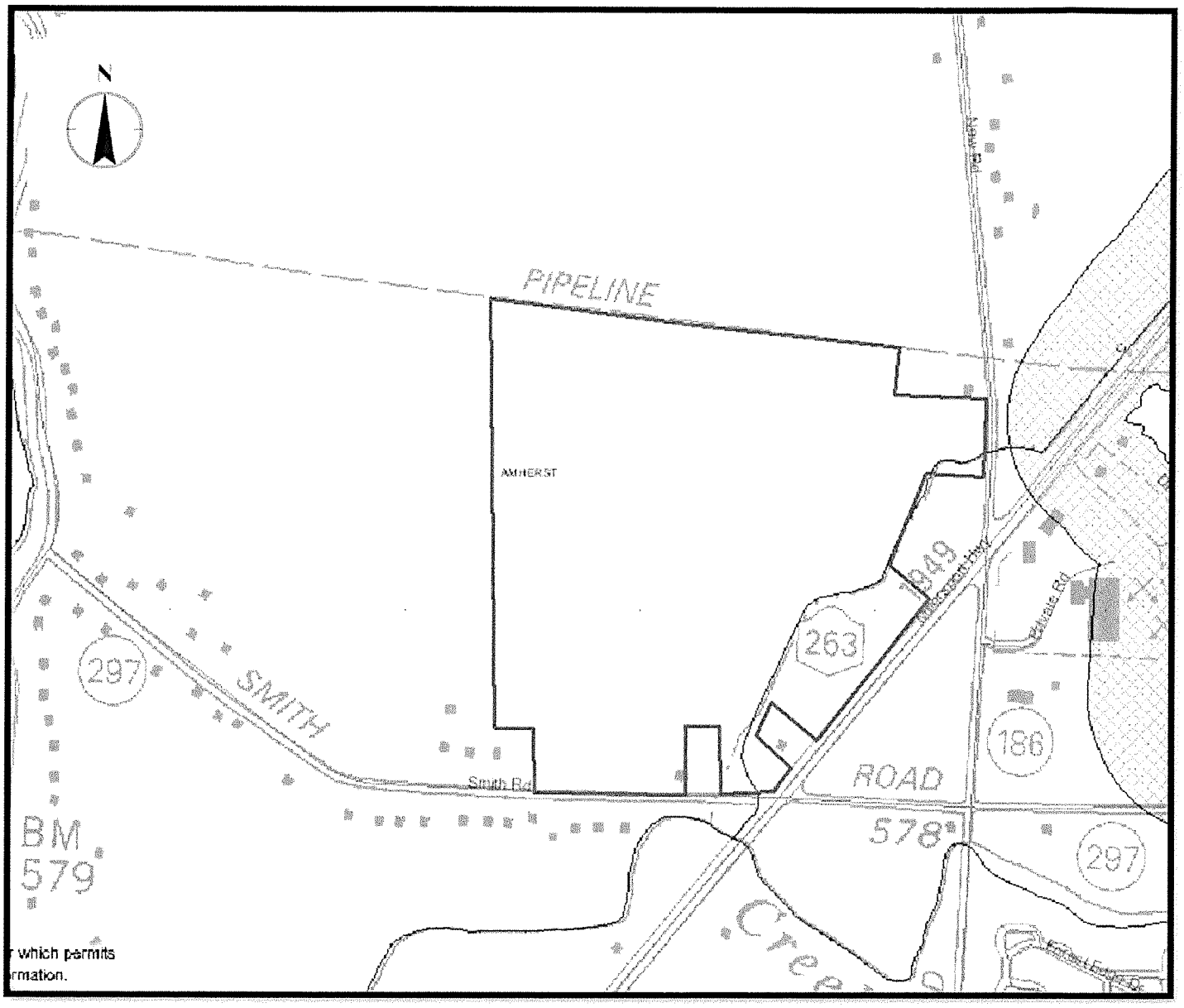


Figure 5: NYSDEC Environmental Resource Mapper

http://www.dec.ny.gov/imsmaps/ERM/viewer.htm

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

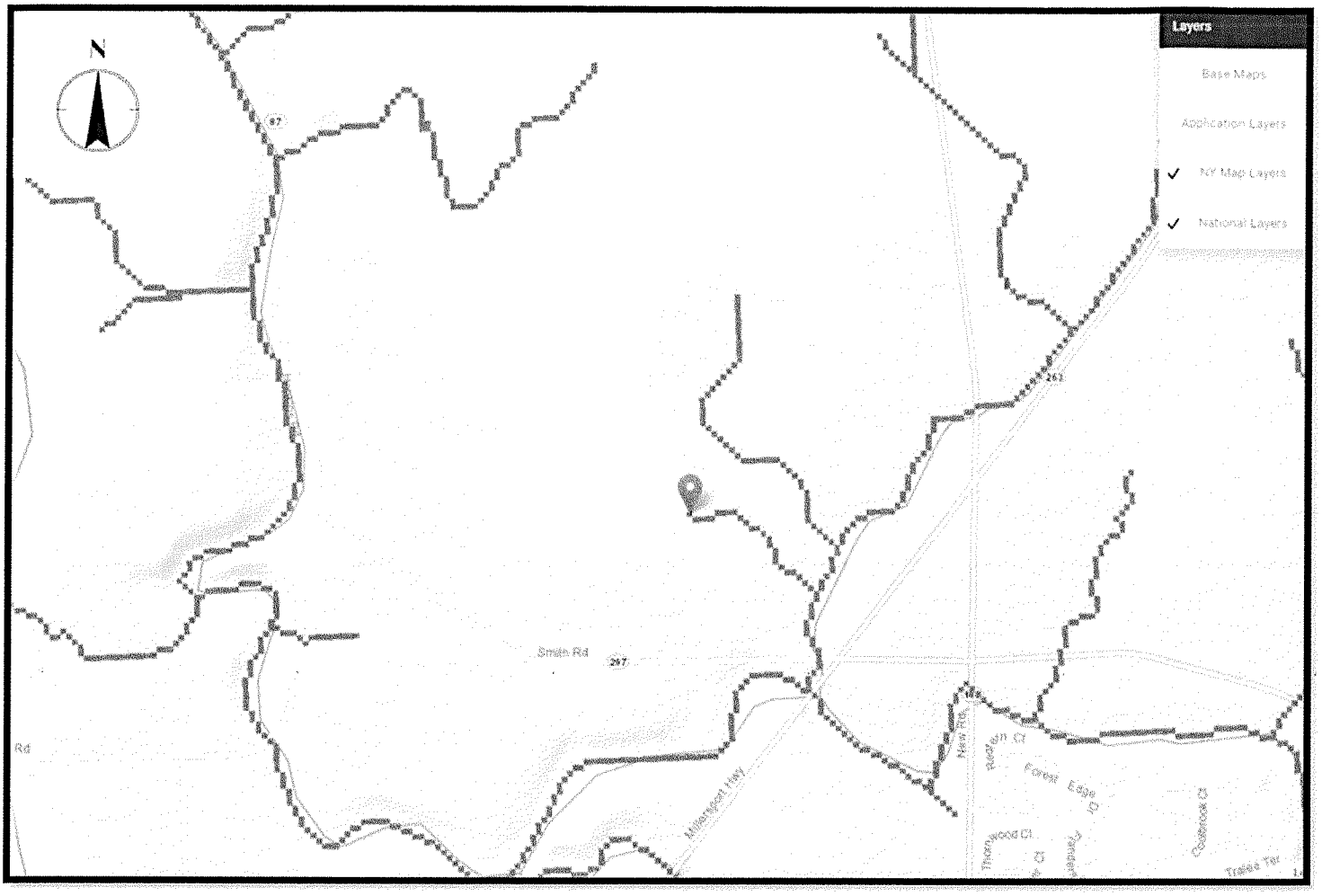


Figure 6: Approximate Watershed Map

courtesy of: https://streamstats.usgs.gov/ss/

4300 Millersport Highway

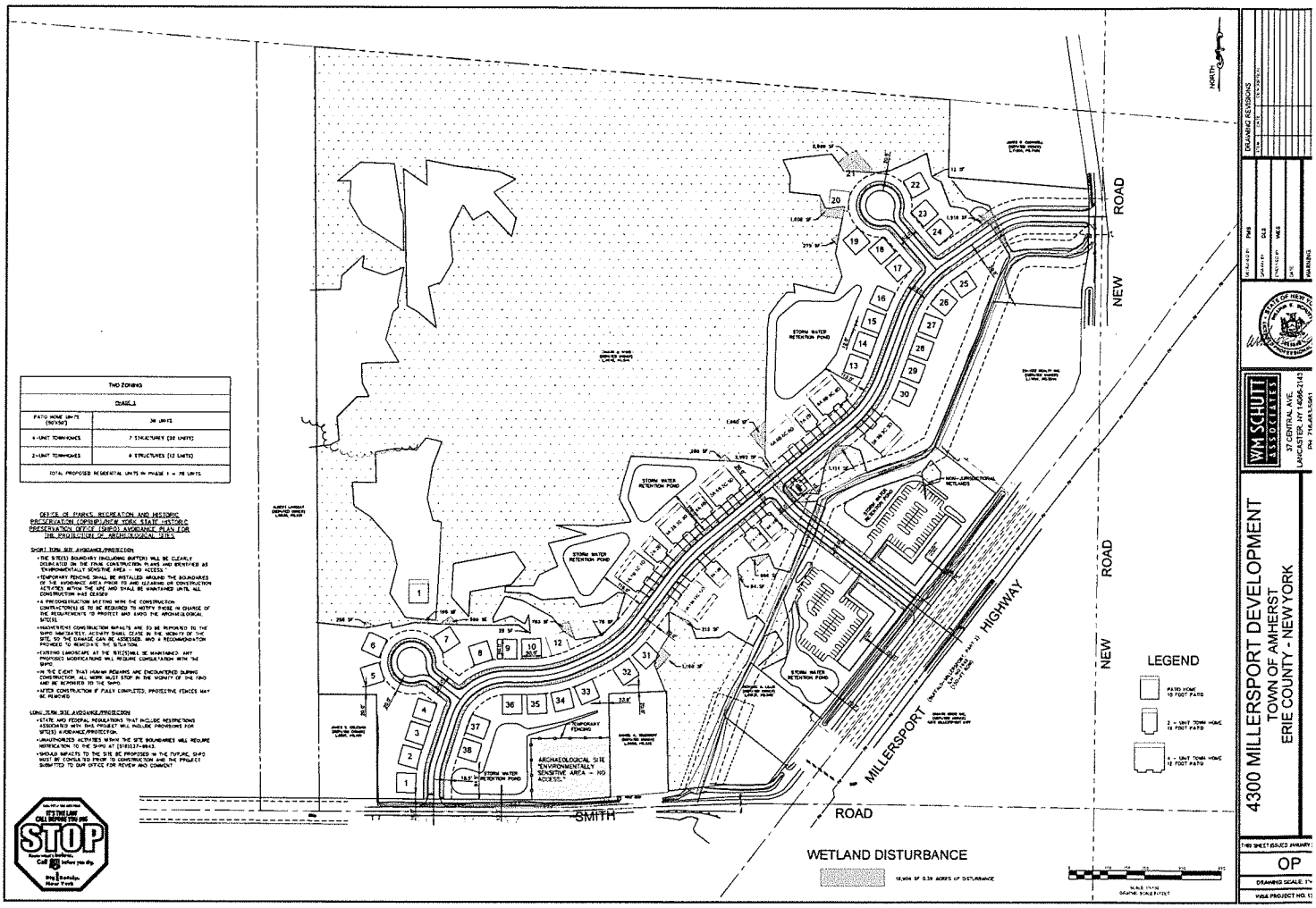
Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4300 MILLERSPORT HIGHWAY

Appendix B - Site Plan & Wetland Impact Map

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4300 MILLERSPORT HIGHWAY

Appendix C - Functional Assessment Data Forms

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Wetland Function-Value Evaluation Form

Total area of wetland 32.90 Human made? YES AND NO Is wetland part of a wildlife corridor? YES or a "habitat island"? NO

Adjacent land use UNDEVELOPED, RESIDENTIAL, COMMERCIAL Distance to nearest roadway or other development 0-400'

Dominant wetland systems present PFO, PEM, PSS Contiguous undeveloped buffer zone present NO

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? ADJACENT TO

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list) SEE DID NOT → DATED 05-04-17

Wetland I.D. WETLAND 1

Latitude 43.05700 Longitude 78.72864

Prepared by: JMC Date 07-29-19

Wetland Impact: Type FILL + DETENTION POND EXPANSION Area 0.684

Evaluation based on:

Office X Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y	Suitability N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge		N	9,10	N	Algal MAT visible in some locations
Floodflow Alteration	Y		5,6,7,8,9,10,11,18	Y	No open water some value as varying water levels occur seasonally
Fish and Shellfish Habitat		N	2	N	No open water present
Sediment/Toxicant Retention		N	1,5,7,	N	LOW SEDIMENT RETENTION PRESENT, NO DEEP water PRESENT
Nutrient Removal	Y		3,4,5,8,9,10,11	Y	FARMING PRACTICES PRESENT TO NORTH OF SITE NUTRIENT REMOVAL PRESENT
Production Export	Y		1,2,4,7,8,10,12	Y	OUTFLOW RESTRICTED BY CULVERT BUT PRESENT
Sediment/Shoreline Stabilization		N	3,7,9,14	N	LOW TO NO FLOW, EXCEPT DURING MAJOR STORM EVENTS
Wildlife Habitat	Y		5,6,7,8,9,10,11,14,15,17,18,19,20,21	Y	WILDLIFE HABITAT PRESENT
Recreation		N	5,12	N	WETLAND LOCATED ON PRIVATE PROPERTY
Educational/Scientific Value		N	5	N	WETLAND LOCATED ON PRIVATE PROPERTY
Uniqueness/Heritage		N	2,4,5,19	N	WETLANDS formed on ABANDONED farmed AREAS.
Visual Quality/Aesthetics		N	8	N	WETLANDS NOT UNIQUE TO THE AREA
ES Endangered Species Habitat		N	—	N	NONE FOUND DURING NUMEROUS SITE VISITS
Other	—	—	—	—	—

Notes:

* Refer to backup list of numbered considerations.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4300 MILLERSPORT HIGHWAY

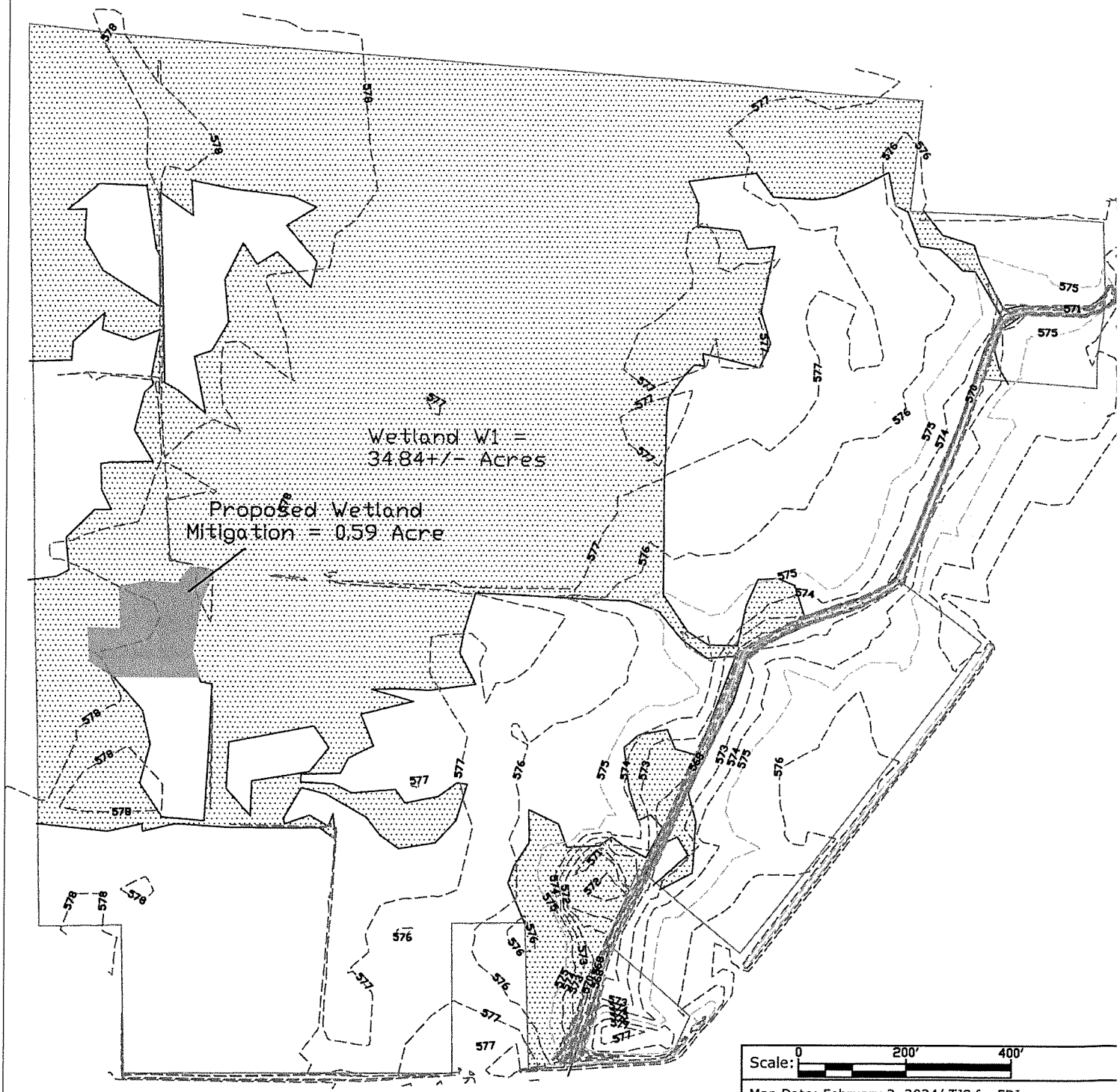
Appendix D - Mitigation Plans

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Appendix D-1: Existing Topography Map

Town of Amherst Erie County, New York

EARTH DIMENSIONS, INC.
1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | www.earthdimensions.com



Scale: 0 200' 400'

Map Date: February 2, 2024/ TJS for EDI
Revised:

Base Map Provided By: WM Schutt & Associates

File Name: Mitigation Plans.dwg

EDI Project Code: W1F06f

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Appendix D-2: Mitigation Overview

Town of Amherst Erie County, New York

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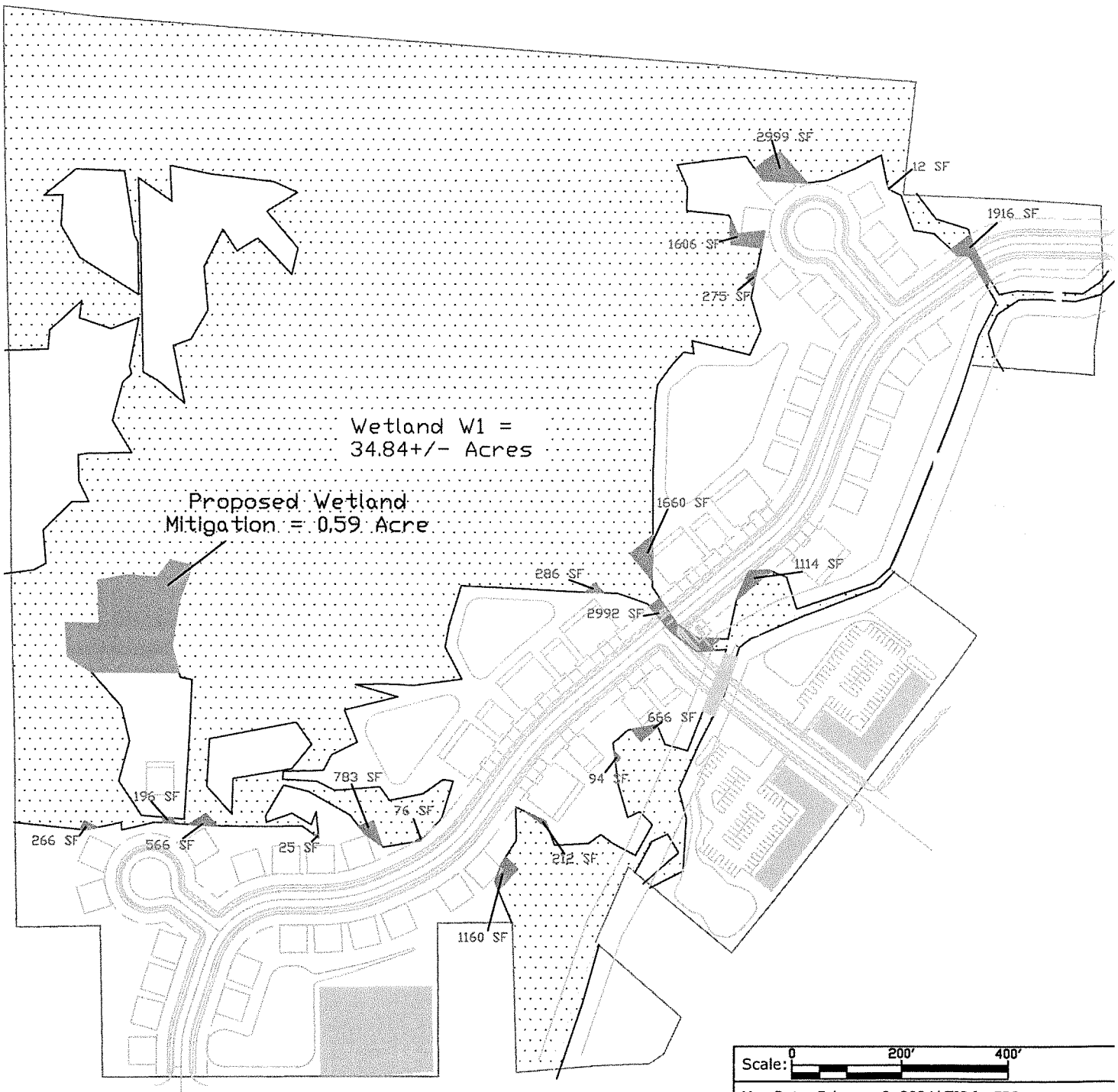

Scale: 0 200' 400'

Map Date: February 2, 2024/ TJS for EDI
Revised:

Base Map Provided By: WM Schutt & Associates

File Name: Mitigation Plans.dwg

EDI Project Code: W1F06f

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Appendix D-3: Mitigation Details

Town of Amherst Erie County, New York

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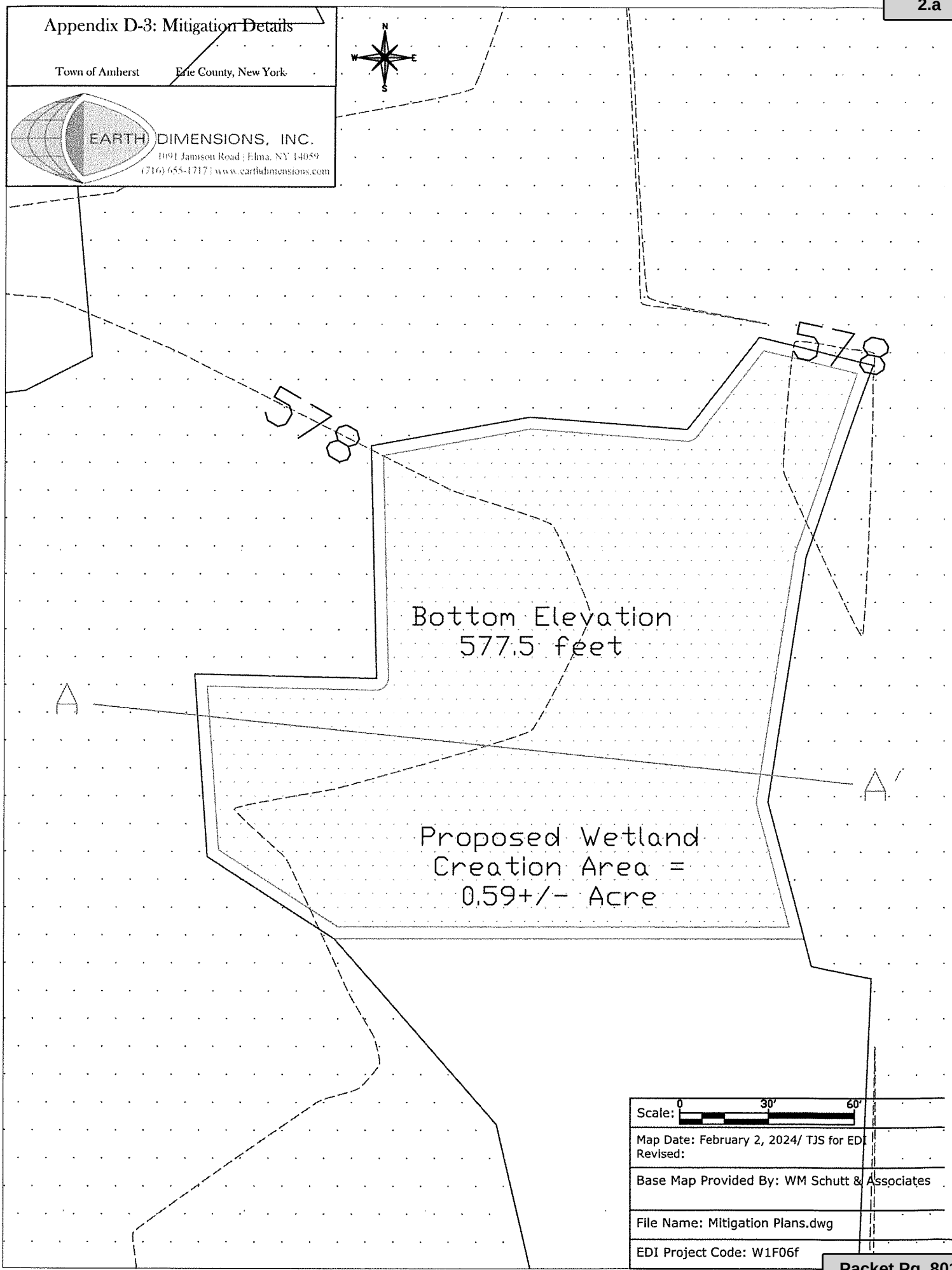

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Map Date: February 2, 2024/ TJS for EDI Revised:	
Base Map Provided By: WM Schutt & Associates	
File Name: Mitigation Plans.dwg	
EDI Project Code: W1F06f	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Appendix D-4: Cross Section

Town of Amherst Erie County, New York

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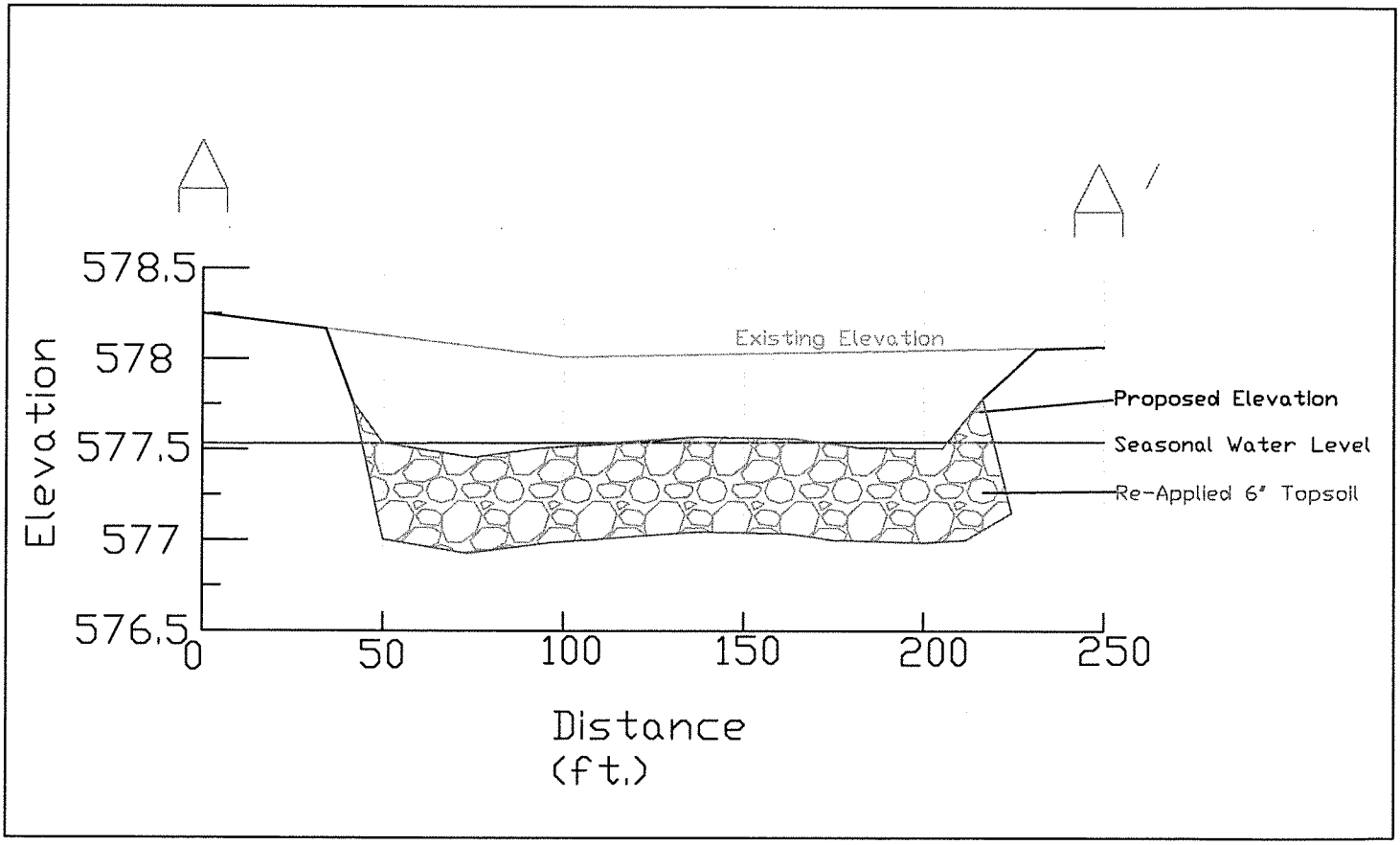

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Appendix D-5: Planting Plan

Town of Amherst Erie County, New York

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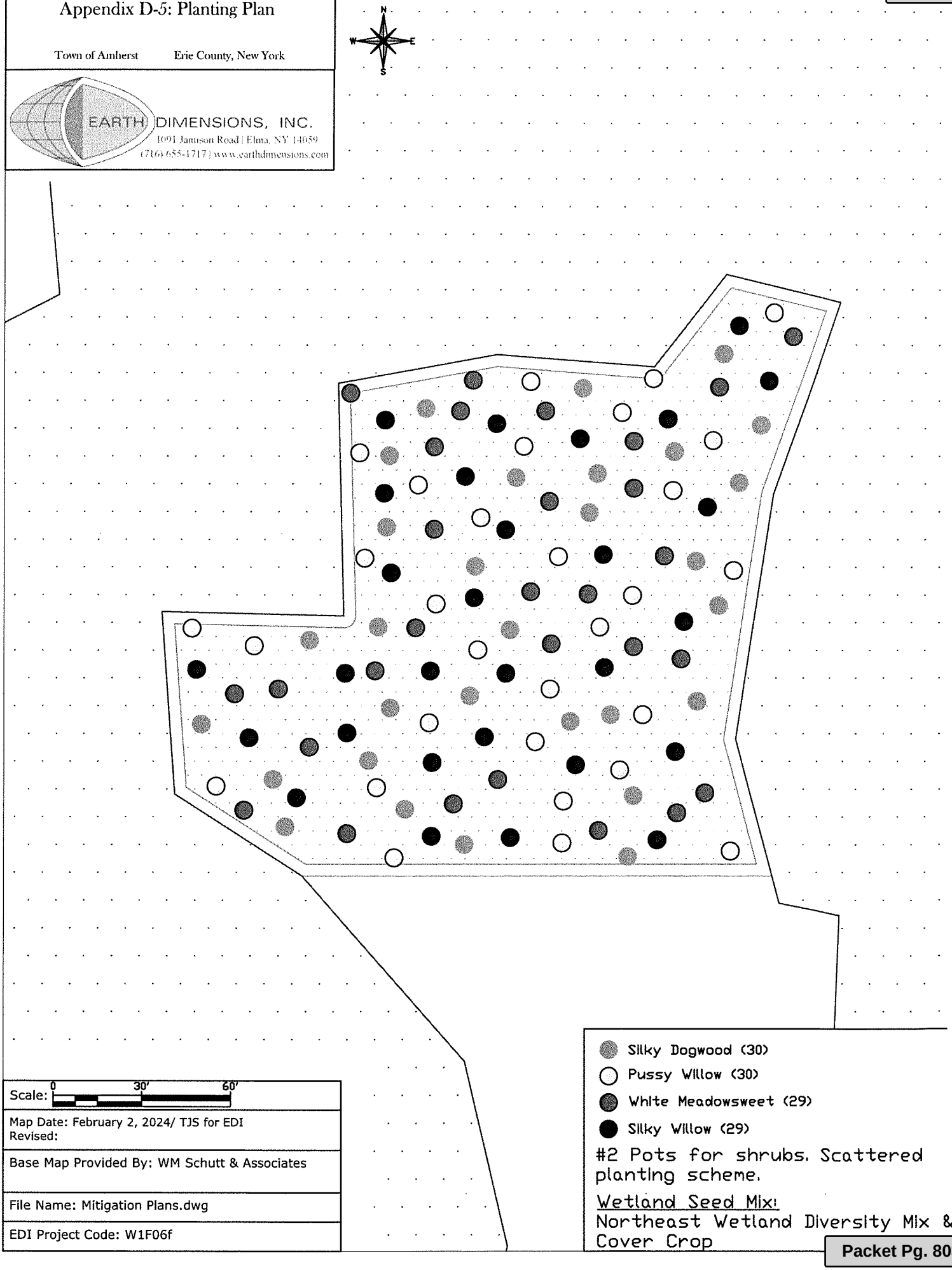

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Appendix D-6: Monitoring Benchmarks

Town of Amherst Erie County, New York

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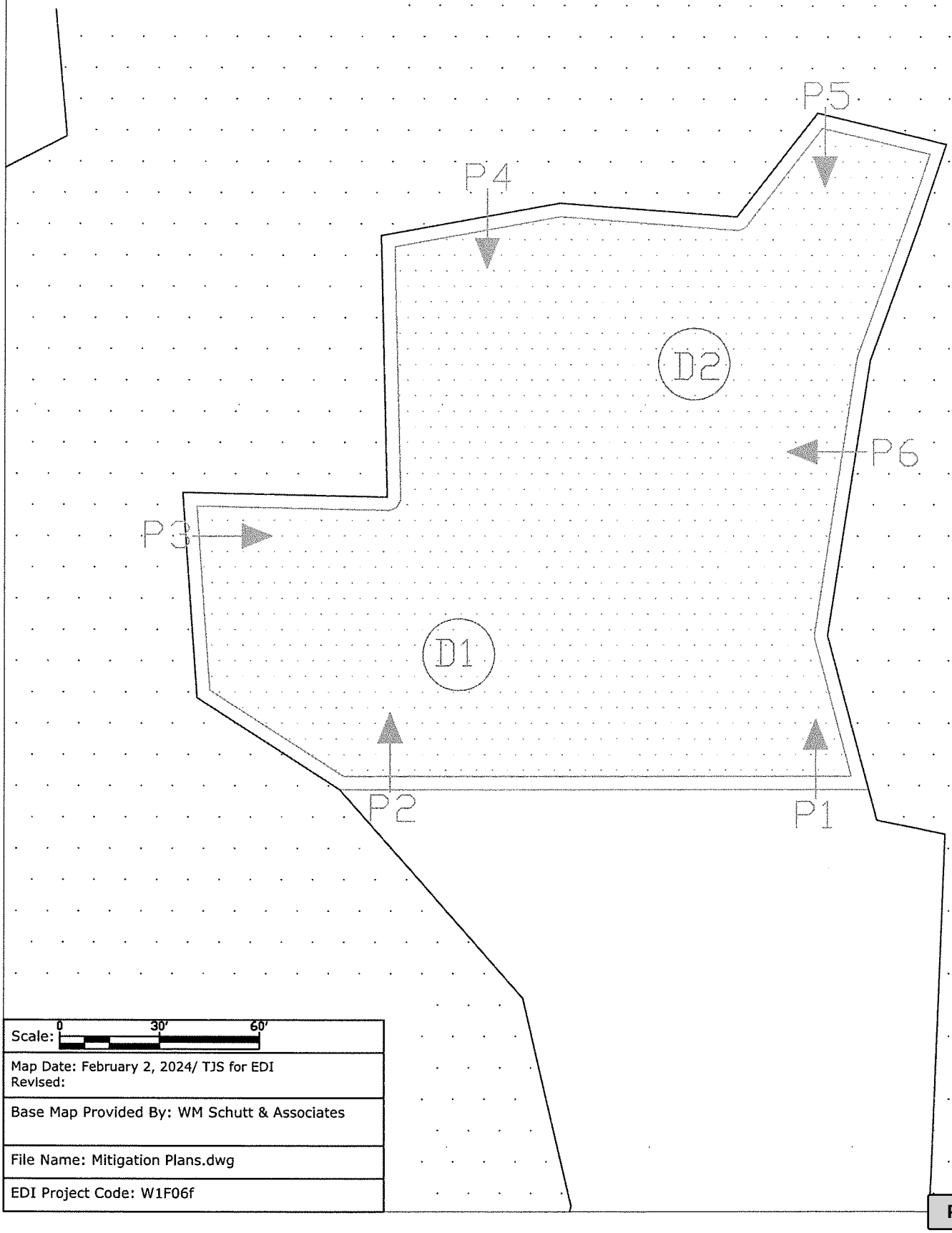


Scale: 0 30' 60'	
Map Date: February 2, 2024/ TJS for EDI Revised:	
Base Map Provided By: WM Schutt & Associates	
File Name: Mitigation Plans.dwg	
EDI Project Code: W1F06f	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4300 MILLERSPORT HIGHWAY

Appendix E - Maintenance & Inspection Schedule

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Appendix E: Maintenance & Inspection Schedule

Activity	Timeframe
CONSTRUCTION	
Receive Authorization from USACE	Spring 2024
Mitigation Site Pre-construction Invasive Species Management	Spring 2024
Mitigation Site Construction	Fall 2024
Mitigation site planting & Seeding	Fall 2024
Post Construction Report	December 31, 2024
MONITORING	
Year of Construction (For Remaining Months During the Growing Season)	Monthly Visits (from construction completion until October) 2024
1st Year Monitoring Field Visits	Monthly Visits (April to October) 2025
1st Year Monitoring Report	December 31, 2025
2nd Year Monitoring Field Visits	Monthly (April to October) 2026
2nd Year Monitoring Report	December 31, 2026
3rd Year Monitoring Field Visits	Four Site Visits (May, June, July, September) 2027
3rd Year Monitoring Report	December 31, 2027
4th Year Monitoring Field Visits	Four Site Visits (May, June, July, September) 2028
4th Year Monitoring Report	December 31, 2028
5th Year Monitoring Field Visits	Four Site Visits (May, June, July, September) 2029
5th Year Monitoring Report	December 31, 2029
USACE Sign-off	Spring 2030

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4300 MILLERSPORT HIGHWAY

Appendix F - Agency Correspondence

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS BUFFALO DISTRICT
478 MAIN STREET
BUFFALO, NY 14202-3278

January 18, 2024

Regulatory Branch

SUBJECT: Approved Jurisdictional Determination and Delineation Verification for Department of the Army Processing No. LRB-LRB-2006-00698

Cimato Enterprises, Inc
Fred Cimato
9220 Transit Road
East Amherst, New York 14051

Dear Mr. Cimato:

I have reviewed your request for an approved jurisdictional determination (JD) for the 66.9-acre review area located at 4300 Millersport Highway, in the Town of Amherst, Erie County, NY.

I have determined that the location and extent of all aquatic resources shown on the attached map(s) accurately represent the review area conditions.

Enclosed is an approved JD which verifies the limits of waters of the U.S. within the review area as depicted on Sheet(s) 1 - 6. This approved JD will remain valid for a period of five (5) years from the date of this correspondence unless new information warrants revision of the approved JD before the expiration date. At the end of this period, a new aquatic resource delineation will be required to support any request for a new JD.

I have determined that the following aquatic resource, Stream 1 and Wetland W1, are waters of the U.S. regulated under Section 404 of the Clean Water Act as noted on the attached Approved Jurisdictional Determination Form: Memorandum for Record. Department of the Army authorization is required if you propose a discharge of dredged or fill material in these water of the U.S.

I have determined that the following aquatic resources, Wetland W2, is not waters of the U.S. as noted on the attached Approved Jurisdictional Determination Form: Memorandum for Record. Therefore, this aquatic resource is not regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Department of the Army authorization is not required if you propose work, installation of structures, or a discharge of dredged or fill material in this aquatic resources.

Further, the delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the review area identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Regulatory Branch

SUBJECT: Approved Jurisdictional Determination and Delineation Verification for Department of the Army Processing No. LRB-LRB-2006-00698

the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Request for Appeal (RFA) form. If you request to appeal the above JD, you must submit a completed RFA form within 60 days of the date on this letter to the Great Lakes/Ohio River Division Office at the following address:

Katherine McCafferty
Regulatory Appeals Officer
US Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10780
Cincinnati, Ohio 45202-3222
Phone: 513-684-2699 Fax: 513-684-2460
e-mail: katherine.a.mccafferty@usace.army.mil

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete; that it meets the criteria for appeal under 33 C.F.R. part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by March 18, 2024.

It is not necessary to submit an RFA to the Division office if you do not object to the determination in this letter.

Questions pertaining to this matter should be directed to me at (716) 879-4279 by writing to the following address: U.S. Army Corps of Engineers Regulatory Branch 478 Main Street, Buffalo, New York 14202 or by e-mail at: Joseph.M.Rowley@usace.army.mil

Sincerely,

Joseph Rowley

Joseph Rowley
Physical Scientist

Enclosures

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Cimato Enterprises, Inc	File Number: LRB-2006-00698	Date: January 18, 2024
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL WITHOUT PREJUDICE	C
	PERMIT DENIAL WITH PREJUDICE	D
X	APPROVED JURISDICTIONAL DETERMINATION	E
	PRELIMINARY JURISDICTIONAL DETERMINATION	F

SECTION I

The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/appeals/ or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

C. PERMIT DENIAL WITHOUT PREJUDICE: Not appealable

You received a permit denial without prejudice because a required Federal, state, and/or local authorization and/or certification has been denied for activities which also require a Department of the Army permit before final action has been taken on the Army permit application. The permit denial without prejudice is not appealable. There is no prejudice to the right of the applicant to reinstate processing of the Army permit application if subsequent approval is received from the appropriate Federal, state, and/or local agency on a previously denied authorization and/or certification.

D: PERMIT DENIAL WITH PREJUDICE: You may appeal the permit denial

You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information for reconsideration

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- RECONSIDERATION: You may request that the district engineer reconsider the approved JD by submitting new information or data to the district engineer within 60 days of the date of this notice. The district will determine whether the information submitted qualifies as new information or data that justifies reconsideration of the approved JD. A reconsideration request does not initiate the appeal process. You may submit a request for appeal to the division engineer to preserve your appeal rights while the district is determining whether the submitted information qualifies for a reconsideration.

F: PRELIMINARY JURISDICTIONAL DETERMINATION: Not appealable

You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision you may contact:	If you have questions regarding the appeal process, or to submit your request for appeal, you may contact:
Joseph Rowley U.S. Army Corps of Engineers 478 Main St Buffalo, NY 14202 Joseph.M.Rowley@usace.army.mil 716-879-4279	Katherine McCafferty Regulatory Appeals Officer US Army Corps of Engineers Great Lakes and Ohio River Division 550 Main Street, Room 10780 Cincinnati, Ohio 45202-3222 Phone: 513-684-2699 Fax: 513-684-2460 e-mail: katherine.a.mccafferty@usace.army.mil

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SECTION II – REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT	
REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. Use additional pages as necessary. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)	
ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.	
RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation and will have the opportunity to participate in all site investigations.	
_____ Signature of appellant or agent.	Date:
Email address of appellant and/or agent:	Telephone number:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

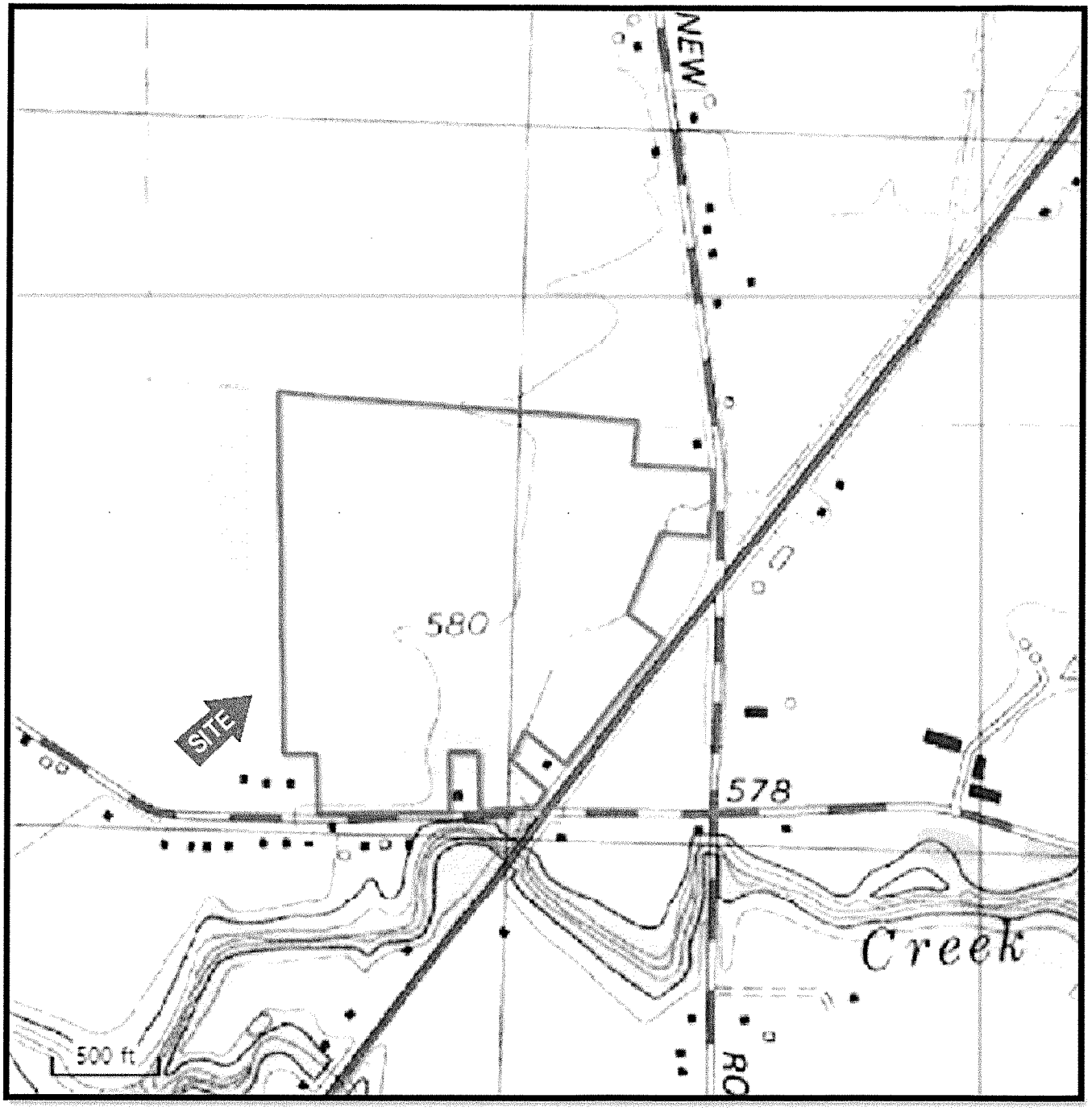


FIGURE 1: USGS 7.5 MINUTE TOPOGRAPHICAL MAP

Clarence Center Quadrangle / U.S. Geological Survey

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 2: NATIONAL WETLANDS INVENTORY MAP

http://www.fws.gov/wetlands/data/mapper.HTML (Visited 6/21/23)

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 3: NRCS SOIL SURVEY MAP

http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (Visited 6/21/23)

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 4: NYSDEC ENVIRONMENTAL RESOURCE MAPPER

https://gisservices.dec.ny.gov/gis/erm/ (Visited 6/21/23)

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 7: DRAINAGE MAP

https://streamstats.usgs.gov/ss/ (Visited 6/21/23)

4300 Millersport Highway

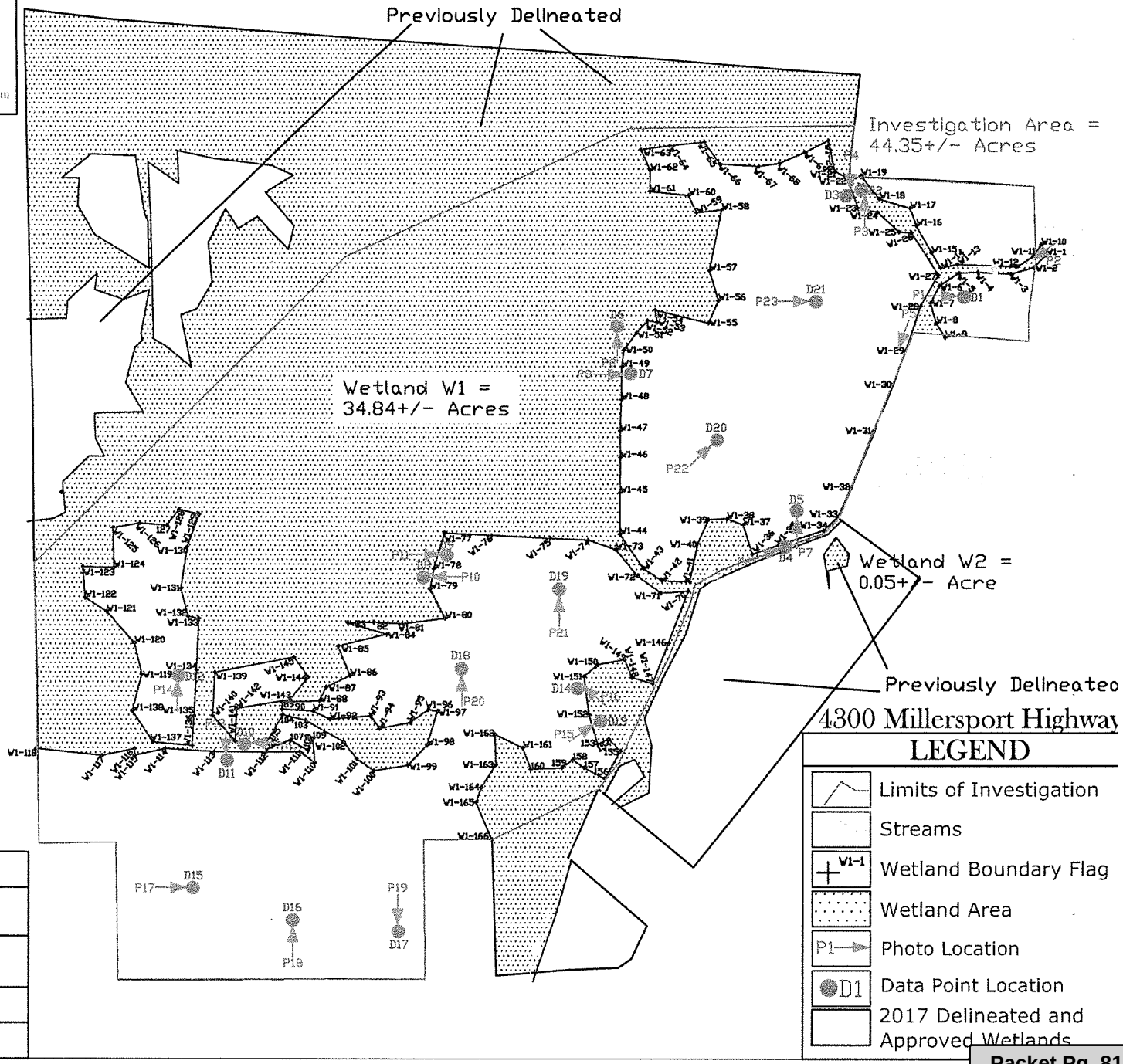
Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Figure 6 - Wetland Delineation Map

Town of Amherst Erie County, New York

EARTH DIMENSIONS, INC.
1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | www.earthdimensions.com



4300 Millersport Highway-Cimato Enterprises
LRB 2006-00698
Erie County
Sheet 6 of 6

Scale: 0 200' 400'

Map Date: June 29, 2023/ TJS for EDI
Revised: September 22, 2023

Base Map Provided By: Trimble Geo 7X

File Name: Delineation Map.dwg

EDI Project Code: W1F06g

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, BUFFALO DISTRICT
478 MAIN STREET
BUFFALO, NEW YORK 14202

CELRB-TD-R

January 18, 2024

MEMORANDUM FOR RECORD

SUBJECT: US Army Corps of Engineers (Corps) Approved Jurisdictional Determination in accordance with the "Revised Definition of 'Waters of the United States'"; (88 FR 3004 (January 18, 2023) as amended by the "Revised Definition of 'Waters of the United States'; Conforming" (8 September 2023) ,[1]LRB-2006-00698(4300 Millersport Highway)

BACKGROUND. An Approved Jurisdictional Determination (AJD) is a Corps document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. AJDs are clearly designated appealable actions and will include a basis of JD with the document.[2] AJDs are case-specific and are typically made in response to a request. AJDs are valid for a period of five years unless new information warrants revision of the determination before the expiration date or a District Engineer has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.[3]

On January 18, 2023, the Environmental Protection Agency (EPA) and the Department of the Army ("the agencies") published the "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule"). On September 8, 2023, the agencies published the "Revised Definition of 'Waters of the United States'; Conforming", which amended the 2023 Rule to conform to the 2023 Supreme Court decision in *Sackett v. EPA*, 598 U.S., 143 S. Ct. 1322 (2023) ("*Sackett*").

This Memorandum for Record (MFR) constitutes the basis of jurisdiction for a Corps AJD as defined in 33 CFR §331.2. For the purposes of this AJD, we have relied on Section 10 of the Rivers and Harbors Act of 1899 (RHA),[4] the 2023 Rule as amended, as well as other applicable guidance, relevant case law, and longstanding practice in evaluating jurisdiction.

---

[1] While the Revised Definition of "Waters of the United States"; Conforming had no effect on some categories of waters covered under the CWA, and no effect on any waters covered under RHA, all categories are included in this Memorandum for Record for efficiency.
[2] 33 CFR 331.2.
[3] Regulatory Guidance Letter 05-02.
[4] USACE has authority under both Section 9 and Section 10 of the Rivers and Harbors Act of 1899 but for convenience, in this MFR, jurisdiction under RHA will be referred to as Section 10.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

CELRB TD-R
SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), LRB-2006-00698(4300 Millersport Highway)

1. SUMMARY OF CONCLUSIONS.

   a. Provide a list of each individual feature within the review area and the jurisdictional status of each one (i.e., identify whether each feature is/is not a water of the United States and/or a navigable water of the United States).

      JURISDICTIONAL

      i. LRB 2008-00698 Wetland W1, PFO/PSS 34.84 acres, Section 404
      ii. LRB 2008-00698 Stream 1, Perennial, 1,893 linear feet, Section 404

      NON-JURISDICTIONAL

      iii. LRB 2008-00698 Wetland W2, PEM, 0.05 acres, non-jurisdictional

2. REFERENCES.

   a. "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule")

   b. "Revised Definition of 'Waters of the United States'; Conforming" 88 FR 61964 (September 8, 2023))

   c. *Sackett v. EPA*, 598 U.S. _, 143 S. Ct. 1322 (2023)

3. REVIEW AREA. *The review area consists of approximately 70 acre area located at 4300 Millersport Highway, Town of Amherst, Erie County, New York (43.0561, -78.7284). Figures 1 – 6.*

4. NEAREST TRADITIONAL NAVIGABLE WATER (TNW), THE TERRITORIAL SEAS, OR INTERSTATE WATER TO WHICH THE AQUATIC RESOURCE IS CONNECTED. *The nearest TNW is Tonawanda Creek (Erie Canal) 1.7 miles to the northeast (straight) of the review area.*

5. FLOWPATH FROM THE SUBJECT AQUATIC RESOURCES TO A TNW, THE TERRITORIAL SEAS, OR INTERSTATE WATER. *The jurisdictional aquatic resources below have a continuous surface water connection to an unnamed tributary to Ransom Creek which flows to the South to Ransom Creek then northeast 1.7 miles before entering Tonawanda Creek (Erie Canal), a TNW.*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

6. SECTION 10 JURISDICTIONAL WATERS[5]: Describe aquatic resources or other features within the review area determined to be jurisdictional in accordance with Section 10 of the Rivers and Harbors Act of 1899. Include the size of each aquatic resource or other feature within the review area and how it was determined to be jurisdictional in accordance with Section 10.[6] *N/A*

7. SECTION 404 JURISDICTIONAL WATERS: Describe the aquatic resources within the review area that were found to meet the definition of waters of the United States in accordance with the 2023 Rule as amended, consistent with the Supreme Court's decision in *Sackett*. List each aquatic resource separately, by name, consistent with the naming convention used in section 1, above. Include a rationale for each aquatic resource, supporting that the aquatic resource meets the relevant category of "waters of the United States" in the 2023 Rule as amended. The rationale should also include a written description of, or reference to a map in the administrative record that shows, the lateral limits of jurisdiction for each aquatic resource, including how that limit was determined, and incorporate relevant references used. Include the size of each aquatic resource in acres or linear feet and attach and reference related figures as needed.

   a. Traditional Navigable Waters (TNWs) (a)(1)(i): *N/A*

   b. The Territorial Seas (a)(1)(ii): *N/A*

   c. Interstate Waters (a)(1)(iii): *N/A*

   d. Impoundments (a)(2): *N/A*

   e. Tributaries (a)(3): **LRB 2006-00698 Stream 1** – is a 3-5 foot wide tributary to Ransom Creek with an established bed and banks, ordinary high water mark and is located within hydric soils. According to the delineation report and observations in the field, it was determined Stream 1 has intermittent flow. According to the NYSDEC Environmental Resource mapper, Stream 1 is classified as a Class C Stream to Ransom Creek. The Stream is also shown as an intermittent tributary

[5] 33 CFR 329.9(a) A waterbody which was navigable in its natural or improved state, or which was susceptible of reasonable improvement (as discussed in § 329.8(b) of this part) retains its character as "navigable in law" even though it is not presently used for commerce, or is presently incapable of such use because of changed conditions or the presence of obstructions.
[6] This MFR is not to be used to make a report of findings to support a determination that the water is a navigable water of the United States. The district must follow the procedures outlined in 33 CFR part 329.14 to make a determination that water is a navigable water of the United States subject to Section 10 of the RHA.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

to Ransom Creek on the USGS Topo Map. In addition, this observation in the field is consistent with what was reviewed and confirmed after an in-house review of the USFWS NWI map, the USGS Topo (Clarence Center Quad), aerial imagery and USDA/NRCS Soils Survey. Therefore, Stream 1 is an A(3) water as it is a permanent flowing water that is a tributary to an A(1) water, Tonawanda Creek/Erie Canal.

f. Adjacent Wetlands (a)(4): LRB 2006-00698 Wetland 1 is a delineated 34.84 acre (on-site) wetland consisting of Palustrine forested, scrub-shrub and emergent types that extends off-site to the north, west and south. Shown in the delineation report and observations in the field, it was confirmed Wetland 1 directly abuts Stream 1, an unnamed tributary to Ransom Creek which eventually makes it way to Tonawanda Creek (Erie Canal). A review the USDA/NRCS Web Soil Survey indicates mapped hydric soils underlay both the delineated wetland and abutting tributary. Based on a review of the submitted delineation report, an in-office resource review, and the site visit, it has been determined that LRB-2006-00698 Wetland 1 has a continuous surface connection to another water of the United States, and ultimately contributing flow to Erie Canal, a Section 10 Navigable Waterway and a Traditional Navigable Waterway.

g. Additional Waters (a)(5): *N/A*

8. NON-JURISDICTIONAL AQUATIC RESOURCES AND FEATURES

a. Describe aquatic resources and other features within the review area identified in the 2023 Rule as amended as not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5). Include the type of excluded aquatic resource or feature, the size of the aquatic resource or feature within the review area and describe how it was determined to meet one of the exclusions listed in 33 CFR 328.3(b).[7] *N/A*

b. Describe aquatic resources and features within the review area that were determined to be non-jurisdictional because they do not meet one or more categories of waters of the United States under the 2023 Rule as amended (e.g., tributaries that are non-relatively permanent waters; non-tidal wetlands that do not have a continuous surface connection to a jurisdictional water).

LRB 2006-00698 Wetland 2 – is a 0.05 acre PEM wetland, functioning as a depressional feature located within the review area. Wetland 2 has a closed

[7] 88 FR 3004 (January 18, 2023)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

boundary and no connectivity to a relatively permanent water. Wetland 2 was determined to be a depressional, low spot in the landscape. During the site visit, the entire boundary of Wetland 2 was walked and no evidence of a surface connection could be found to Stream 1, which is located 150 feet to the west. There was no evidence of a berm or similar natural or manmade feature separating Wetland 2 from Stream 1. The USFWS NWI map and the NYSDEC Environmental Resource Mapper do not indicate any wetlands or watercourse at the location of Wetland 2. In addition, the USGS topographic map (Clarence Center) does not show any waters at the location of Wetland 2. Based on the above information, it has been determined that Wetland 2 lacks a continuous surface connection to any other water of the United States or relative permanent water, does not abut another water of the U.S.; is not connected to another water of the U.S. by a discrete feature like a non-jurisdictional ditch, swale, pipe, or culvert; and is not separated from another water of the U.S. by a berm or barrier) and has been determined not to be waters of the United States.

9. DATA SOURCES. List sources of data/information used in making determination. Include titles and dates of sources used and ensure that information referenced is available in the administrative record.

   a. *Corps of Engineers site visit conducted September 20, 2023; In-house review completed November 28, 2023*

   b. *Delineation report titled 4300 Millersport Highway prepared for Cimato Enterprises, Inc. by Earth Dimensions, Inc dated July 5, 2023*

   c. *Aerial Imagery evaluated: Connect Explorer - https://explorer.eagleview.com/; oblique images dated 15 April 2013, 24 April 2016, 25 April 2020. Google Earth October 2020, May 2022, May 2023*

   d. *National wetlands inventory map(s): https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper and included in the delineation report; assessed November 28, 2023.*

   e. *U.S. Geological Survey map(s). Cite scale & quad name: https://ngmdb.usgs.gov/topoview/viewer/ - USGS Quad: f=Fairport-NY, dated 2023, scale 1:24000; accessed November 28, 2023*

   f. *NRCS/USDA soil survey: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx - accessed November 28, 2023.*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

CELRB TD-R
SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), LRB-2006-00698(4300 Millersport Highway)

10. OTHER SUPPORTING INFORMATION: A Preliminary Jurisdictional determination was issued for the site on January 17, 2019.

11. NOTE: The structure and format of this MFR were developed in coordination with the EPA and Department of the Army. The MFR's structure and format may be subject to future modification or may be rescinded as needed to implement additional guidance from the agencies; however, the approved jurisdictional determination described herein is a final agency action.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 9
700 Delaware Avenue, Buffalo, NY 14209
P: (716) 851-7165 I F: (716) 851-7168
www.dec.ny.gov

March 24, 2023

Fred Cimato
Cimato Enterprises Inc.
9220 Transit Road
East Amherst, New York 14051-1622

Dear Fred Cimato:

PERMIT TRANSMITTAL LETTER
DEC PERMIT No. 9-1422-00452

Enclosed is your permit which was issued in accordance with applicable provisions of the Environmental Conservation Law. The permit is valid for only that project, activity or operation expressly authorized.

The DEC permit number and Program ID number, if applicable, should be retained for your records and should be referenced on all future correspondence and applications related to the permit. If modifications are desired after permit issuance, you must submit the proposed revisions and receive written approval from the Permit Administrator prior to initiating any change. If the Department determines that the modification represents a material change in the scope of the authorized project, activity, operation or permit conditions, you will be required to submit a new application for permit.

Please note the expiration date of the permit. Applications for permit renewal should be made well in advance of the expiration date (minimum of 30 days) and submitted to the Regional Permit Administrator at the above address. For SPDES, Solid and Hazardous Waste Permits, renewal applications must be submitted 180 days in advance of permit expiration.

Please review all permit conditions carefully. In particular, identify your initial responsibilities under this permit in order to assure timely action if required. Since failure to comply precisely with permit conditions may be treated as a violation of the environmental conservation law, you are requested to provide a copy of the permit to the project contractor, facility operator, and other persons directly responsible for permit implementation (if any).

If you have any questions, please contact this office at the above address.

Respectfully,

David S. Denk
Regional Permit Administrator

DSD/slr
Enclosure

ec: Captain Joshua VerHague, Division of Law Enforcement, NYSDEC Region 9
Joe Rowley, U.S. Army Corps of Engineers, Buffalo District
Scott Livingstone, Earth Dimensions

NEW YORK STATE | Department of Environmental Conservation

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Facility DEC ID 9-1422-00452

PERMIT
Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
CIMATO ENTERPRISES INC
9220 TRANSIT RD
EAST AMHERST, NY 14051-1622
(716) 688-3536

Facility:
4300 Millersport Subdivision
4300 MILLERSPORT HWY
AMHERST, NY

Facility Location: in AMHERST in ERIE COUNTY
Facility Principal Reference Point: NYTM-E: 196.342 NYTM-N: 4773.833
Latitude: 43°03'23.2" Longitude: 78°43'43.4"
Authorized Activity: Impacts to approximately 0.76 acres of federal jurisdictional wetland associated with the construction of 38 single family homes and 13 townhouses and two commercial buildings on an approximately 67 acre parcel. The project is located at 4300 Millersport Highway in the Town of Amherst.

Note: Wherever used in this permit, ECL refers to New York State Environmental Conservation Law and 6 NYCRR refers to Title 6 of the New York Code, Rules, and Regulations.

Permit Authorizations

Water Quality Certification - Under Section 401 - Clean Water Act
Permit ID 9-1422-00452/00003
New Permit Effective Date: 3/24/2023 Expiration Date: 3/23/2026

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: LISA M CZECHOWICZ, Deputy Regional Permit Administrator
Address: NYSDEC Region 9 Headquarters
700 Delaware Ave
Buffalo, NY 14209

Authorized Signature: _____ Date 3 /24 /2023

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Facility DEC ID 9-1422-00452

Distribution List

Law Enforcement
Joe Rowley
Scott Livingstone

Permit Components

NATURAL RESOURCE PERMIT CONDITIONS

WATER QUALITY CERTIFICATION SPECIFIC CONDITION

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

NATURAL RESOURCE PERMIT CONDITIONS - Apply to the Following Permits: WATER QUALITY CERTIFICATION

1. Conformance With Plans All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such approved plans were prepared by the permittee or their representative(s) and are identified in condition no. 2, which includes the relevant water quality standards and explanation for the condition..

2. Conformance with Plans List All activities authorized by this permit must be in strict conformance with the approved plans submitted by the applicant or applicant's agent as part of the permit application. Such approved plans include the following:

	Document	Description and Date
a.	Plans	Received on April 22, 2022
b.		
c.		

Water Quality Requirements: 6 NYCRR 608.9 Discharges prohibited without certification.

Explanation: This condition is necessary to identify what discharges are authorized by the certification. Any discharge not identified in the referenced plans is prohibited.

3. Precautions Against Contamination of Waters All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4. **Precaution Against Contamination of Waters** All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project.

Water Quality Standards: 6 NYCRR 703.2. Narrative water quality standards related to turbidity, suspended solids, toxic substances, color, and other deleterious subtances.

Explantion: This condition is necessary to ensure that the permittee undertakes whatever additional measures are necessary, and not otherwise specified in the conditions of this permit, to prevent the contravention of water quality standards during the implemenation of the project.

5. **Install and Maintain Erosion Controls** Appropriate soil erosion and sediment controls (such as silt fences, turbidity curtains, straw bales, and other appropriate measures) shall be installed, used, and maintained in effective operating condition during all work. Controls shall be installed prior to ground disturbance, inspected periodically to ensure that they are not damaged, repaired promptly when needed, and remain in place until the site is stabilized by the regrowth of suitable vegetation. Erosion controls shall be removed after the site is stabilized by the regrowth of suitable vegetation.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards for turbidity, suspended solids, and other deleterious substances.

Explanation: This condition is necessary to ensure that upland erosion is minimized and contained during project construction, preventing contravention of the water quality standards.

6. **Construction Access** Construction access shall be by means that avoid aquatic sites, unless specifically authorized on the approved plans.

Water Quality Standards: 6 NYCRR 608.9 Discharges prohibited without certification.

Explanation: This condition is necessary to ensure that the operation of construction equipment does not result in long-term or permanent alteration of waters, creating a discharge beyond the scope of the authorized discharge.

7. **Temporary Work Areas** Temporary causeways and work pads within regulated waters shall be constructed within the confines of a water control structure and shall consist of clean non-erodible material such as stone, timber, or steel. The temporary causeways and work pads shall not be installed until the water control structure is in place and the area has been completely dewatered and shall be removed prior to removal of the water control structure. Equipment staging and lay down areas shall not be located in wetlands, unless specifically authorized on the approved plans.

Water Quality Standards: 6 NYCRR 608.9: Discharges prohibited without certification. 6 NYCRR 703.2: Narrative water quality standardsrelated to turbidity, suspended solids, toxic subtances, and other deleterious substances.

Explanation: This condition is necessary to ensure that the construction of temporary work pads and staging areas do not result in long-term or permanent alteration of waters, creating a discharge beyond the scope of the authorized discharge, or result in a contravention of water quality standards.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

8. **Clean Fill Only** All fill shall consist of clean soil, sand and/or gravel that is free of the following substances: asphalt, slag, flyash, broken concrete, demolition debris, garbage, household refuse, tires, woody materials including tree or landscape debris, and metal objects. The introduction of materials toxic to aquatic life is expressly prohibited.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards related to turbidity, suspended solids, garbage, cinders, ashes, oils, sludge, other refuse, toxic substances, and other deleterious substances.

Explanation: This condition is necessary to ensure that there are no unauthorized materials are discharged, and that those authorized materials do not contain any other materials that are toxic to aquatic life and, thereby, contravene water quality standards.

9. **Heavy Equipment** Heavy equipment working in wetlands must be placed on equipment mats, or other measures must be taken to minimize soil disturbance and compaction to the maximum extent practicable.

Water Quality Standards: 6 NYCRR 608.9 Discharges prohibited without certification.

Explanation: This condition is necessary to ensure that the operation of heavy equipment does not result in long-term or permanent alteration of waters, creating a discharge beyond the scope of the authorized discharge.

10. **Equipment Cleaning** To prevent turbid discharges and the potential introduction of invasive species into regulated waters from other areas, all equipment used in any project work area involving regulated waters will be inspected for, and cleaned of, any visible soils, vegetation, and debris before being used in regulated waters.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards related to turbidity, suspended solids and other deleterious substances.

Explanation: This condition is necessary to ensure that equipment used will not contribute to a contravention of water quality standards.

11. **Temporary Dewatering Structures** Where temporary dewatering is required or specified on the approved plans, temporary dewatering measures shall comply with the following:

a. Temporary dewatering structures shall be constructed of clean material such as prefabricated impervious dikes/berms or sandbags. If stone is used, it shall be protected from erosion by plastic liners or filter fabric.

b. Waters accumulated in isolated work areas shall be discharged to an upland settling basin or well vegetated area to provide for settling and filtering of solids and sediments. Return waters shall be as clear as the flowing water upstream of the work area.

c. Temporary dewatering structures, including any plastic liners or filter fabric, and associated fill shall be completely removed, and the affected waters restored, immediately following the completion of work.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

d. To the maximum extent practicable, any fish trapped within the work area shall be netted and placed, alive and unharmed, in the water outside the work area.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards for turbidity, flow, suspended solids, and other deleterious substances. ECL 11-1301(4): Requires fish unintentionally taken to be returned to water without uneccessary injury.

Explanation: This condition is necessary to ensure that dewatering discharges from the work area do not result in erosion, fish kills, and contravention of the water quality standards.

12. Diversion Channels When the use of a diversion channel is specified on the approved plans, the diversion channel shall be excavated and restored in the dry using channel plugs. Diversion channels through soil, silt, or clay shall be lined with non-erodible material such as stone, or plastic to limit erosion and reduce particle suspension. If a diversion channel through gravel results in continuous turbidity, the use of channel lining material is required.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards for turbidity, suspended solids, and other deleterious substances.

Explanation: This condition is necessary to ensure that when a diversion channel is used to separate flowing water from the work area, erosion from scouring is minimized and contravention of water quality standards is prevented.

13. Stockpiles Fill or other excavated materials shall not be stockpiled in a manner conducive to erosion, or in areas with the potential to cause turbid runoff during storm events. Mats or geotextile fabric shall be placed under any temporary fill or stockpile and shall be removed following construction.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards for turbidity, suspended solids, and other deleterious substances.

Explanation: This condition is necessary to ensure that erosion from stockpiled materials is minimized and contained during project construction, preventing contravention of the water quality standards.

14. Concrete leachate During construction no fresh or wet concrete or leachate shall be allowed to escape into any wetland or water of New York State, nor shall washings from ready-mix concrete trucks, mixers, or other devices be allowed to enter any waters or wetlands. Wet concrete shall not be poured to displace water within the forms. Leakage from forms must be prevented from entering any wetland or water of New York State.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards for turbidity, suspended solids, toxic substances and other deleterious substances.

Explanation: This condition is necessary to ensure that concrete, concrete leachate and other materials contaminated by concrete, which are toxic to aquatic life, are contained during project construction, preventing contravention of the water quality standards.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

15. **Seed and Mulch Streambanks and Work Areas** Within one week of final grading, all areas of soil disturbance from this project shall be seeded with an appropriate perennial grass seed and mulched with hay or straw, unless hydroseeded.. Mulch shall be maintained until a suitable vegetative cover is established. If seeding is impracticable due to the time of year, a temporary mulch shall be applied and final seeding shall be performed at the earliest opportunity when weather conditions favor germination and growth, but not more than six months after project completion.

Water Quality Standards: 6 NYCRR 703.2: Narrative water quality standards for turbidity, suspended solids, and other deleterious substances.

Explanation: This condition is necessary to ensure that upland erosion is minimized after construction is completed, preventing contravention of the water quality standards.

16. **State May Order Removal or Alteration of Work** If future operations by the State of New York require an alteration in the position of the structure or work herein authorized, or if, in the opinion of the Department of Environmental Conservation it shall cause unreasonable obstruction to the free navigation of said waters or flood flows or endanger the health, safety or welfare of the people of the State, or cause loss or destruction of the natural resources of the State, the owner may be ordered by the Department to remove or alter the structural work, obstructions, or hazards caused thereby without expense to the State, and if, upon the expiration or revocation of this permit, the structure, fill, excavation, or other modification of the watercourse hereby authorized shall not be completed, the owners, shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may require, remove all or any portion of the uncompleted structure or fill and restore to its former condition the navigable and flood capacity of the watercourse. No claim shall be made against the State of New York on account of any such removal or alteration.

17. **State May Require Site Restoration** If upon the expiration or revocation of this permit, the project hereby authorized has not been completed, the applicant shall, without expense to the State, and to such extent and in such time and manner as the Department of Environmental Conservation may lawfully require, remove all or any portion of the uncompleted structure or fill and restore the site to its former condition. No claim shall be made against the State of New York on account of any such removal or alteration.

18. **State Not Liable for Damage** The State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

WATER QUALITY CERTIFICATION SPECIFIC CONDITIONS

1. **Water Quality Certification** The authorized project, as conditioned pursuant to the Certificate, complies with Section 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act, as amended and as implemented by the limitations, standards, and criteria of state statutory and regulatory requirements set forth in 6 NYCRR Section 608.9(a). The authorized project, as conditioned, will also comply with applicable New York State water quality standards, including but not limited to effluent limitations, best usages and thermal discharge criteria, as applicable, as set forth in 6 NYCRR Parts 701, 702, 703, and 704.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. Facility Inspection by The Department The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. Relationship of this Permit to Other Department Orders and Determinations Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. Applications For Permit Renewals, Modifications or Transfers The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Regional Permit Administrator
NYSDEC Region 9 Headquarters
700 Delaware Ave
Buffalo, NY14209

4. Submission of Renewal Application The permittee must submit a renewal application at least 30 days before permit expiration for the following permit authorizations: Water Quality Certification.

5. Permit Modifications, Suspensions and Revocations by the Department The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the permittee to comply with any terms or conditions of the permit;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

6. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4300 MILLERSPORT HIGHWAY

Appendix G - Legal Protection Instrument

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Updated June 2019

MODEL DECLARATION OF CONSERVATION COVENANTS AND RESTRICTIONS STATE OF NEW YORK

The following "Declaration of Conservation Covenants and Restrictions" document is provided for drafting purposes. Please check the Buffalo District, Regulatory Division website in order to view and access the most current draft restrictive covenant language and instructions. Please contact the Buffalo District Office of Counsel should you have questions or wish to consult regarding any of the procedures involved in the processing of this legal document.

Do not execute and record the instrument and exhibits (including the survey(s)) until approved in writing by the USACE.

If the property is already protected for its conservation functions by an existing conservation easement, by statute, as a park, recreational area, or green space owned by the state, county, city, or other local department or agency, or if the property is secured by a Deed to Secure the Debt, then it may not be eligible as Clean Water Act Section 404 mitigation unless recorded instruments are subordinated to the Declaration and do not conflict with its terms.

Consult with the (1) owner of the property, (2) environmental consultant, and (3) surveyor, in order to provide all information and exhibits required.

SUBMIT FOR REVIEW PRIOR TO RECORDING

The Attorney for the permit or mitigation banking instrument holder should write a letter requesting a review of the draft Model Declaration of Restrictive Covenants and exhibits addressed to:

U.S. Army Corps of Engineers
Office of Counsel
1776 Niagara Street
Buffalo, NY 14207-3199
(716) 879-4184

*NOTE that the Regulatory Branch employee to whom the Action has been assigned should be copied on the aforesaid letter and be provided a copy of the draft Declaration of Restrictive Covenants and exhibits.

Please reference the U.S. Army Corps of Engineers permit number/banking instrument number on any communications to USACE (this number is set out on correspondence from the Regulatory Branch). Please provide the name, telephone, and mailing address of the attorney who is the point of contact for this draft document, as well as the name, telephone, and mailing address for the consultant.

The Office of Counsel will review the document and advise regarding necessary changes. For questions regarding this document, please call the Office of Counsel at (716) 879-4184.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Once approved and recorded, a copy of the recorded document should be forwarded to the Buffalo District Office of Counsel. If not forwarded, then the permit holder may be out of compliance with the permit action.

REQUIRED EXHIBITS

The following documents must be attached as exhibits to the instrument:

1. Exhibit A: A copy of the signed permit, permit letter, after-the-fact permit letter, or settlement agreement.

2. Exhibit B: A legal description of the parcel or tract subject to the covenant.

3. Exhibit C: A platted survey showing metes and bounds of the boundary of the parcel(s) subject to the restrictive covenant prepared by a registered New York surveyor. By legend key, show approximate location of wetlands, streams, and buffers located within the boundaries. Show existing structures such as roads and utility lines. Refer to the "Provide to Surveyor" instructions attached herein for survey requirements, including a Note on the survey which provides: "Wetlands, Streams, and Buffers may be under the jurisdiction of the United States Army Corps of Engineers, permit number (*enter permit number*), and are protected by a recorded Declaration of Restrictive Covenants."

DOCUMENTS TO BE FORWARDED FOR REVIEW ONLY

Copies of the following documents must be provided for review (do not send originals):

1. Deed of Title, showing the owner of the property. Title insurance is not required.

2. All Recorded Easements, or, if numerous, a list of easement holders and the nature of the easement with citation of recorded location. If there are third party holders of mineral or timber rights, the conservation property will not be approved for use as mitigation.

3. Drawing of developmental design, if any, for purposes of showing that property subject to the delineation is not part of any residential, commercial, or other subdivided lots but is an open and common area or a separate parcel.

4. Any county, state, and/or federal land conservation use documents or conservation easements that pertain to the property. State if the property is a public park, greenway, or is protected statutorily for its conservation land use.

5. Any Deeds to Secure the Debt, any Liens of Record, or Leases.

6. If the Owner is a corporation, a copy of the Secretary of State listing of the corporation.

7. If the Owner is a governmental body, provide a copy of a resolution and adoption of the declaration by the governing body.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DISCLAIMER

The following document is a sample Declaration of Conservation Covenants and Restrictions (Deed Restriction). The language within this document serves as an acceptable baseline terms and conditions for purposes of mitigation site protection in connection for purposes of the USACE Buffalo District Regulatory Program. The availability of this model does not constitute legal, accounting, or tax advice. Not all protective covenants necessarily follow the same format, nor contain the same provisions, and therefore protective covenants should be tailored for their particular purposes. Formally completed protective covenants are intended to be recorded, enforceable, and legal instruments. All persons considering use of this model should obtain the services of an attorney licensed to practice law in the State of New York.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

MODEL DECLARATION OF CONSERVATION COVENANTS AND RESTRICTIONS

THIS DECLARATION OF CONSERVATION COVENANTS AND RESTRICTIONS, is made this ___ day of _____, 20__, by _____ (the "Owner"), its successors and assigns, having an address at _____, _____, New York.

RECITALS

WHEREAS, the Owner is the fee simple owner of certain tracts of land located at _____ and being the property conveyed to the Owner by deed recorded in deed book [insert LIBER FOLIO reference here] in the land records of _____ County, New York; and

WHEREAS, the Owner intends to develop the property in a manner which will result in impacts to waters of the United States, which impacts are authorized by Department of the Army Permit number _____, issued on _____, __, 20__ by the United States Army Corps of Engineers, Buffalo District ("USACE," to include any successor agency), attached as Exhibit A ("the Permit"), in accordance with the Section 404 of the Federal Clean Water Act (33 U.S.C. § 1344) and/or Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 401) and implementing regulations; and

WHEREAS, in order to protect, restore, and maintain the chemical, physical, and biological integrity of waters of the United States, and as a condition of being issued the Permit, the Owner agrees to restrict use of the property as identified and described by metes and bounds on Exhibit B, attached hereto, and as set forth graphically on Exhibit C, attached hereto (the "Protected Property") in accordance with Federal and State law; and

WHEREAS, the Owner agrees that the Protected Property shall be bound by, held, transferred, sold, conveyed, leased, improved, hypothecated, occupied, or otherwise disposed of and used subject to the following restrictive covenants ("the Restrictions"), which shall be perpetual and run with the land and be binding on all the Owner's heirs, executors, administrators, assigns, lessees, or other persons, firms, associations, corporations, or governmental or other entities having or hereafter acquiring any right or interest in said Protected Property or any part thereof;

NOW THEREFORE, in consideration of the mutually-held interests in preservation of the environment, as well as the terms, conditions, and restrictions contained herein, and pursuant to Federal laws and the laws of the State of New York, the Owner does agree to the following terms and conditions:

A. PURPOSE

The purpose of this Declaration of Conservation Covenants and Restrictions is to restrict the current and future use of the Protected Property in perpetuity in order to protect, restore, and maintain the chemical, physical, and biological integrity of waters of the United States on the Protected Property, as well as scenic, resource, environmental, and other conservation values of the Protected Property.

B. RESTRICTIONS

These Restrictions on the Protected Property shall run with the Protected Property in perpetuity, and be binding on the Owner and its respective successors, assigns, lessees, and other occupiers and users. These Restrictions are subject to the Owner's Reserved Rights, which follow.

1. **General**. There shall be no future fillings, flooding, excavating, mining, or drilling; no removal of natural materials (soil, sand, gravel, rock, minerals, etc.); no dumping of materials; and no alteration of the topography which would materially affect the Protected Property in any manner, except as authorized by the Permit.

2. **Waters and Wetlands**. In addition to the general restrictions above, within the Protected Property there shall be no draining, dredging, damming, or impounding; no changing the grade or elevation, impairing the flow or circulation of waters, or reducing the reach of waters; and no other discharges or activity requiring a permit under applicable water pollution control laws and regulations, except as authorized by the Permit.

3. **Trees/Vegetation**. On the Protected Property there shall be no clearing, burning, cutting, or destroying of trees or vegetation, except as may be necessary to protect public health or safety or as authorized by the Permit; there shall be no planting or introduction of non-native or exotic species of trees or vegetation.

4. **Uses**. No agricultural, animal husbandry, industrial, residential development, mining, logging, or commercial activity shall be undertaken or allowed on the Protected Property.

5. **Structures**. There shall be no construction, erection, or placement of buildings, billboards, or any other structures, to include fences, parking lots, trailers, mobile homes, camping accommodations, or recreational vehicles, or additions to existing structures, on the Protected Property.

6. **New Roads**. There shall be no construction of new roads, trails, or walkways on the Protected Property without the prior written approval (including approval of the manner of construction) of the USACE.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

7. **Utilities**. There shall be no construction or placement of utilities or related facilities (including telecommunications towers and antennas) on the Protected Property without the prior written approval (including approval of the manner of construction) of the USACE.

8. **Pest Control**. There shall be no application of pesticides or biological controls, including controls of problem vegetation, on the Protected Property without prior written approval (including approval of the manner of application) of the USACE.

9. **Vehicular Use**. There shall be no use of any motorized vehicle or motorized equipment, and no use of any non-motorized bicycle anywhere on the Protected Property, except in the case of emergency, for the purpose of enforcement of applicable laws and regulations, or for the purpose of monitoring compliance with the purposes of this instrument.

10. **Subdivision**. There shall be no division or subdivision of the Protected Property.

11. **Other Prohibitions**. Any other use of, or activity on, the Protected Property which is or may become inconsistent with the purposes of these conservation covenants and restrictions, the preservation of the Protected Property substantially in its natural condition, or the protection of its environmental systems, is prohibited.

C. RESERVED RIGHTS OF OWNER

Notwithstanding the foregoing Restrictions, the Owner reserves for itself, its heirs, executors, administrators, successors, and assigns all rights accruing from its ownership of the Protected Property, including the right to engage in or permit or invite others to engage in all uses of the Protected Property that are not expressly prohibited herein and are not inconsistent with the purposes of the Restrictions. Without limiting the generality of the foregoing, the following rights are expressly reserved:

1. Right to Convey: The Owner retains the right to sell, mortgage, bequeath, donate, or otherwise convey the Protected Property. Any conveyance shall remain subject to the terms and conditions of this instrument, and the subsequent interest holder shall be bound by the terms and conditions hereof.

2. Right to Maintain: The Owner retains the right to maintain, renovate, and replace any existing structure(s), if any, on the Protected Property, in substantially the same location and size. Any expansion or replacement may not substantially alter the character or function of the structure.

3. Right to Access: The Owner shall retain the right of unimpeded access to the Protected Property.

D. GENERAL PROVISIONS

The following General Provisions shall be binding upon the Owner and its heirs, successors, grantees, transferees, administrators, assigns, lessees, licensees, and agents:

1. **Enforcement**. The USACE shall have the right to enter and go upon the Protected Property, to inspect the Protected Property, and take actions necessary to verify

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

compliance with this Declaration and the terms and conditions of the Permit. When practicable, such entry shall be upon prior reasonable notice to the property owner. The USACE reserves the discretionary right to request to be represented by the United States Department of Justice in a judicial action against any person(s) or other entity(ies) violating or attempting to violate these restrictive covenants: provided, however, that no violation of these restrictive covenants shall result in a forfeiture or reversion of title. In any enforcement action, an enforcing agency shall be entitled to a complete restoration for any violation, as well as any other judicial remedy such as civil penalties. Nothing herein shall limit the right of the USACE to modify, suspend, or revoke the Permit.

2. **Obligations of Ownership**. The Owner is responsible for payment of all real estate taxes, assessments, fees, or charges levied upon the Protected Property. Any liens, mortgages, or other encumbrances affecting the Protected Property shall be subject to the terms of this Declaration of Conservation Covenants and Restrictions. Nothing herein shall relieve the Owner of the obligation to comply with federal, state, or local laws, regulations, and permits that may apply to the exercise of ownership, or rights under this Declaration of Conservation Covenants and Restrictions, by the Owner.

3. **Recording**. The Owner shall have this Declaration of Restrictive Covenants duly recorded and indexed as such in the Office of the County Clerk of _____ County, New York, as described in ECL Section 49-0305.4. Upon recording, the Owner shall forward a copy of this Declaration of Conservation Covenants and Restrictions to the USACE. The Owner's recording and transmission to the USACE shall take place prior to the Owner's commencing work as authorized by the Permit.

4. **Notification**. Any permit application, or request for certification or modification, which may affect the Protected Property, made to any government entity with authority over wetlands or other waters of the United States, shall expressly reference and include a copy (with the recording stamp) of this instrument. The Owner shall provide the USACE with written notice of any legal action affecting this instrument, including but not limited to: foreclosure proceedings, tax sales, bankruptcy proceedings, zoning changes, adverse possession, abandonment, condemnation proceedings, and the exercise of the power of eminent domain. For any action that might result in this instrument becoming voided or modified, such notice shall be provided at least sixty (60) days before such action would be taken.

Any notice, request for approval, or other communication required by the terms and conditions of this instrument shall be sent by registered mail, pre-paid postage, to the following address:

U.S. Army Corps of Engineers
Regulatory Branch
1776 Niagara Street
Buffalo, New York 14207

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

5. **Property Transfers.** The Owner shall include the following notice on all deeds, mortgages, plats, or any other legal instrument used to convey any interest in the Protected Property:

> NOTICE: This Property is subject to a Declaration of Restrictive Covenants dated _____, recorded in the _____ County Clerk's Office on _____ in Deed Book _____, Page _____ and enforceable by the U.S. Army Corps of Engineers.

The Owner shall provide the USACE with written notice of any transfer sixty (60) days prior to such transfer. The notice shall include the name, address, and telephone number of the prospective transferee, a copy of the proposed deed or other documentation evidencing the conveyance, and a survey map that shows the boundaries of the portion of the Protected Property being transferred. Failure to comply with this paragraph does not impair the validity or enforceability of these restrictive covenants.

6. **Successors in Interest.** These Restrictions shall be covenants running with the land and shall constitute a burden on the Protected Property and shall run to the benefit of the parties hereto and their successors in interest. All subsequent owners of the Protected Property shall be bound to all provisions of these Restrictions to the same extent as the current parties. All references to the USACE shall include successor governmental agencies, departments, or divisions, or any other successor entities prescribed by law.

9. **Termination.** These Restrictions are intended to be perpetual in nature and run with the land. The Restrictions may be extinguished only by an unexpected change in condition which causes it to be impossible to fulfill the conservation purposes of this instrument, or by exercise of eminent domain.

10. **Eminent Domain**. If the Protected Property is taken in whole or in part through eminent domain, the consequential loss in the value of the property is the cost of the replacement of the conservation functions, services, and values of the aquatic and terrestrial resources on the Protected Property.

11. **Warranty.** The Owner warrants that it owns the Protected Property in fee simple, and that it owns all interests in the Protected Property that may be impaired by the granting of this Declaration of Conservation Covenants and Restrictions. The Owner warrants that there are no outstanding mortgages, tax liens, encumbrances, or other interests in the Protected Property that have not been expressly subordinated to this Declaration.

12. **Severability**. Should a court of competent jurisdiction find any separate part of this Declaration of Restrictive Covenants void or unenforceable, the remainder shall continue in full force and effect.

13. **Liberal Construction.** These Restrictions shall be liberally construed in favor of maintaining the conservation values of the Protected Property. The section headings and subheadings identified herein are for reference purposes only and shall not be used to interpret the meaning of any provision hereof.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

14. **Subordination [IF APPLICABLE]**. The undersigned Lender beneficiary under a Deed to Secure Debt (dated) and recorded in (Deed Book) and (Pages) in the (County, State) records, for itself, its successors and assigns, consents to the foregoing Declaration of Conservation Covenants and Restrictions. Lender agrees that, upon recordation of this instrument, the provisions of this instrument shall run with the land which serves as security for the debt evidenced by the Security Deed and further agrees that any foreclosure or any other remedy available to Lender will not render void or otherwise impair the validity of the Declaration of Conservation Covenants and Restrictions.

IN WITNESS WHEREOF, the Owner has set its hand as of the __ day of _____, 20__ at _____, New York.

DECLARANT/OWNER
[Name of Owner]

By: _____

Name:

Title:

STATE OF NEW YORK)
) ss.:
COUNTY OF)

On the day of in the year 20__ before me, the undersigned, a notary public in and for said state, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed this instrument.

_____
Notary Public

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

LENDER [IF APPLICABLE – ALSO MUST BE NOTARIZED]
[Name of Lender]
For Purposes of Paragraph (D)(13) Only:

By: _____

Name:

Title:

STATE OF NEW YORK)
) ss.:
COUNTY OF)

On the day of in the year 20__ before me, the undersigned, a notary public in and for said state, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed this instrument.

_____
Notary Public

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

PROVIDE TO SURVEYOR

Instructions for Survey for use with the Model Declaration of Conservation Covenants

Do not record the survey until approved by the Buffalo District Office of Counsel. Provide the platted survey to the attorney preparing the restrictive covenant on behalf of the owner of the property.

Surveys must contain the seal of a New York Registered Land Surveyor. The surveyor should determine the survey plat size approved or required by the land records office in the county where the land lies.

The survey should be a metes and bounds boundary survey of those parcels of land that will be subject to the restrictive covenant. Within the boundary survey is generally located wetland, streams, and buffers. This property generally contains all property referenced as mitigation, including preservation, restoration, establishment, and enhancement. Note that this may be different from a jurisdictional survey that would only show metes and bounds of jurisdictional wetlands or streams.

The bearings and distances should be tied in to at least one known coordinate, with a statement of precision closure <1:10,000.

State the total number of acres of each tract/parcel.

Use a legend to approximately identify the location of the wetlands, wetland buffers, streams, or upland.

Show easements, right-of-ways, roads, and structures that go on or across the parcels subject to the restrictive covenant. Provide the width and length of the easement if known, and the holder of the easement.

Provide a minimum of three or four latitude/longitude coordinates which, when connected, will form a polygon that approximately circumscribes the mitigation area. This is for use with GIS mapping.

Provide a vicinity map identifying roads adjacent to the site.

If the property subject to the restrictive covenant is land-locked and there is no road/path to the property, the property owner must dedicate an access easement to and from the property that is identified on the survey.

Surveyor shall enter "Note" on survey that provides:

> "Wetlands, Streams, and Buffers may be under the jurisdiction of the United States Army Corps of Engineers, permit number (*enter permit number*), and are protected by a recorded Declaration of Restrictive Covenants."

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4300 MILLERSPORT HIGHWAY

Appendix H – Mitigation Site Photograph

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Photo 1: Facing north into the proposed wetland creation

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS BUFFALO DISTRICT
478 MAIN STREET
BUFFALO, NY 14202-3278

January 18, 2024

Regulatory Branch

SUBJECT: Approved Jurisdictional Determination and Delineation Verification for Department of the Army Processing No. LRB-LRB-2006-00698

Cimato Enterprises, Inc
Fred Cimato
9220 Transit Road
East Amherst, New York 14051

Dear Mr. Cimato:

I have reviewed your request for an approved jurisdictional determination (JD) for the 66.9-acre review area located at 4300 Millersport Highway, in the Town of Amherst, Erie County, NY.

I have determined that the location and extent of all aquatic resources shown on the attached map(s) accurately represent the review area conditions.

Enclosed is an approved JD which verifies the limits of waters of the U.S. within the review area as depicted on Sheet(s) 1 - 6. This approved JD will remain valid for a period of five (5) years from the date of this correspondence unless new information warrants revision of the approved JD before the expiration date. At the end of this period, a new aquatic resource delineation will be required to support any request for a new JD.

I have determined that the following aquatic resource, Stream 1 and Wetland W1, are waters of the U.S. regulated under Section 404 of the Clean Water Act as noted on the attached Approved Jurisdictional Determination Form: Memorandum for Record. Department of the Army authorization is required if you propose a discharge of dredged or fill material in these water of the U.S.

I have determined that the following aquatic resources, Wetland W2, is not waters of the U.S. as noted on the attached Approved Jurisdictional Determination Form: Memorandum for Record. Therefore, this aquatic resource is not regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Department of the Army authorization is not required if you propose work, installation of structures, or a discharge of dredged or fill material in this aquatic resources.

Further, the delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the review area identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Regulatory Branch

SUBJECT: Approved Jurisdictional Determination and Delineation Verification for Department of the Army Processing No. LRB-LRB-2006-00698

the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Request for Appeal (RFA) form. If you request to appeal the above JD, you must submit a completed RFA form within 60 days of the date on this letter to the Great Lakes/Ohio River Division Office at the following address:

Katherine McCafferty
Regulatory Appeals Officer
US Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10780
Cincinnati, Ohio 45202-3222
Phone: 513-684-2699 Fax: 513-684-2460
e-mail: katherine.a.mccafferty@usace.army.mil

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete; that it meets the criteria for appeal under 33 C.F.R. part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by March 18, 2024.

It is not necessary to submit an RFA to the Division office if you do not object to the determination in this letter.

Questions pertaining to this matter should be directed to me at (716) 879-4279 by writing to the following address: U.S. Army Corps of Engineers Regulatory Branch 478 Main Street, Buffalo, New York 14202 or by e-mail at: Joseph.M.Rowley@usace.army.mil

Sincerely,

Joseph Rowley

Joseph Rowley
Physical Scientist

Enclosures

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Cimato Enterprises, Inc	File Number: LRB-2006-00698	Date: January 18, 2024

Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL WITHOUT PREJUDICE	C
	PERMIT DENIAL WITH PREJUDICE	D
X	APPROVED JURISDICTIONAL DETERMINATION	E
	PRELIMINARY JURISDICTIONAL DETERMINATION	F

SECTION I

The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/appeals/ or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

C. PERMIT DENIAL WITHOUT PREJUDICE: Not appealable

You received a permit denial without prejudice because a required Federal, state, and/or local authorization and/or certification has been denied for activities which also require a Department of the Army permit before final action has been taken on the Army permit application. The permit denial without prejudice is not appealable. There is no prejudice to the right of the applicant to reinstate processing of the Army permit application if subsequent approval is received from the appropriate Federal, state, and/or local agency on a previously denied authorization and/or certification.

D: PERMIT DENIAL WITH PREJUDICE: You may appeal the permit denial

You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information for reconsideration

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.
- RECONSIDERATION: You may request that the district engineer reconsider the approved JD by submitting new information or data to the district engineer within 60 days of the date of this notice. The district will determine whether the information submitted qualifies as new information or data that justifies reconsideration of the approved JD. A reconsideration request does not initiate the appeal process. You may submit a request for appeal to the division engineer to preserve your appeal rights while the district is determining whether the submitted information qualifies for a reconsideration.

F: PRELIMINARY JURISDICTIONAL DETERMINATION: Not appealable

You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision you may contact:	If you have questions regarding the appeal process, or to submit your request for appeal, you may contact:
Joseph Rowley U.S. Army Corps of Engineers 478 Main St Buffalo, NY 14202 Joseph.M.Rowley@usace.army.mil 716-879-4279	Katherine McCafferty Regulatory Appeals Officer US Army Corps of Engineers Great Lakes and Ohio River Division 550 Main Street, Room 10780 Cincinnati, Ohio 45202-3222 Phone: 513-684-2699 Fax: 513-684-2460 e-mail: katherine.a.mccafferty@usace.army.mil

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SECTION II – REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT	
REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. Use additional pages as necessary. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)	
ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.	
RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation and will have the opportunity to participate in all site investigations.	
_____ Signature of appellant or agent.	Date:
Email address of appellant and/or agent:	Telephone number:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 1: USGS 7.5 MINUTE TOPOGRAPHICAL MAP

Clarence Center Quadrangle / U.S. Geological Survey

4300 Millersport Highway

Town of Amherst, Erie County, New York

EARTH DIMENSIONS, INC.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 2: NATIONAL WETLANDS INVENTORY MAP

http://www.fws.gov/wetlands/data/mapper.HTML (Visited 6/21/23)

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

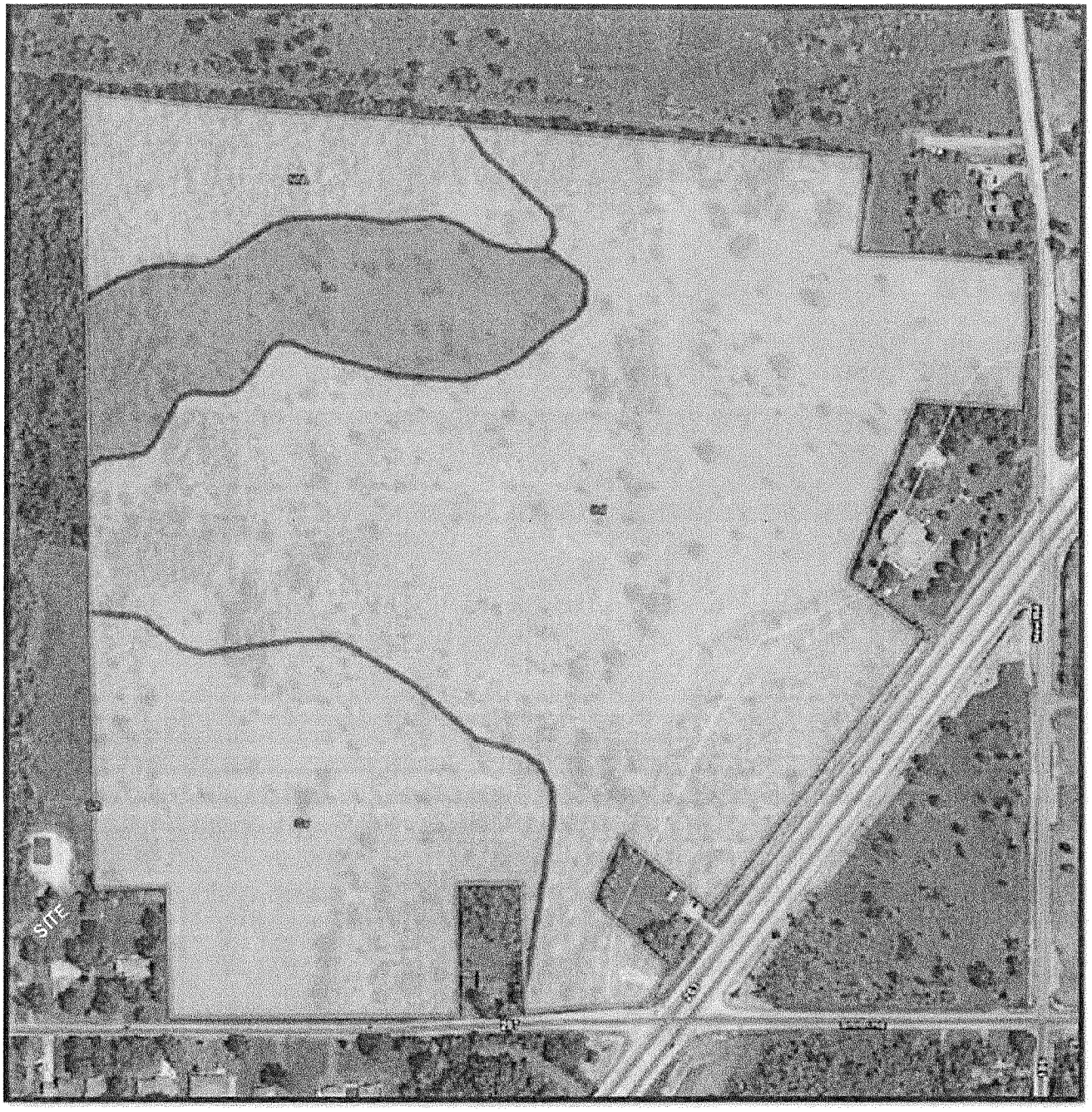


FIGURE 3: NRCS SOIL SURVEY MAP

http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (Visited 6/21/23)

4300 Millersport Highway

Town of Amherst, Erie County, New York

EARTH DIMENSIONS, INC.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 4: NYSDEC ENVIRONMENTAL RESOURCE MAPPER

https://gisservices.dec.ny.gov/gis/erm/ (Visited 6/21/23)

4300 Millersport Highway

Town of Amherst, Erie County, New York

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



FIGURE 7: DRAINAGE MAP

https://streamstats.usgs.gov/ss/ (Visited 6/21/23)

4300 Millersport Highway

Town of Amherst, Erie County, New York

EARTH DIMENSIONS, INC.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

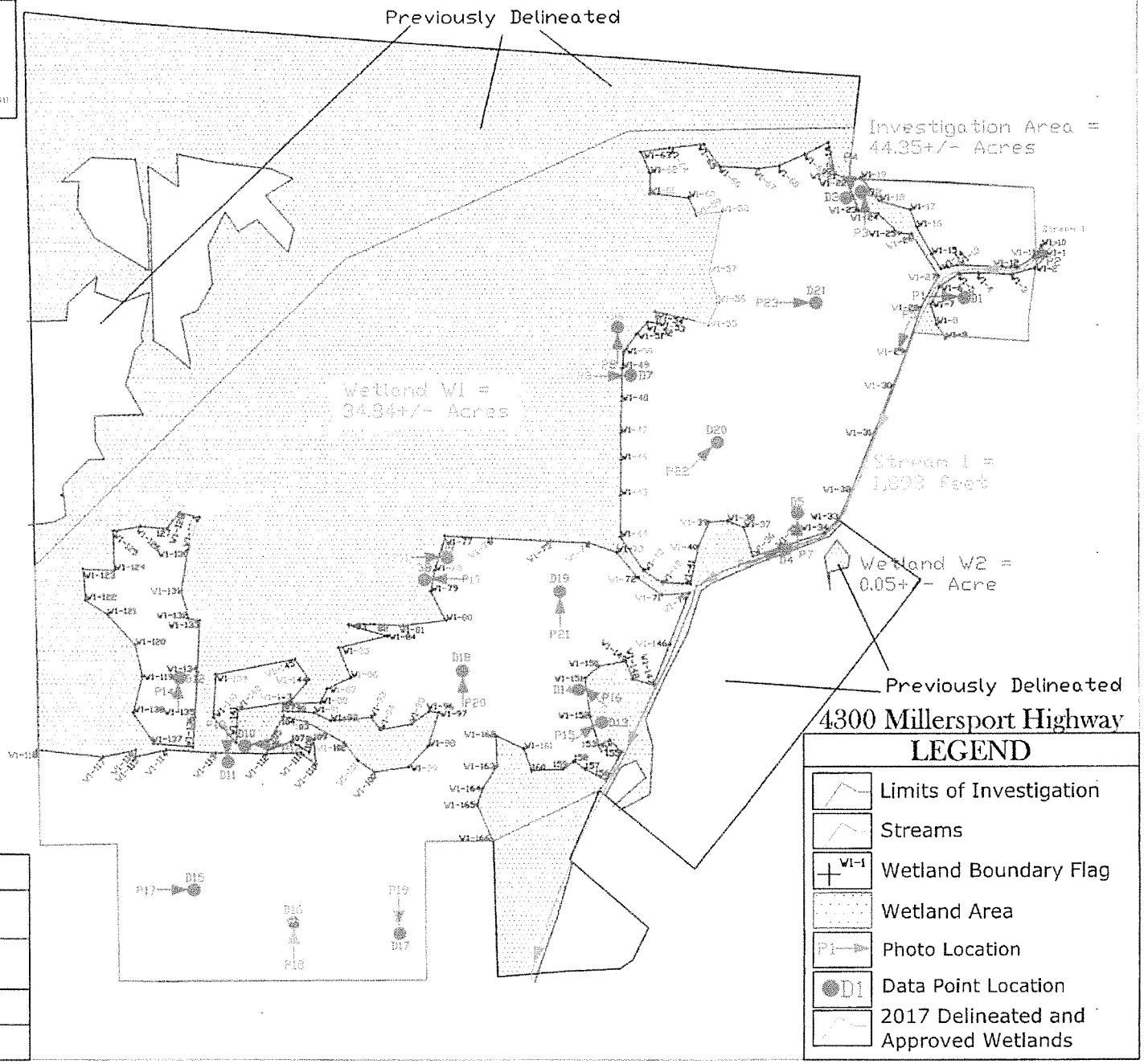
Figure 6 - Wetland Delineation Map

Town of Amherst Erie County, New York

EARTH DIMENSIONS, INC.
6991 Jamison Road Elma, NY 14059
(716) 655-1717 | www.earthdimensions.com



4300 Millersport Highway-Cimato Enterprises
LRB 2006-00698
Erie County
Sheet 6 of 6



Scale: 0 200' 400'
Map Date: June 29, 2023/ TJS for EDI Revised: September 22, 2023
Base Map Provided By: Trimble Geo 7X
File Name: Delineation Map.dwg
EDI Project Code: W1F06g

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, BUFFALO DISTRICT
478 MAIN STREET
BUFFALO, NEW YORK 14202

CELRB-TD-R

January 18, 2024

MEMORANDUM FOR RECORD

SUBJECT: US Army Corps of Engineers (Corps) Approved Jurisdictional Determination in accordance with the "Revised Definition of 'Waters of the United States'"; (88 FR 3004 (January 18, 2023) as amended by the "Revised Definition of 'Waters of the United States'; Conforming" (8 September 2023) ,[1]LRB-2006-00698(4300 Millersport Highway)

BACKGROUND. An Approved Jurisdictional Determination (AJD) is a Corps document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. AJDs are clearly designated appealable actions and will include a basis of JD with the document.[2] AJDs are case-specific and are typically made in response to a request. AJDs are valid for a period of five years unless new information warrants revision of the determination before the expiration date or a District Engineer has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.[3]

On January 18, 2023, the Environmental Protection Agency (EPA) and the Department of the Army ("the agencies") published the "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule"). On September 8, 2023, the agencies published the "Revised Definition of 'Waters of the United States'; Conforming", which amended the 2023 Rule to conform to the 2023 Supreme Court decision in *Sackett v. EPA*, 598 U.S., 143 S. Ct. 1322 (2023) ("*Sackett*").

This Memorandum for Record (MFR) constitutes the basis of jurisdiction for a Corps AJD as defined in 33 CFR §331.2. For the purposes of this AJD, we have relied on Section 10 of the Rivers and Harbors Act of 1899 (RHA),[4] the 2023 Rule as amended, as well as other applicable guidance, relevant case law, and longstanding practice in evaluating jurisdiction.

[1] While the Revised Definition of "Waters of the United States"; Conforming had no effect on some categories of waters covered under the CWA, and no effect on any waters covered under RHA, all categories are included in this Memorandum for Record for efficiency.
[2] 33 CFR 331.2.
[3] Regulatory Guidance Letter 05-02.
[4] USACE has authority under both Section 9 and Section 10 of the Rivers and Harbors Act of 1899 but for convenience, in this MFR, jurisdiction under RHA will be referred to as Section 10.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

CELRB TD-R
SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), LRB-2006-00698(4300 Millersport Highway)

1. SUMMARY OF CONCLUSIONS.

   a. Provide a list of each individual feature within the review area and the jurisdictional status of each one (i.e., identify whether each feature is/is not a water of the United States and/or a navigable water of the United States).

      JURISDICTIONAL

      i. LRB 2008-00698 Wetland W1, PFO/PSS 34.84 acres, Section 404
      ii. LRB 2008-00698 Stream 1, Perennial, 1,893 linear feet, Section 404

      NON-JURISDICTIONAL

      iii. LRB 2008-00698 Wetland W2, PEM, 0.05 acres, non-jurisdictional

2. REFERENCES.

   a. "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule")

   b. "Revised Definition of 'Waters of the United States'; Conforming" 88 FR 61964 (September 8, 2023))

   c. *Sackett v. EPA*, 598 U.S. _, 143 S. Ct. 1322 (2023)

3. REVIEW AREA. *The review area consists of approximately 70 acre area located at 4300 Millersport Highway, Town of Amherst, Erie County, New York (43.0561, -78.7284). Figures 1 – 6.*

4. NEAREST TRADITIONAL NAVIGABLE WATER (TNW), THE TERRITORIAL SEAS, OR INTERSTATE WATER TO WHICH THE AQUATIC RESOURCE IS CONNECTED. *The nearest TNW is Tonawanda Creek (Erie Canal) 1.7 miles to the northeast (straight) of the review area.*

5. FLOWPATH FROM THE SUBJECT AQUATIC RESOURCES TO A TNW, THE TERRITORIAL SEAS, OR INTERSTATE WATER. *The jurisdictional aquatic resources below have a continuous surface water connection to an unnamed tributary to Ransom Creek which flows to the South to Ransom Creek then northeast 1.7 miles before entering Tonawanda Creek (Erie Canal), a TNW.*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

6. SECTION 10 JURISDICTIONAL WATERS[5]: Describe aquatic resources or other features within the review area determined to be jurisdictional in accordance with Section 10 of the Rivers and Harbors Act of 1899. Include the size of each aquatic resource or other feature within the review area and how it was determined to be jurisdictional in accordance with Section 10.[6] *N/A*

7. SECTION 404 JURISDICTIONAL WATERS: Describe the aquatic resources within the review area that were found to meet the definition of waters of the United States in accordance with the 2023 Rule as amended, consistent with the Supreme Court's decision in *Sackett.* List each aquatic resource separately, by name, consistent with the naming convention used in section 1, above. Include a rationale for each aquatic resource, supporting that the aquatic resource meets the relevant category of "waters of the United States" in the 2023 Rule as amended. The rationale should also include a written description of, or reference to a map in the administrative record that shows, the lateral limits of jurisdiction for each aquatic resource, including how that limit was determined, and incorporate relevant references used. Include the size of each aquatic resource in acres or linear feet and attach and reference related figures as needed.

   a. Traditional Navigable Waters (TNWs) (a)(1)(i): *N/A*

   b. The Territorial Seas (a)(1)(ii): *N/A*

   c. Interstate Waters (a)(1)(iii): *N/A*

   d. Impoundments (a)(2): *N/A*

   e. Tributaries (a)(3): **LRB 2006-00698 Stream 1** – is a 3-5 foot wide tributary to Ransom Creek with an established bed and banks, ordinary high water mark and is located within hydric soils. According to the delineation report and observations in the field, it was determined Stream 1 has intermittent flow. According to the NYSDEC Environmental Resource mapper, Stream 1 is classified as a Class C Stream to Ransom Creek. The Stream is also shown as an intermittent tributary

[5] 33 CFR 329.9(a) A waterbody which was navigable in its natural or improved state, or which was susceptible of reasonable improvement (as discussed in § 329.8(b) of this part) retains its character as "navigable in law" even though it is not presently used for commerce, or is presently incapable of such use because of changed conditions or the presence of obstructions.
[6] This MFR is not to be used to make a report of findings to support a determination that the water is a navigable water of the United States. The district must follow the procedures outlined in 33 CFR part 329.14 to make a determination that water is a navigable water of the United States subject to Section 10 of the RHA.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

to Ransom Creek on the USGS Topo Map. In addition, this observation in the field is consistent with what was reviewed and confirmed after an in-house review of the USFWS NWI map, the USGS Topo (Clarence Center Quad), aerial imagery and USDA/NRCS Soils Survey. Therefore, Stream 1 is an A(3) water as it is a permanent flowing water that is a tributary to an A(1) water, Tonawanda Creek/Erie Canal.

f. Adjacent Wetlands (a)(4): LRB 2006-00698 Wetland 1 is a delineated 34.84 acre (on-site) wetland consisting of Palustrine forested, scrub-shrub and emergent types that extends off-site to the north, west and south. Shown in the delineation report and observations in the field, it was confirmed Wetland 1 directly abuts Stream 1, an unnamed tributary to Ransom Creek which eventually makes it way to Tonawanda Creek (Erie Canal). A review the USDA/NRCS Web Soil Survey indicates mapped hydric soils underlay both the delineated wetland and abutting tributary. Based on a review of the submitted delineation report, an in-office resource review, and the site visit, it has been determined that LRB-2006-00698 Wetland 1 has a continuous surface connection to another water of the United States, and ultimately contributing flow to Erie Canal, a Section 10 Navigable Waterway and a Traditional Navigable Waterway.

g. Additional Waters (a)(5): *N/A*

8. NON-JURISDICTIONAL AQUATIC RESOURCES AND FEATURES

a. Describe aquatic resources and other features within the review area identified in the 2023 Rule as amended as not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5). Include the type of excluded aquatic resource or feature, the size of the aquatic resource or feature within the review area and describe how it was determined to meet one of the exclusions listed in 33 CFR 328.3(b).[7] *N/A*

b. Describe aquatic resources and features within the review area that were determined to be non-jurisdictional because they do not meet one or more categories of waters of the United States under the 2023 Rule as amended (e.g., tributaries that are non-relatively permanent waters; non-tidal wetlands that do not have a continuous surface connection to a jurisdictional water).

LRB 2006-00698 Wetland 2 – is a 0.05 acre PEM wetland, functioning as a depressional feature located within the review area. Wetland 2 has a closed

[7] 88 FR 3004 (January 18, 2023)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

boundary and no connectivity to a relatively permanent water. Wetland 2 was determined to be a depressional, low spot in the landscape. During the site visit, the entire boundary of Wetland 2 was walked and no evidence of a surface connection could be found to Stream 1, which is located 150 feet to the west. There was no evidence of a berm or similar natural or manmade feature separating Wetland 2 from Stream 1. The USFWS NWI map and the NYSDEC Environmental Resource Mapper do not indicate any wetlands or watercourse at the location of Wetland 2. In addition, the USGS topographic map (Clarence Center) does not show any waters at the location of Wetland 2. Based on the above information, it has been determined that Wetland 2 lacks a continuous surface connection to any other water of the United States or relative permanent water, does not abut another water of the U.S.; is not connected to another water of the U.S. by a discrete feature like a non-jurisdictional ditch, swale, pipe, or culvert; and is not separated from another water of the U.S. by a berm or barrier) and has been determined not to be waters of the United States.

9. DATA SOURCES. List sources of data/information used in making determination. Include titles and dates of sources used and ensure that information referenced is available in the administrative record.

   a. *Corps of Engineers site visit conducted September 20, 2023; In-house review completed November 28, 2023*

   b. *Delineation report titled 4300 Millersport Highway prepared for Cimato Enterprises, Inc. by Earth Dimensions, Inc dated July 5, 2023*

   c. *Aerial Imagery evaluated: Connect Explorer - https://explorer.eagleview.com/; oblique images dated 15 April 2013, 24 April 2016, 25 April 2020. Google Earth October 2020, May 2022, May 2023*

   d. *National wetlands inventory map(s): https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper and included in the delineation report; assessed November 28, 2023.*

   e. *U.S. Geological Survey map(s). Cite scale & quad name: https://ngmdb.usgs.gov/topoview/viewer/ - USGS Quad: f=Fairport-NY, dated 2023, scale 1:24000; accessed November 28, 2023*

   f. *NRCS/USDA soil survey: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx - accessed November 28, 2023.*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

CELRB TD-R
SUBJECT: 2023 Rule, as amended, Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023), LRB-2006-00698(4300 Millersport Highway)

10. OTHER SUPPORTING INFORMATION: A Preliminary Jurisdictional determination was issued for the site on January 17, 2019.

11. NOTE: The structure and format of this MFR were developed in coordination with the EPA and Department of the Army. The MFR's structure and format may be subject to future modification or may be rescinded as needed to implement additional guidance from the agencies; however, the approved jurisdictional determination described herein is a final agency action.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

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Geotechnical Evaluation Report for Proposed Site Development 4300 Millersport Highway Amherst, New York

Prepared For:

Cimato and Sons, Inc.
9220 Transit Road
East Amherst, New York 14051

Prepared By:

WMA Engineering, DPC dba
Empire Geotechnical Engineering Services
5167 South Park Avenue
Hamburg, New York 14075



Project No.: WB-22-067
Ref. SJB Project No.: BE-22-067
July 2022

A Woman Owned Firm

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

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July 26, 2022
Project No. WB-22-067
(SJB Project No. BE-22-067

Cimato and Sons, Inc.
9220 Transit Road
East Amherst, New York 14051

Attention: Fred Cimato

Re: Geotechnical Engineering Report
Proposed Site Development
4300 Millersport Highway
Amherst, New York

Dear Mr. Cimato:

Empire Geotechnical Engineering Services (Empire) is pleased to submit the enclosed Geotechnical Engineering Report for the above referenced project to Cimato and Sons, Inc. An electronic copy (pdf file format) of this report has also been emailed, for your use and for distribution, as appropriate.

Please contact me should you have any questions or wish to discuss this report. Thank you for considering SJB/Empire for this work and we look forward to working with you throughout the completion of this project.

Sincerely,

Empire Geotechnical Engineering Services

Wanda M. Allen, P.E.
Senior Geotechnical Engineer

Enc.: Geotechnical Engineering Report

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

1.00 INTRODUCTION

1.10 GENERAL

This report summarizes the results of a subsurface exploration program and geotechnical engineering evaluation completed by Empire Geotechnical Engineering Services (Empire) for the proposed Mixed-use Commercial / Residential Development project planned at 4300 Millersport Highway in Amherst, New York.

The geotechnical engineering evaluation was completed by Empire at the request of and as authorized by SJB Services, Inc. (SJB), our affiliated drilling and testing company, who was retained by Cimato & Sons, Inc. (Cimato) to complete this work. Our evaluation and recommendations are based on a total of eight (8) test borings completed by SJB at the proposed project site.

Empire prepared this report, which summarizes the subsurface conditions encountered by the test borings and presents geotechnical engineering considerations and recommendations to assist in the development of the site.

1.20 SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The proposed Mixed-use Commercial / Residential Development site is located off the west side of Millersport Highway and New Road, north of Smith Road, (street address 4300 Millersport Highway), in the Town of Amherst, Erie County, New York. The entrance to the project site is located off of Smith Road and Millersport Highway. The approximate location of the project site is shown on Figure No. 1. The project site consists of grasslands and brushlands.

The proposed site development is planned to include construction of thirty-eight (38) single-family homes, six (6) 2-unit townhomes and six (6) 4-unit townhomes. The single-family homes and townhomes will consist of a single-story to two-story, wood framed structure. There is currently additional phases of the project planned which will include construction of two (2), three-story, wood-framed commercial / residential mixed use buildings, including possible additional townhome structures. The single-family homes and townhomes are currently planned to include a basement structure. The proposed structures are planned to be supported on a shallow spread foundation system.

Based on the subsurface conditions encountered, it appears a shallow spread foundation system should be conducive for the lightly loaded, wood frame type buildings provided the site grade filling is limited and/or completed in a controlled manner with sufficient time provided to allow consolidation of the underlying very soft clay soils, as discussed further below. Depending on the actual wall and column loads, a deep foundation system to support the proposed three-story mixed-use buildings may be necessary.

The site appears to gradually slope downward from the west to the east based on the ground surface elevations (El.) obtained at the test boring locations which vary from elevation (El.) 101.1 feet (B-1) to El. 99.0 feet (B-6). The elevations obtained at the test boring locations are based on an arbitrary elevation datum, as discussed further below. It is our understanding the average existing site grades are to be raised approximately 4.5 feet, and therefore, if sufficient time is not allotted for consolidation of the underlying very soft clay soils due to site grade fill, then a deep foundation or ground

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

improvement methods may also be necessary to support the townhome structures, as discussed further below.

A Google Earth™ aerial photograph of the existing site conditions, along with the test boring and benchmark locations, is presented as Figure 2. A site plan, showing the proposed site development, along with the test boring locations completed as part of this study, is presented on Figure 3.

2.00 SUBSURFACE EXPLORATION

The subsurface exploration program completed consisted of a total of eight (8) test borings, designated as B-1 through B-8. The test borings were completed by SJB between June 10th and June 14th, 2022.

The test boring locations were established by Empire on a site plan provided by Wm. Schutt & Associates, P.C. (Wm. Schutt). The borings were located to provide general coverage of the proposed project site. SJB then established the coordinates of the exploration locations using Google Earth™. The exploration locations were then located / staked in the field, using a handheld GPS instrument with slight modifications for access. The GPS coordinates of the boring locations were then obtained and recorded and used to prepare Figure 2 using a Google Earth™ aerial photograph. The aerial was then overlaid on the site plan provided by Wm. Schutt to create Figure 3. The GPS coordinates are summarized on Figure 2.

A laser level was used to determine the relative ground surface elevation at the test boring locations using the invert of the culvert pipe located off the south side of Smith Road, near the southwest corner of the property, as a benchmark. The approximate benchmark location is shown on Figure 2. The benchmark was assigned an arbitrary elevation datum of 100.0 feet by SJB. The locations and elevations should be considered approximate based on the methodologies utilized.

The test borings were made with a Diedrich model D-50 all-terrain rubber track drill rig. The borings were advanced in the overburden soils using hollow stem auger and split spoon sampling techniques until a depth of at least 16 feet below the existing ground surface. Test borings B-1 and B-8 were further advanced to a depth of 51.2 feet and 50.0 feet, respectively. At test boring location B-1, auger refusal was met at boring completion. In general, split spoon samples and Standard Penetration Tests (SPTs) were taken continuously from the ground surface to a depth of 16 feet and then in intervals of five feet or less until boring completion. he split spoon samples and SPTs were completed in general accordance with *ASTM D1586 – "Standard Test Method for Penetration Test and Split-Barrel Sampling of Soils"*.

A geologist from SJB prepared the test boring logs based on visual observation of the recovered soil samples and review of the driller's field notes. The soil samples were described based on visual/manual estimation of the grain size distribution, along with characteristics such as color, relative density, consistency, moisture, etc. In addition, the Unified Soil Classification System (USCS) group symbols were also established and are presented on the logs for the soil types encountered. The test boring logs are presented in Appendix A, along with general information and a key of terms and symbols used to prepare the logs.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

3.00 SUBSURFACE CONDITIONS

The general stratigraphy encountered in the test borings consisted of surface topsoil followed by indigenous silty clay and sand deposits overlying possible Shale rock. Man placed fill soils were not apparent at the test boring locations. However, it should be expected that fill soils and/or possible reworked indigenous soils will be encountered near the adjacent, previously developed properties. In addition, it is expected the fill n will vary and will be dependent on the original native site topography, as well as the extent to which the isolated site areas had been previously disturbed by past uses. The soil and bedrock stratigraphy encountered, and the groundwater conditions observed are described in more detail below and on the test boring logs in Appendix A.

The indigenous soils encountered beneath the topsoil consist of silty clay soil deposits with varying amounts of sand. The silty clay soils extend to boring completion or to the apparent top of bedrock (B-1), excluding boring B-8. At test boring locations B-8, brown, fine-coarse sand intermixed with fine to coarse gravel and silty clay was recovered in the split spoon collected below a depth of about 40 feet. The indigenous soils are classified as CL and SC-SM group soils using the Unified Soil Classification System (ASTM D2488).

The SPT "N" values obtained in the indigenous silty clay soil deposits ranged from "w.o.h. - weight of hammer" (i.e. the sample spoon was advanced with only the weight of the drop hammer and drill rods applied statically to the sample spoon) to 27 indicating the cohesive soils vary from a very soft to very stiff consistency. The medium to very soft consistency clay soils were encountered generally at and below a depth of about 8 to 10 feet at the test boring locations. The relative density of the underlying sand soils encountered at boring B-8 varies from loose to very compact based on SPT "N" values ranging from 9 to 54.

Auger refusal was encountered at test boring B-1 at depth of about 51.2 feet. Gray, highly weathered Shale rock fragments were recovered in the final split spoon collected between depths of about 50.0 feet and 51.2 feet at this location. The rock fragments along with the auger refusal conditions suggest encountering the possible top of bedrock. Rock coring, however, was not performed, therefore, the exact nature of the refusal material encountered was not definitively confirmed (i.e. bedrock or possibly a cobble/boulder obstruction).

Water level measurements were made in the test borings at the completion of overburden drilling and soil sampling and are noted on the subsurface exploration logs in Appendix A. Freestanding water was present in boring B-1 at depth a depth of about 25.2 below the existing ground surface immediately following the completion of overburden drilling. Freestanding water was not present in the remaining test holes immediately following the completion of drilling operations. Given the fine grained indigenous clay soils present, which can partially seal the sides of the boreholes, it appears groundwater did not have sufficient time to accumulate or fully stabilize in the boring holes within the time that had elapsed from the completion of drilling operations and the time of the observations/measurements. It appears that the clay soils are saturated at a depth of about 8 to 10 feet and below, based on the moist-wet to wet nature and relatively softer consistency of the clay soils obtained at and below this depth.

In addition, some zones of perched or trapped groundwater could be present at various times and locations in the upper more permeable indigenous sand soils, which overlie the less permeable clay

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

soil deposits. Perched groundwater conditions can be particularly more prevalent following heavy or extended periods of precipitation and during seasonally wet periods.

The installation of a groundwater observation well(s) would help to better define the groundwater conditions present on the site. It should be expected that groundwater conditions could vary with location and with changes in soil conditions, precipitation and seasonal conditions, including site drainage conditions.

4.00 GEOTECHNICAL CONSIDERATIONS AND RECOMMENDATIONS

4.10 GENERAL

Development of the proposed mixed-use residential / commercial project will be impacted primarily by the very soft to medium clay soils encountered at and below a depth of about 8 to 10 feet. These soil conditions are considered marginal for the support of building structures on a spread foundation system, particularly if heavier structure loads would be planned, such as associated with multiple story steel frame and concrete/masonry buildings and large spans. Support of the relatively lightly loaded, wood framed building structures, as currently planned, however, can be accomplished using a spread foundation system, provided a relatively low bearing pressure [1,250 pounds per square foot (psf)] is used for the spread foundation design and that net site grade fills are limited to around 1 to 2 feet or less.

In addition, foundations should also not be designed to bear at grades lower than a depth of about 5.5 feet below existing site grades to provide sufficient separation from the underlying very soft to medium clay soils with regard to bearing capacity and settlement. Continuous wall footings should also not be greater than 2.5 feet in width, and column footings should not be greater than 5.0 feet in width, in order to limit potential bearing/shearing failure and excess settlement. Accordingly, the wall and column loads would be limited to about 3.1 kips per square feet and 31 kips, respectively.

In all cases a minimum of 30-inches of separation between the bottom of the footings and the very soft to medium clay soils will need to be maintained. Accordingly, if the foundations are to be constructed below a depth of about 5.5 feet, the existing soils would need to be removed a minimum of 30-inches and replaced with Engineered fill (i.e. compacted Structural Fill or flowable fill), to provide the necessary separation between the bottom of the footings and the softer clay soils.

Placement of subgrade fill to raise site grades, as anticipated, will need to proceed sufficiently ahead of foundation and slab on grade construction. As mentioned above, currently an average of about 4.5 feet of site grade fill is planned for site development. The surcharge weight of approximately 2 feet of fill is expected to result in a total of around 2-inches of consolidation settlement within the underlying soft to very soft clay soil deposits. It is estimated that 4.5 feet of fill could potentially result in a total of about 3.5 to 4.5-inches of consolidation settlement. The settlement from the surcharge weight of the site grading fill placement will be independent of the additional settlement (i.e. about ¾-inch) that will occur from the building structural loads.

It is anticipated that where site grade increases within an individual building structure is generally uniform, the settlement should be relatively uniform and therefore would have minimal impacts on the building foundations and ground floor slabs. However, if the site grade fill within an individual building would vary from about nil to 2 feet, differential settlement on the order of 2-inches could

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

occur and therefore may result in cracking and distortion of the building foundations and floor slabs. The Structural Engineer should be consulted to determine a tolerable range for differential settlement.

The time rate for about 60% to 70% of the consolidation settlement to occur from the site filling is estimated to be about 3 to 4 years. "Surcharging" the building site(s) to decrease the time allotted for consolidation of the clay soils could be considered. Accordingly, the site grade fill could be overbuilt 4 to 5 feet above the finished floor grades to provide some additional surcharging to further induce, and help accelerate, the settlement. Any additional fill should extend out about 20 feet from the building limits and should then be removed a few weeks prior to the foundation and building construction. The site grade fill can proceed following proper preparation of the subgrades as summarized in Section 4.70.3. All fill placement and compaction should be closely monitored and tested on a "full-time" basis by qualified geotechnical personnel, as recommended in Appendix B.

The installation of wick drains could also be considered to shorten the time period to allow consolidation settlement to occur. A settlement monitoring program (i.e. installation of settlement plates and piezometers) should be implemented for the fill construction to monitor the settlement and confirm that the settlement has generally stabilized. This should be implemented especially in any areas at which the amount of fill placement within an individual building will vary by more than 2 feet to limit differential settlement effects.

If the project schedule cannot accommodate a preloading waiting period, load compensation with geofoam blocks may be a possible alternative. In this way, the geofoam block would be used in place of normal weight fill and used to replace existing soils as necessary such that there is no increase in net load beneath the foundations and floor slabs. Lightweight aggregate fill may also be an option to mitigate settlement.

Alternatively, support of the building foundations and floor slabs (structural floor) on a deep foundation system or ground improvement methods, such as rigid inclusions, could be considered. However, negative skin friction (downdrag forces) due to the site filling settlement would need to be considered in the design of deep foundations. It should be anticipated that on-going maintenance of the pavement areas and underground utilities may also be necessary due to consolidation of the underlying subgrade soils if these areas are not preloaded.

Empire can be consulted to further assist in planning the site grade fill options (surcharging/wick drains/settlement monitoring plates and piezometers) to ensure the majority of the consolidation settlement will occur prior to foundation and slab on grade floor construction, or the options for use of a deep foundation system or ground improvement.

More detailed recommendations to assist in planning for site development and design of building foundations and slab-on-grade floor construction are provided in the following report sections.

4.20 SPREAD FOUNDATION DESIGN

Spread foundations should bear on suitable, relatively undisturbed, indigenous soil subgrades or they can bear on Engineered Fill (i.e. compacted Structural Fill or Flowable Backfill) placed over suitable indigenous soil subgrades. Suitable indigenous soil bearing grades should consist of generally stiff, silty clay soil deposits, which are free of topsoil, any fill, organics, loose, soft, wet, "mucky" or otherwise deleterious conditions.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Suitable indigenous bearing subgrades at the test boring locations were generally encountered at a depth of about 2 to 3 feet below existing site grades. However, as noted above, foundations should not be designed to bear below a depth of about 5.5 feet below existing site grades, due to influence of the softer clay soils with regard to bearing capacity and settlement.

If Structural Fill is placed beneath spread foundations, it should extend beyond the foundation limits a horizontal distance equal to at least 0.5 times the thickness of the Structural Fill layer beneath the foundation. Excavations, therefore, will need to be planned and sized accordingly. Recommendations for Structural Fill material along with its placement and compaction are presented in Appendix B. An underlying stabilization geotextile (i.e. Mirafi 500X or suitable equivalent) should be placed beneath the compacted Structural Fill material.

Flowable backfill material, if used as Engineered fill beneath foundations, should consist of a non-swelling cement - fine aggregate type material and should have a minimum 28-day compressive strength (f'c) of 250 pounds per square inch (psi). The flowable backfill should extend at least 12 inches horizontally beyond the foundation limits for its entire depth.

Spread foundations constructed on suitable indigenous soil bearing grades or on properly constructed Engineered Fill materials placed over the suitable soil bearing grades can be sized based on a maximum net allowable bearing pressure of 1,250 psf. However, it is recommended that continuous wall footers not exceed 2.5 feet in width and isolated column foundations not exceed 5.0 feet in width.

Exterior foundations should be embedded a minimum of 4.0 feet below finished exterior grades for frost protection. All foundations, however, must bear on suitable bearing grades in accordance with our recommendations.

It is estimated that spread foundations sized and properly constructed in accordance with our site preparation recommendations would undergo normal consolidation settlement of around ¾-inch. The foundation settlement is independent from the settlement due to the surcharge weight of site grade fill, as discussed above.

4.30 SLAB-ON-GRADE FLOOR DESIGN

The slab-on-grade floor for the proposed three-story buildings can be constructed over the existing soil subgrades or on properly placed and compacted site grade fill, which is placed to raise site grades following proper subgrade preparation, as outlined in Section 4.70.3. If any organic soils are present at the subgrade elevation, they should be removed and replaced with compacted Suitable Granular Fill or Structural Fill as described in Appendix B.

A minimum of 8 inches of Subbase Stone is recommended beneath the lightly loaded floor slabs. The subbase stone should be increased to 12 inches where heavier loading conditions are anticipated (i.e. mechanical rooms, storage areas, etc.). Recommendations for Subbase Stone are presented in Appendix B.

The floor slabs may be designed as slab-on-grade using a modulus of subgrade reaction of 150 pounds per cubic inch (pci) at the top of the subbase layer. It is recommended that the slab-on-grade floors be constructed such that they float on the subbase and subgrades and are not structurally connected

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

to, or resting directly on, perimeter walls or column footings in order to limit potential differential settlement effects, unless the slab / wall or column interface is designed with sufficient reinforcement to bridge potential differential settlement effects at these interfaces.

It is noted that the above subbase stone thicknesses are not designed for carrying construction vehicle loads. Therefore, it may be desirable for the Contractor to temporarily increase the Subbase Stone thickness within the building pad areas to provide a suitable working surface to stage the construction, carry construction vehicle loads and protect the underlying subgrades. This will be particularly important if construction proceeds during seasonally wet periods. The additional subbase stone material could then be removed in preparation for the actual floor construction and re-used as foundation backfill, pavement subbase, or as otherwise determined appropriate.

4.40 LATERAL EARTH PRESSURES FOR BELOW GRADE WALL DESIGN

The below grade walls of the basement structure should be designed based on lateral earth pressures caused by the load of backfill against the wall and the surcharge effects from any permanent or temporary loads. In addition, due to the possible presence of perched groundwater conditions, foundation drains to relieve potential hydrostatic pressure against the walls, along with damp proofing, as discussed below, should be incorporated into the design. Alternatively, basement structures could be designed to resist potential full hydrostatic pressure. In such case it should also be waterproofed.

Below grade walls should be designed to resist "at rest" lateral earth pressure computed on the basis of an "equivalent fluid unit weight" of 65 pounds per cubic foot (pcf). This is based on the assumption that suitable perimeter exterior foundation drainage will be provided, and the wall backfill beyond the drainage system is a Suitable Granular Fill or Structural Fill, as described in Appendix B.

4.50 FOUNDATION DRAINS

Depressed foundation walls should include a foundation drainage system to intercept any perched groundwater and relieve potential hydrostatic pressures from developing against the walls. The foundation drainage system should be properly designed, installed and maintained for long-term performance and should drain to a sump and pump system or gravity drain to a down slope relief point. The foundation drainage system design should include the following:

1. It is recommended that the exterior of the foundation walls be coated with an appropriate damp proofing material.

2. The foundation drainage system should include a drainage/separation geotextile installed around drainage stone, which surrounds a slotted under-drainpipe. The drainage stone should be sized in accordance with the pipe slotting. A crushed aggregate conforming to NYSDOT Standard Specifications Section 703-02, Size Designation No. 1 (½-inch washed gravel or stone) is generally acceptable for slotted under-drainpipe. The foundation under-drainpipes should be set at a depth of about 1 foot below the top of the finish floor grade.

3. A pervious granular backfill or a suitable geosynthetic drainage composite (i.e. Miradrain, Delta MS, etc.) should be placed against the foundation wall, above the drainage system, to allow infiltration to the drainage system. Concrete Sand, which meets the minimum

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

requirements of NYSDOT Standard Specifications Section 703-07 (100 percent passing 3/8 inch sieve to maximum of 3 percent passing a No. 200 sieve), is generally acceptable as pervious granular backfill. Crusher run stone Structural Fill is also acceptable. The pervious granular backfill against the wall should be a nominal 2 feet in width and should extend to about 1 to 2 feet below the finished grade surface, where it may be capped off with the on-site soil.

4.60 SEISMIC DESIGN CONSIDERATIONS

Based on the subsurface conditions encountered in the test borings, the proposed housing project site should be classified as Seismic Site Class "E" in accordance with ASCE 7-16, Table 20.3-1, as referenced in the 2020 Building Code of New York State (IBC 2018). Therefore, seismic design can be based on this seismic site classification.

The spectral response accelerations at the project site were obtained by Empire using the SEAOC / OSHPD web site application https://seismicmaps.org/. Using the site location, the spectral response accelerations are 0.172g for the short period (0.2 second) response (S_S) and 0.046g for the one second response (S_1). For design purposes, these spectral response accelerations must be adjusted for the Seismic Site Class "E" soil profile determined for the project site.

Accordingly, the adjusted spectral response accelerations for Site Class "E" are as follows:

- Short Period Response (S_{MS}) - 0.414g
- 1 Second Period Response (S_{M1}) - 0.192g

The corresponding five percent damped design spectral response accelerations (S_{DS} and S_{D1}) are as follows:

- S_{DS} - 0.276g
- S_{D1} - 0.128g

4.70 SITE PREPARATION AND CONSTRUCTION

4.70.1 Construction Dewatering

It is anticipated permanent groundwater conditions are present at a depth of about 8 to 10 feet below existing site grades. Therefore, deeper utility excavations may encounter permanent groundwater conditions. It is anticipated that shallow excavations may encounter perched groundwater. Accordingly, construction dewatering will be required for surface water control and for excavations, which encounter groundwater conditions.

Surface water should be diverted away from and prevented from accumulating on exposed soil subgrades. The exposed soil subgrades will be susceptible to strength degradation in the presence of excess moisture. Surface water should be controlled with diversion berms, swales, and proper site grading.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Dewatering should be implemented in conjunction with excavation work such that the work generally proceeds in the dry. Groundwater levels should be maintained at least 1 to 2 feet below the bottom of the foundation excavations. It is anticipated that diversion berms, proper site grading, and sump and pump methods of dewatering will be sufficient to control surface water and perched groundwater conditions, if encountered. Placement of a working mat of drainage stone, in the bottom of the excavation, in conjunction with sumps and pumps placed in the drainage layer, will also aid in dewatering these excavations. Surface water and groundwater dewatering plans should include implementation of measures to control erosion, sedimentation and the migration of soil fines.

4.70.2 Excavation and Foundation Construction

All topsoil, organics, disturbed soils, and any soft, loose, wet or otherwise deleterious indigenous soil material, beneath the proposed foundation bearing grades, should be undercut and removed. Resulting excavations should be backfilled with controlled Structural Fill or flowable backfill.

Excavation to the proposed foundation bearing grades should be performed using a method, which reduces disturbance to the indigenous soil bearing grades, such as a backhoe equipped with a smooth blade bucket. The proposed foundation bearing grades should be observed and evaluated by qualified geotechnical personnel, prior to placement of Engineered Fill and/or the foundation. Any placement and compaction of Structural Fill beneath foundations should be observed and tested by qualified personnel.

All soil bearing grades for foundation construction should be protected from precipitation and surface water. Water should not be allowed to accumulate on the soil bearing grades and the bearing grades should not be allowed to freeze, either prior to or after construction of foundations. If bearing grades are not protected and degrade, they must be undercut/removed accordingly.

After completion of the foundation construction, the excavations should be backfilled as soon as possible and prior to construction of the superstructure. It is recommended that the foundation excavations, within slab-on-grade and pavement areas, be backfilled with a Suitable Granular Fill or Structural Fill, as described in Appendix B.

4.70.3 Subgrade Preparation for Slab-On-Grade Construction

The site preparation work should be performed during dry periods to minimize potential degradation of the subgrade soils and undercuts which may be required to establish a stable base for construction. It should be understood that the existing subgrade soils will be sensitive and can be expected to degrade and lose strength when they are wet and disturbed by construction equipment traffic.

Accordingly, efforts should be made to maintain the subgrades in a dry and stable condition at all times and minimize construction traffic directly over these soils. These efforts should include installation of drainage swales and underdrains (i.e. "French drains") to intercept and divert surface runoff and groundwater away from the construction areas, proper grading and sloping of the subgrade and "sealing" of the surface, at the end of each day or when rain is anticipated, with a smooth drum roller to promote runoff, and restricting construction equipment traffic from traveling directly over the subgrade surfaces, especially when they are wet.

All trees, stumps, tree root matter, vegetation, topsoil, and any other deleterious materials within the proposed slab-on-grade and pavement areas should be removed. It is noted that the upper surface soils

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

(i.e. above a depth of about 2 feet) are relatively loose/soft. Standing water was also noted across the project site. In addition, organics were noted within the upper soil samples. Therefore, it should be anticipated that stripping the site beyond the topsoil layer will be necessary to remove the soft/wet and/or organic soils present. As noted, the site preparation work should be performed during seasonal dry periods to minimize potential degradation of the subgrade soils and undercuts which may be required to establish a stable base for construction. In addition, the surface soils are considered to have generally very poor drainage characteristics, and therefore, proper grading of the project site should be considered during the development of the project.

Following stripping of the surface materials and underlying organic indigenous soils, the exposed subgrades should be proof-rolled. The proof-rolling should be performed, prior to the any overlying fill placement, using a smooth drum roller weighing at least 10 tons. The roller should be operated in the static mode and complete at least two (2) passes over the exposed subgrades. The subgrade proof-rolling should be done under the guidance of, and observed by, qualified geotechnical personnel. It may be necessary to waive the proof-rolling requirement if wet subgrades are present. Any undercuts, which may be required as the result of the proof-rolling, should be performed based on guidance and evaluation of the conditions of qualified geotechnical personnel.

The placement of an initial lift of oversized stone fill material (i.e. "6-inch minus crusher run stone", No.3 & No.4 Stone, etc.), encased in stabilization geotextile (i.e. Mirafi 500X or suitable equivalent) top and bottom, as appropriate, can also be used to help stabilize subgrades prior placement of site grade fil or subbase material, if any of the existing subgrades are found to be in a soft/wet condition.

Subgrade fill placement may proceed following preparation and acceptance of the existing subgrades. As mentioned above, the fill required to raise site grades in the proposed building areas will need to proceed sufficiently prior to the foundation construction. This would allow the settlement associated with the site grade increases to occur prior to the foundation construction and thus minimize post construction foundation settlement. Suitable Granular Fill or Structural Fill, as described in Appendix B can be used as subgrade fill to raise the site grades, beneath the Subbase Stone course for slab-on-grade and pavement construction. Fill containing topsoil, organics, man-made rubble constituents, and otherwise unsuitable soils should not be used for subgrade fill within the building and pavement areas. All fill placement and compaction should be closely monitored and tested on a "full-time" basis by qualified geotechnical personnel.

In general, depending on the time of year (predominantly summer months), the on-site soils can be used for constructing the fills for establishing the building pad and pavement areas, provided they can be properly placed and compacted in a controlled manner and to a stable well engineered condition. However, it should be expected that the use of the fine grained on-site soils for site filling will be difficult to work with (i.e. dry for proper compaction) versus an imported Suitable Granular Fill or Structural fill, particularly during seasonally inclement or wet weather, which could delay construction.

In all cases, subgrade fill should be placed to a stable condition and should not "pump" or show signs of movement or significant deflection (i.e. unstable conditions) as it is being constructed. The contractor should take precautions to limit construction traffic over the subgrades. Any subgrades, including existing soil subgrades or new subbase, which become damaged, rutted or unstable should be undercut and repaired as necessary prior to placement of the subbase course or pavement. The fill subgrades should

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

also be properly graded, drained and protected from moisture and frost. Placement of fill over wet, soft, snow covered, or frozen subgrades is not acceptable.

5.00 CONCLUDING REMARKS

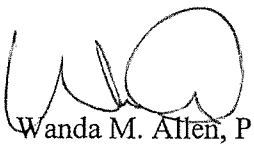
This report was prepared to assist in development of the proposed Mixed-use Commercial / Residential Development project planned at 4300 Millersport Highway in Amherst, New York. The report has been prepared for the exclusive use of Cimato and Sons, Inc. and members of the design team, for specific application to this site and this project only.

The project information and recommendations presented in this report were prepared based on Empire's understanding of the proposed project and the subsurface exploration work completed by SJB Services, Inc. as described herein, and through the application of generally accepted soils and foundation engineering practices. Empire should be consulted with any questions regarding the interpretation of the findings of our work, and/or the geotechnical considerations and recommendations presented. In addition, the recommendations presented are provided as guidance to the designer and should not be considered a project specification. No warranties expressed or implied are made regarding the subsurface conditions present, or by the conclusions, opinions, recommendations or services provided.

Additional information regarding the use and interpretation of this report is presented in Appendix D.

Respectfully Submitted:

WMA Engineering, DPC dba
EMPIRE GEOTECHNICAL ENGINEERING SERVICES



Wanda M. Allen, P.E.
Senior Geotechnical Engineer

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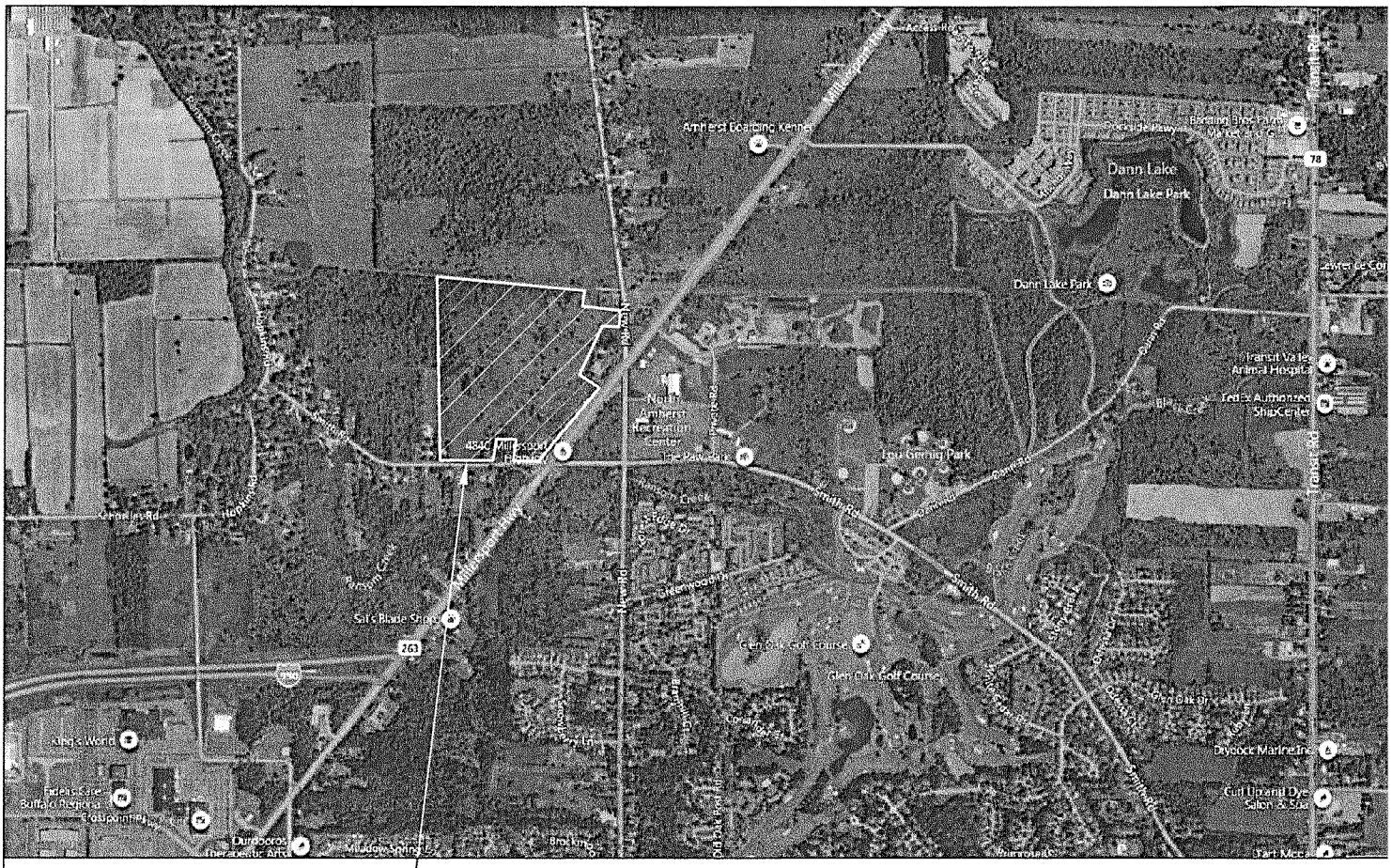
FIGURES

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



APPROXIMATE LIMITS OF PROJECT SITE

NOTE:
SITE LOCATION PLAN DEVELOPED FROM BING MAPS - MICROSOFT CORPORATION

WMA ENGINEERING DPC|DBA
EMPIRE GEOTECHNICAL ENGINEERING SERVICES

PROPOSED RESIDENTIAL DEVELOPMENT
4300 MILLERSPORT HIGHWAY
AMHERST, NEW YORK

SITE LOCATION PLAN	DR BY: WMA	SCALE: NTS	PROJECT NO.: WB-22-067
	CHKD BY: WMA	DATE: 07/14/2022	FIGURE NO: 1

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

BORING	LATITUDE	LONGITUDE
B-1	43° 3' 15.2"	-78° 43' 52.3"
B-2	43° 3' 17.4"	-78° 43' 48.2"
B-3	43° 3' 17.0"	-78° 43' 43.3"
B-4	43° 3' 21.0"	-78° 43' 43.1"
B-5	43° 3' 16.3"	-78° 43' 37.2"
B-6	43° 3' 19.6"	-78° 43' 33.8"
B-7	43° 3' 23.7"	-78° 43' 37.7"
B-8	43° 3' 27.7"	-78° 43' 34.4"



LEGEND:

B-1 ⊙ INDICATES APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING.

BM ▣ BENCHMARK: INVERT OF CULVERT PIPE. ASSIGNED ARBITRARY ELEVATION DATUM OF 100.0 FEET BY SJB SERVICES, INC.

NOTE:

FIGURE DEVELOPED FROM GOOGLE EARTH

N

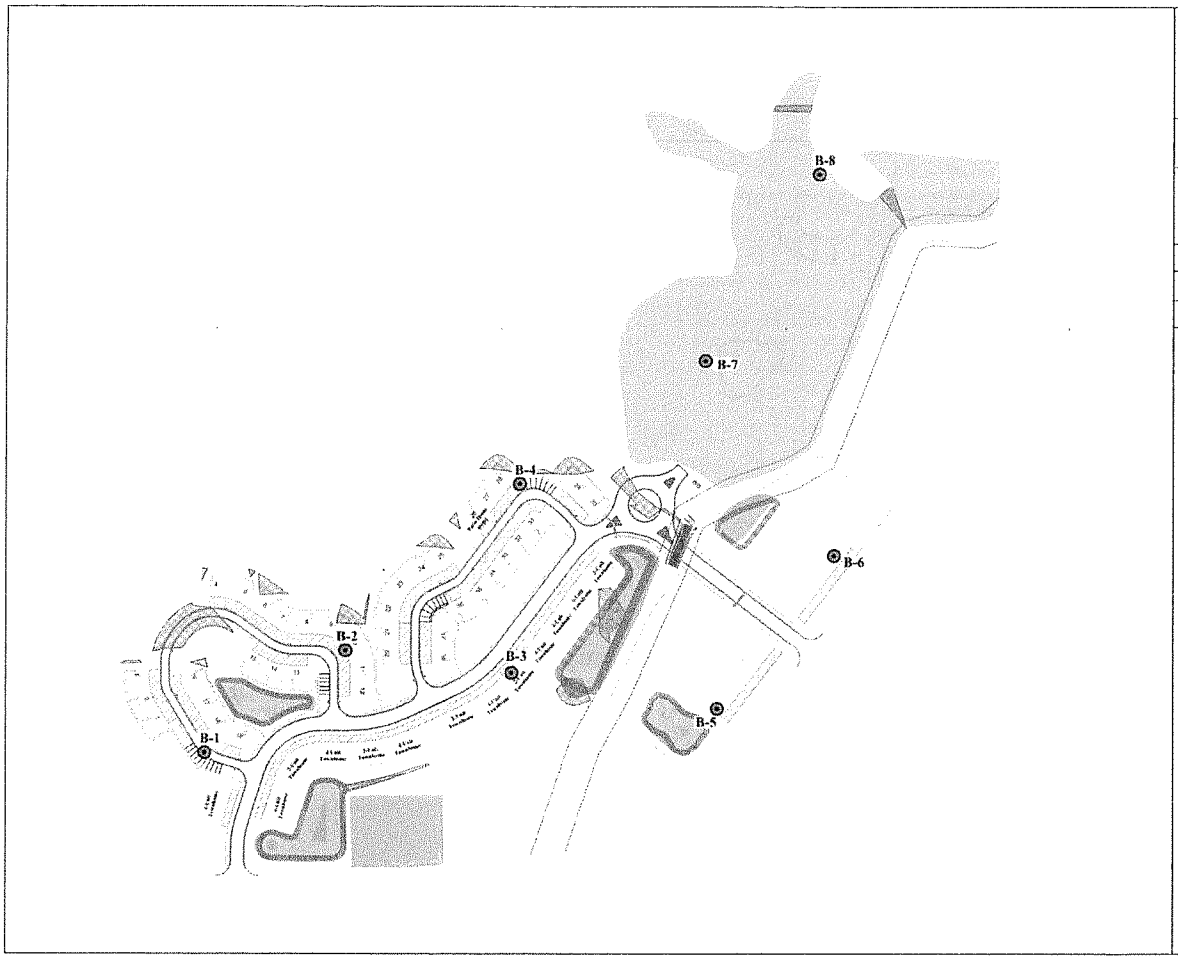
WMA ENGINEERING DPC|DBA
EMPIRE GEOTECHNICAL ENGINEERING SERVICES

PROPOSED RESIDENTIAL DEVELOPMENT
4300 MILLERSPORT HIGHWAY
AMHERST, NEW YORK

SUBSURFACE EXPLORATION PLAN
(EXISTING SITE CONDITIONS)

DR BY: WMA	SCALE: NTS	PROJECT NO.: WB-22-067
CHKD BY: WMA	DATE: 07/14/2022	FIGURE NO: 2

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



WMA ENGINEERING DPC|DBA
EMPIRE TECHNICAL ENGINEERING SERVICES

SUBSURFACE EXPLORATION PLAN
(PROPOSED SITE DEVELOPMENT)

PROPOSED RESIDENTIAL DEVELOPMENT
4300 MILLERSPORT HIGHWAY
AMHERST, NEW YORK

DR BY: WMA	PROJECT NO.: WB-22-067
CHKD BY: WMA	DATE: 07/14/2022
SCALE: 1" = 200'	FIGURE NO: 3

LEGEND:

B-1 ⊙ INDICATES APPROXIMATE LOCATION AND DESIGNATION OF TEST BORING.

N

NOTE:
FIGURE DEVELOPED FROM "SKETCH PLAN" PREPARED BY Wm. SCHUTT & ASSOCIATES, P.C

200 0 200
SCALE FEET

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX A

SUBSURFACE EXPLORATION LOGS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

GENERAL INFORMATION & KEY TO SUBSURFACE LOGS

The Subsurface Logs attached to this report present the observations and mechanical data collected by the driller at the site, supplemented by classification of the material removed from the borings as determined through visual identification by technicians in the laboratory. It is cautioned that the materials removed from the borings represent only a fraction of the total volume of the deposits at the site and may not necessarily be representative of the subsurface condition between adjacent borings or between the sampled intervals. The data presented of the Subsurface Logs together with the recovered samples provide a basis for evaluating the character of the subsurface conditions relative to the project. The evaluation must consider all the recorded details and their procedures to more accurately evaluate the subsurface conditions. Any evaluation of the contents of this report and recovered samples must be performed by qualified professionals. The following information defines some of the procedures and terms used of the Subsurface Logs to describe the conditions encountered, consistent with the numbered identifiers shown on the Key opposite this page.

1. The figures in the Depth column define the scale of the Subsurface Log.
2. The Samples column shows, graphically, the depth range from which a sample was recovered. See Table I for descriptions of the symbols used to represent the various types of samples.
3. The Sample No. is used for identification on sample containers and/or Laboratory Test Reports.
4. Blows on Sampler – shows the results of the "Penetration Test", recording the number of blows required to drive a split spoon sampler into the soil. The number of blows required for each six inches is recorded. The first 6 inches of penetration is considered a seating drive. The number of blows required for the second and third 6 inches of penetration is termed the penetration resistance, N.
5. Blows on Casing – Shows the number of blows required to advance the casing a distance of 12 inches. The casing size, hammer weight, and length of drop are noted at the bottom of the Subsurface Log. If the casing is advanced by means other than driving, the method of advancement will be indicated in the Notes column or under the Method of Investigation at the bottom of the Subsurface Log. Alternatively, sample recovery may be shown in this column or other data consistent with the column heading.
6. All recovered soil samples are reviewed in the laboratory by an engineering technician, geologist, or geotechnical engineer, unless noted otherwise. Visual descriptions are made on the basis of a combination of the driller's field descriptions and noted observations together with the sample as received in the laboratory. The method of visual classification is based primarily on the Unified Soil Classification System (ASTM D 2487) with regard to the particle size and plasticity (See Table No. II), and the Unified Soil Classification System group symbols for the soil types are sometimes included with the soil classification. Additionally, the relative portion, by weight, of two or more soil types is described for granular soils in accordance with "Suggested Methods of Test for Identification of Soils" by D.M. Burmister, ASTM Special Technical Publication 479, June 1970. (See Table No. III). Description of the relative soil density or consistency is based upon the penetration records as defined in Table No. IV. The description of the soil moisture is based upon the relative wetness of the soil as recovered and is described as dry, moist, wet, and saturated. Water introduced into the boring either naturally or during drilling may have affected the moisture condition of the recovered sample. Special terms are used as required to describe soil deposition in greater detail; several such terms are listed in Table V. When sampling gravelly soils with a standard two inch diameter split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter. The presence of boulders and large gravel is sometimes, but not necessarily, detected by an evaluation of the casing and sampler blows or through the "action" of the drill rig as reported by the driller.
7. Rock description is based on review of the recovered rock core and the driller's notes. Frequently used rock classification terms are included in Table VI.
8. The stratification lines represent the approximate boundary between soil types and the transition may be gradual. Solid stratification lines delineate apparent changes in soil type, based upon review of recovered soil samples and the driller's notes. Dashed lines convey a lesser degree of certainty with respect to either a change in soil type or where such change may occur.
9. Miscellaneous observations and procedures noted by the driller are shown in this column, including water level observations. It is important to realize the reliability of the water level observations depends upon the soil type (water does not readily stabilize in a hole through fine grained soils), and that any drill water used to advance the boring may have influenced the observations. The ground water level will fluctuate seasonally, typically. One or more perched or trapped water levels may exist in the ground seasonally. All the available readings should be evaluated. If definite conclusions cannot be made, it is often prudent to examine the conditions more thoroughly through test pit excavations or groundwater observation wells.
10. The length of core run is defined as the length of penetration of the core barrel. Core recovery is the length of core recovered divided by the core run. The RQD (Rock Quality Designation) is the total length of pieces of NX core exceeding 4 inches divided by the core run. The size core barrel used is also noted in the Method of Investigation at the bottom of the Subsurface Log.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DATE

STARTED _____

FINISHED _____

SHEET _____ OF _____

SJB SERVICES, INC.
SUBSURFACE LOG

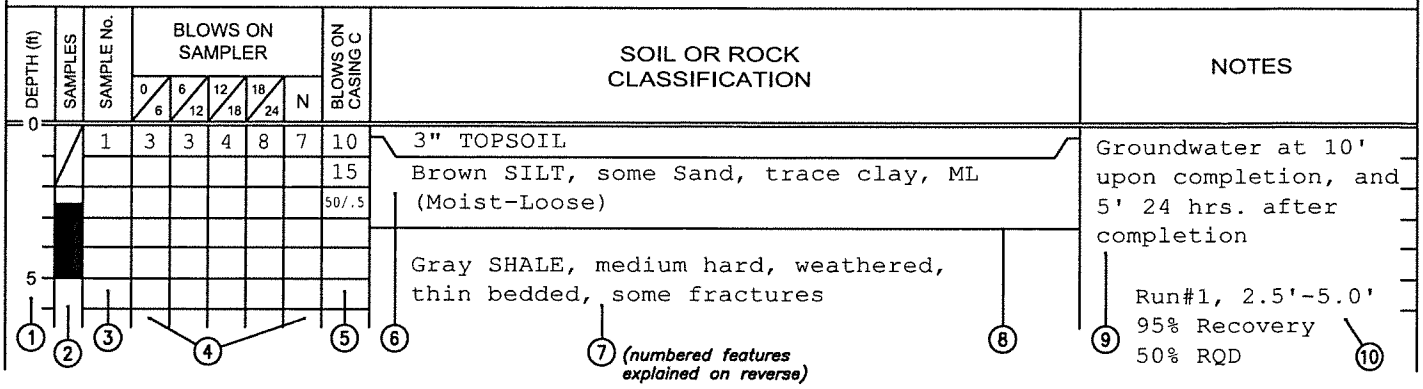
PROJ. No. _____

HOLE No. _____

SURF. ELEV. _____

G.W. DEPTH _____

PROJECT _____ LOCATION _____



(numbered features explained on reverse)

TABLE I

- Split Spoon Sample
- Shelby Tube Sample
- Geoprobe Macro-Core
- Auger or Test Pit Sample
- Rock Core

TABLE II

Identification of soil type is made on basis of an estimate of particle sizes, and in the case of fine grained soils also on basis of plasticity.

Soil Type	Soil Particle Size	
Boulder	>12"	Coarse Grained (Granular)
Cobble	3" - 12"	
Gravel - Coarse	3" - 3/4"	
- Fine	3/4" - #4	
Sand - Coarse	#4 - #10	
- Medium	#10 - #40	
- Fine	#40 - #200	
Silt - Non Plastic (Granular) Clay - Plastic (Cohesive)	<#200	Fine Grained

TABLE III

The following terms are used in classifying soils consisting of mixtures of two or more soil types. The estimate is based on weight of total sample.

Term	Percent of Total Sample
"and"	35 - 50
"some"	20 - 35
"little"	10 - 20
"trace"	less than 10

(When sampling gravelly soils with a standard split spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter.)

TABLE IV

The relative compactness or consistency is described in accordance with the following terms:

Granular Soils		Cohesive Soils	
Term	Blows per Foot, N	Term	Blows per Foot, N
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Firm	10 - 30	Medium	4 - 8
Compact	30 - 50	Stiff	8 - 15
Very Compact	>50	Very Stiff	15 - 30
		Hard	>30

(Large particles in the soils will often significantly influence the blows per foot recorded during the penetration test)

TABLE V

Varved	Horizontal uniform layers or seams of soil(s).
Layer	Soil deposit more than 6" thick.
Seam	Soil deposit less than 6" thick.
Parting	Soil deposit less than 1/8" thick.
Laminated	Irregular, horizontal and angled seams and partings of soil(s).

TABLE VI

Rock Classification Term		Meaning
Hardness	- Soft	Scratched by fingernail
	- Medium Hard	Scratched easily by penknife
	- Hard	Scratched with difficulty by penknife
	- Very Hard	Cannot be scratched by penknife
Weathering	- Very Weathered	Judged from the relative amounts of disintegration, iron staining, core recovery, clay seams, etc.
	- Weathered	
	- Sound	

Rock Classification Term		Meaning	
Bedding	- Laminated	(<1")	Natural breaks in Rock Layers
	- Thin Bedded	(1" - 4")	
	- Bedded	(4" - 12")	
	- Thick Bedded	(12" - 36")	
	- Massive	(>36")	

(Fracturing refers to natural breaks in the rock oriented at some angle to the rock layers)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DATE:
START 6/13/2022
FINISH 6/14/2022
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-1
SURF. ELEV 101.1'
G.W. DEPTH See Notes

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT
PROJ. NO.: BE-22-067
LOCATION: 4300 MILLERSPORT HIGHWAY
AMHERST, NY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	2			TOPSOIL	Driller noted Topsoil
		2	2		4	Brown Silty CLAY, tr. sand, tr. organics	at the surface
	2	3	3			(moist, medium, CL)	
		6	9		9	Contains Silt Partings, no organics (stiff)	
5	3	3	6			(stiff)	WOH = Weight of
		9	13		15		Hammer and Rods
	4	12	12			(v.stiff)	
		15	13		27		
	5	3	3			Contains no Silt Partings (moist-wet, medium)	
10		4	3		7		
	6	2	2				
		2	1		4		
	7	1	2			(soft)	
		1	1		3		
15	8	WOH/2.0				(v. soft, CL-CH)	
					WOH		
20							
	9	WOH/2.0					
					WOH		
25							
	10	WOH/2.0					
					WOH		
30							
	11	2	WOH				
		1	1		1		
35							
	12	WOH	WOH				
		WOH	1		WOH		
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW
CLASSIFIED BY: Geologist
DRILLER: D. DELUDE
DRILL RIG TYPE : DIEDRICH D-50
METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DATE
START 6/13/2022
FINISH 6/14/2022
SHEET 2 OF 2

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-1
SURF. ELEV 101.1'
G.W. DEPTH See Notes

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT
PROJ. NO.: BE-22-067
LOCATION: 4300 MILLERSPORT HIGHWAY
AMHERST, NY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
40	13	WOH	WOH			(CL)	
		WOH	1		WOH		WOH = Weight of Hammer and Rods
45	14	WOH	4			Contains little f-c Sand, tr. gravel (medium)	
		3	10		7		
50	15	9	50/0.4		REF		REF = Sample Spoon Refusal
						Gray Highly Weathered SHALE (moist)	
						Boring Complete at 51.2' with Auger Refusal	Free Standing Water recorded at 25.2' at boring completion
55							
60							
65							
70							
75							
80							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW
CLASSIFIED BY: Geologist
DRILLER: D. DELUDE
DRILL RIG TYPE : DIEDRICH D-50
METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DATE:
START 6/13/2022
FINISH 6/13/2022
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-2
SURF. ELEV 100.9'
G.W. DEPTH See Notes

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT
PROJ. NO.: BE-22-067
LOCATION: 4300 MILLERSPORT HIGHWAY
AMHERST, NY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	WOH			TOPSOIL	Driller noted Topsoil at the surface
		2	2		2	Brown Silty CLAY, tr. sand, tr. organics	
	2	4	5			(moist, v.soft, CL)	
		9	11		14	Contains no organics, Silt Partings (stiff)	
5	3	5	7			(v. stiff)	WOH = Weight of Hammer and Rods
		10	12		17		
	4	13	12			Contains no Silt Partings	
		12	10		24		
	5	3	3			(moist-wet, medium)	
10		3	3		6		
	6	WOH	1			(soft)	
		2	2		3		
	7	WOH	WOH			(v.soft)	
		2	1		2		
15	8	WOH/2.0				(CL-CH)	
					WOH		
						Boring Complete at 16.0'	No Free Standing Water encountered at boring completion
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW
CLASSIFIED BY: Geologist
DRILLER: D. DELUDE
DRILL RIG TYPE : DIEDRICH D-50
METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DATE:
START 6/13/2022
FINISH 6/13/2022
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-3
SURF. ELEV 99.4'
G.W. DEPTH See Notes

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT
PROJ. NO.: BE-22-067
LOCATION: 4300 MILLERSPORT HWY
AMHERST, NY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	1			TOPSOIL	Driller noted Topsoil at the surface
		2	2		3	Brown Silty CLAY, tr. sand, tr. organics (moist, soft, CL)	
	2	4	7				
		11	14		18	Contains Silt Partings, no organics (v. stiff)	
5	3	4	8				WOH = Weight of Hammer and Rods
		12	15		20		
	4	12	11				
		13	11		24		
	5	3	3			Contains no Silt Partings (moist-wet, medium)	
10		4	5		7		
	6	1	1			(soft)	
		2	4		3		
	7	3	2			(medium)	
		3	3		5		
15	8	WOH/2.0				(v. soft, CL-CH)	
					WOH		
						Boring Complete at 16.0'	No Free Standing Water encountered at boring completion
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW
CLASSIFIED BY: Geologist
DRILLER: D. DELUDE
DRILL RIG TYPE : DIEDRICH D-50
METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DATE:
START 6/13/2022
FINISH 6/13/2022
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-4
SURF. ELEV 100.7'
G.W. DEPTH See Notes

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT
PROJ. NO.: BE-22-067
LOCATION: 4300 MILLERSPORT HIGHWAY
AMHERST, NY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	2			TOPSOIL	Driller noted Topsoil
		3	4		5	Brown Silty CLAY, tr. sand, tr. organics	at the surface
	2	2	9			(moist, medium, CL)	
		11	11		20	Contains Silt Partings, no organics (v. stiff)	
5	3	3	7				WOH = Weight of
		9	11		16		Hammer and Rods
	4	10	10				
		12	9		22		
	5	4	3			Contains no Silt Partings (moist-wet, medium)	
10		2	2		5		
	6	WOH	1			(soft)	
		2	1		3		
	7	1	2				
		1	2		3		
15	8	WOH/2.0				(v. soft, CL-CH)	
					WOH		
						Boring Complete at 16.0'	No Free Standing Water encountered at boring completion
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: D. DELUDE

DRILL RIG TYPE : DIEDRICH D-50

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DATE:
START 6/14/2022
FINISH 6/14/2022
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-5
SURF. ELEV 99.7'
G.W. DEPTH See Notes

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT
PROJ. NO.: BE-22-067
LOCATION: 4300 MILLERSPORT HIGHWAY
AMHERST, NY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	2			TOPSOIL	Driller noted Topsoil
		2	4		4	Brown Silty CLAY, tr. sand, tr. organics	at the surface
	2	5	7			(moist, medium, CL)	
		10	12		17	Contains no organics (v. stiff)	
5	3	4	7			Contains Silt Partings	WOH = Weight of
		11	12		18		Hammer and Rods
	4	8	10				
		10	7		20		
	5	2	3			Contains no Silt Partings (moist-wet, medium)	
10		2	3		5		
	6	WOH	1				
		2	2		3		
	7	2	2				
		3	2		5		
15	8	WOH/2.0				(v. soft, CL-CH)	
					WOH		
						Boring Complete at 16.0'	No Free Standing Water encountered at boring completion
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: D. DELUDE

DRILL RIG TYPE : DIEDRICH D-50

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DATE:
START 6/14/2022
FINISH 6/14/2022
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-6
SURF. ELEV 99.0'
G.W. DEPTH See Notes

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT
PROJ. NO.: BE-22-067
LOCATION: 4300 MILLERSPORT HIGHWAY
AMHERST, NY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	1			TOPSOIL	Driller noted Topsoil at the surface
		3	4		4	Brown Silty CLAY, tr. sand, tr. organics (moist, medium, CL)	
	2	3	5				
		11	12		16	Contains no organics (v. stiff)	
5	3	5	5			Contains Silt Partings (stiff)	WOH = Weight of Hammer and Rods
		8	11		13		
	4	7	7				
		7	8		14		
	5	2	3			Contains no Silt Partings (moist-wet, medium)	
10		4	5		7		
	6	1	2				
		4	3		6		
	7	3	4				
		4	3		8		
15	8	WOH/2.0				(v. soft, CL-CH)	
					WOH		
						Boring Complete at 16.0'	No Free Standing Water encountered at boring completion
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: D. DELUDE
DRILL RIG TYPE : DIEDRICH D-50
METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DATE:
START 6/13/2022
FINISH 6/13/2022
SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-7
SURF. ELEV 100.3'
G.W. DEPTH See Notes

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT
PROJ. NO.: BE-22-067
LOCATION: 4300 MILLERSPORT HIGHWAY
AMHERST, NY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	WOH	1			TOPSOIL	Driller noted Topsoil at the surface
		3	3		4	Brown Silty CLAY, tr. sand, tr. organics	
	2	4	6			(moist, medium, CL)	
		8	10		14	Contains no organics, Silt Partings (stiff)	
5	3	4	6				WOH = Weight of Hammer and Rods
		9	11		15		
	4	12	12			Contains no Silt Partings (v. stiff)	
		11	9		23		
	5	3	4			(moist-wet, medium)	
10		4	3		8		
	6	WOH	3				
		2	2		5		
	7	2	2				
		2	2		4		
15	8	WOH/2.0				(v. soft, CL-CH)	
					WOH		
						Boring Complete at 16.0'	No Free Standing Water encountered at boring completion
20							
25							
30							
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

DRILLER: D. DELUDE

DRILL RIG TYPE : DIEDRICH D-50

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DATE:
START 6/10/2022
FINISH 6/10/2022
SHEET 1 OF 2

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-8
SURF. ELEV 99.7'
G.W. DEPTH See Notes

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT
PROJ. NO.: BE-22-067
LOCATION: 4300 MILLERSPORT HIGHWAY
AMHERST, NY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	1	1			TOPSOIL	Driller noted Topsoil at the surface
		3	5		4	Brown Silty CLAY, tr. sand, tr. organics (moist, medium, CL)	
	2	4	8				
		10	14		18	Contains Silt Partings, no organics (v. stiff)	
5	3	5	7			(stiff)	
		8	8		15		
	4	10	8			Contains tr. gravel	
		7	6		15		
	5	5	6			Contains no gravel, no Silt Partings	
10		7	7		13		
	6	2	2			(moist-wet, medium)	
		2	2		4		
15							
	7	WOH/2.0				(v. soft, CL-CH)	WOH = Weight of Hammer and Rods
					WOH		
20							
	8	WOH/2.0			WOH		
25							
	9	WOH/2.0					
					WOH		
30							
	10	WOH2.0					
					WOH		
35							
	11	WOH/2.0					
					WOH		
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW
CLASSIFIED BY: Geologist
DRILLER: D. DELUDE
DRILL RIG TYPE : DIEDRICH D-50
METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DATE
START 6/10/2022
FINISH 6/10/2022
SHEET 2 OF 2

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-8
SURF. ELEV 99.7'
G.W. DEPTH See Notes

PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT
PROJ. NO.: BE-22-067
LOCATION: 4300 MILLERSPORT HIGHWAY
AMHERST, NY

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
40	12	3	4			Brown f-c SAND, some f-c Gravel, some Silty Clay	
		5	23		9	(moist-wet, loose, SC-SM)	
45	13	26	28			Contains little fine Gravel (moist, compact)	
		22	24		50		
	14	24	28			(v. compact)	
50		26	27		54		
						Boring Complete at 50.0'	No Free Standing Water encountered at boring completion
55							
60							
65							
70							
75							
80							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW
CLASSIFIED BY: Geologist
DRILLER: D. DELUDE
DRILL RIG TYPE : DIEDRICH D-50
METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX B

FILL MATERIAL AND EARTHWORK RECOMMENDATIONS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX B

FILL MATERIAL AND EARTHWORK RECOMMENDATIONS

I. Material Recommendations

A. Structural Fill

Structural Fill should consist of a crusher run stone, free of clay, organics and friable or deleterious particles. As a minimum, the crusher stone should meet the requirements of New York State Department of Transportation, Standard Specifications, Item 304.12 – Type 2 Subbase, with the following gradation requirements.

Sieve Size Distribution	Percent Finer by Weight
2 inch	100
¼ inch	25-60
No. 40	5-40
No. 200	0-10

B. Subbase Stone

The subbase stone course placed as the aggregate course beneath slab-on-grade and pavement construction should conform to the same material requirements as Structural Fill as stated above.

C. Suitable Granular Fill

Suitable soil material, which is well graded from coarse to fine, and classified as GW, GP, GM, SW, SP and SM soils using the Unified Soil Classification System (ASTM D-2487) and having no more than 85- percent by weight material passing the No. 4 sieve, no more than 20- percent by weight material passing the No. 200 sieve and which is generally free of particles greater than 4 inches, will be acceptable as Suitable Granular Fill. It should also be free of topsoil, asphalt, concrete rubble, wood, debris, clay and other deleterious materials. Suitable Granular Fill can be used as foundation backfill and as subgrade fill to raise site grades beneath slab-on-grade and pavement construction.

Material meeting the requirements of New York State Department of Transportation, Standard Specifications, Item 203.07 – Select Granular Fill is acceptable for use as Suitable Granular Fill.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

II. Placement and Compaction Requirements

Structural Fill placed beneath foundations, slab on grade floors and pavement, or used as foundation backfill should be compacted to a minimum of 95 percent of the maximum dry density as measured by the modified Proctor test (ASTM D1557). Fill placed in non-loaded grass areas can be compacted to a minimum of 90 percent of the maximum dry density (ASTM D1557).

Placement of fill should not exceed a maximum loose lift thickness of 8 to 10 inches with the exception of subgrade undercuts and the subbase courses beneath slab-on-grade and pavement construction, which can be placed in a single or initial lift not exceeding 12 inches. The loose lift thickness should be reduced in conjunction with the compaction equipment used so that the required density is attained.

Fill should have a moisture content within two percent of the optimum moisture content prior to compaction. Subgrades should be properly drained and protected from moisture and frost. Placement of fill on frozen subgrades is not acceptable. It is recommended that all fill placement and compaction be monitored and tested by a representative of Empire Geotechnical Engineering Services.

III. Quality Assurance Testing

The following minimum laboratory and field quality assurance testing frequencies are recommended to confirm fill material quality and post placement and compaction conditions. These minimum frequencies are based on generally uniform material properties and placement conditions. Should material properties vary or conditions at the time of placement vary (i.e. moisture content, placement and compaction, procedures or equipment, etc.) Then additional testing is recommended. Additional testing, which may be necessary, should be determined by qualified geotechnical personnel, based on evaluation of the actual fill material and construction conditions.

A. Laboratory Testing of Material Properties

- Moisture content (ASTM D-2216) - 1 test per 2,000 cubic yards or no less than 2 tests per each material type.
- Grain Size Analysis (ASTM D-422) - 1 test per 3,000 cubic yards or no less than 2 tests per each material type.
- Liquid and Plastic Limits (ASTM D-4318) 1 test per 3,000 cubic yards or no less than 2 tests per each material type. Liquid and Plastic Limit testing is necessary only if appropriate, based on material composition (i.e. clayey or silty soils).

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

- Modified Proctor Moisture Density Relationship (ASTM D-1557) 1 test per 4,000 cubic yards or no less than 1 test per each material type. A maximum/minimum density relationship (ASTM D-4253 and ASTM D-4254) may be an appropriate substitute for ASTM D-1557 depending on material gradation.

B. Field In-Place Moisture/Density Testing (ASTM D-3017 and ASTM D-2922)

- Backfilling along trenches and foundation walls - 1 test per 50 lineal feet per lift.
- Backfilling Isolated Excavations (i.e. column foundations, manholes, etc.) 1 test per lift.
- Filling in open areas for slab-on-grade and pavement construction - 1 test per 2,500 square feet per lift.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX C

GEOTECHNICAL REPORT LIMITATIONS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

GEOTECHNICAL REPORT LIMITATIONS

WMA Engineering DPC / DBA Empire Geotechnical Engineering Services (Empire) has endeavored to meet the generally accepted standard of care for the services completed, and in doing so is obliged to advise the geotechnical report user of our report limitations. Empire believes that providing information about the report preparation and limitations is essential to help the user reduce geotechnical-related delays, cost over-runs, and other problems that can develop during the design and construction process. Empire would be pleased to answer any questions regarding the following limitations and use of our report to assist the user in assessing risks and planning for site development and construction.

PROJECT SPECIFIC FACTORS: The conclusions and recommendations provided in our geotechnical report were prepared based on project specific factors described in the report, such as size, loading, and intended use of structures; general configuration of structures, roadways, and parking lots; existing and proposed site grading; and any other pertinent project information. Changes to the project details may alter the factors considered in development of the report conclusions and recommendations. *Accordingly, Empire cannot accept responsibility for problems which may develop if we are not consulted regarding any changes to the project specific factors that were assumed during the report preparation.*

SUBSURFACE CONDITIONS: The site exploration investigated subsurface conditions only at discrete test locations. Empire has used judgement to infer subsurface conditions between the discrete test locations, and on this basis the conclusions and recommendations in our geotechnical report were developed. It should be understood that the overall subsurface conditions inferred by Empire may vary from those revealed during construction, and these variations may impact on the assumptions made in developing the report conclusions and recommendations. *For this reason, Empire should be retained during construction to confirm that conditions are as expected, and to refine our conclusions and recommendations in the event that conditions are encountered that were not disclosed during the site exploration program.*

USE OF GEOTECHNICAL REPORT: Unless indicated otherwise, our geotechnical report has been prepared for the use of our client for specific application to the site and project conditions described in the report. *Without consulting with Empire, our geotechnical report should not be applied by any party to other sites or for any uses other than those originally intended.*

CHANGES IN SITE CONDITIONS: Surface and subsurface conditions are subject to change at a project site subsequent to preparation of the geotechnical report. Changes may include, but are not limited to, floods, earthquakes, groundwater fluctuations, and construction activities at the site and/or adjoining properties. *Empire should be informed of any such changes to determine if additional investigative and/or evaluation work is warranted.*

MISINTERPRETATION OF REPORT: The conclusions and recommendations contained in our geotechnical report are subject to misinterpretation. *To limit this possibility, Empire should review project plans and specifications relative to geotechnical issues to confirm that the recommendations contained in our report have been properly interpreted and applied.*

Subsurface exploration logs and other report data are also subject to misinterpretation by others if they are separated from the geotechnical report. This often occurs when copies of logs are given to contractors during the bid preparation process. *To minimize the potential for misinterpretation, the subsurface logs should not be separated from our geotechnical report and the use of excerpted or incomplete portions of the report should be avoided.*

OTHER LIMITATIONS: Geotechnical engineering is less exact than other design disciplines, as it is based partly on judgement and opinion. For this reason, our geotechnical report may include clauses that identify the limits of Empire's responsibility, or that may describe other limitations specific to a project. These clauses are intended to help all parties recognize their responsibilities and to assist them in assessing risks and decision making. Empire would be pleased to discuss these clauses and to answer any questions that may arise.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Civil Engineering
Environmental Engineering
Municipal Engineering
Land Surveying

WM SCHUTT ASSOCIATES

Project Management
Construction Support Services
Landscape Architecture
SWPPP Services

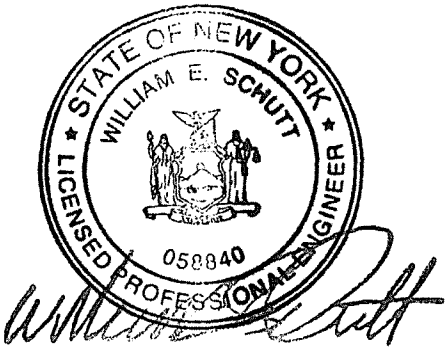
DOWNSTREAM CAPACITY ANALYSIS

For

PROPOSED TRADITIONAL NEIGHBORHOOD DEVELOPMENT

4300 MILLERSPORT HIGHWAY

TOWN OF AMHERST
ERIE COUNTY, NEW YORK



FEBRUARY 2019
REVISED MAY 2023

WSA PROJECT NO. 13027

37 CENTRAL AVENUE LANCASTER NEW YORK 14086-2143 P 716-683-5961 F 716-683-0169 WWW.WMSCHUTT.COM

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TABLE OF CONTENTS

1.0 INTRODUCTION ***4***

2.0 SANITARY FACILITIES ***5***

2.1 Existing Conditions *5*
2.2 Proposed Conditions *7*
2.3 Conclusions *10*

3.0 PROJECT ADMINISTRATION ***11***

3.1 Technical Questions *11*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

LIST OF FIGURES

Figure 1 Project Location Map
Figure 2 Site Plan

LIST OF APPENDICES

Appendix A Downstream Routing Plan

Appendix B Flow Meter Node Locations

Appendix C Flow Meter Records

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

1.0 INTRODUCTION

Cimato & Sons, the project sponsor, of the proposed Traditional Neighborhood Development includes a combination of public and private roads; 38 patio homes, 4-unit and 2-unit townhomes and two combination commercial/residential structures. The site also includes an 8.66+/- acre Future Development Area. The site is zoned TND, Traditional Neighborhood Development and is located at 4300 Millersport Hwy, within the Town of Amherst. The site is currently vacant with a mixture of brush and trees. The site has 33+/- acres of federal wetlands, with a proposed wetland disturbance of 0.76 acres. The initial phase(s) of development includes a combination of public/private roads with a proposed access point off of Millersport Hwy and Smith Road (See Figure 1 - Project Location Map).

The parcel is located on the west side of Millersport Highway and also includes frontage along Smith and New Roads. It is proposed to design a gravity sanitary sewer collection system within the development and direct all flow to a proposed wastewater pump station. The pump station will also be installed within the limits of the development area. Wastewater would then be pumped across Millersport Highway, with a proposed connection into the existing public wastewater forcemain on the east side of Millersport Highway.

The northwest half of the parcel, 32.9+/- acres, is encompassed by federally regulated wetlands. In a July 2018 letter issued by the NYSDEC, the project does not contain any state-regulated freshwater wetlands. In January 2019, the Department of the Army, Corps of Engineers issued a Preliminary Jurisdiction Determination. Any proposed disturbance to the federally regulated wetland is intended to be minimized.

Cimato & Sons has met with the Town of Amherst to discuss the proposed project, which lies beyond the limits of the Town's Consolidated Sanitary Sewer District. Per those discussions, the Town recommending the proposed project pursue an Out-of-District Customer Agreement, as opposed to an expansion of the Consolidated District.

In developing the DSCA, several sources of information were provided by the Town of Amherst and will be referenced throughout this report. This information includes the May 2014 DSCA prepared for the Dockside Village Apartments Phase III, the July 2018 DSCA prepared for the New Road Subdivision project and wastewater flow information at several nodes monitored directly by the Town of Amherst.

Using the most current data from each information source, a total of four nodes will be analyzed. Following the path of wastewater flow from the proposed project site at 4300 Millersport Highway, downstream, the nodes to be analyzed are:

- Node 1 – 12-inch sanitary sewer, 2035 Hopkins Road (obtained from 2018 data provided by Town of Amherst)
- Node 2 – 24-inch sanitary sewer, North French Road at Hopkins Road (obtained from additional 2019 data as provided by Town of Amherst)
- Node 2A - 24-inch sanitary sewer, North French Road- east of Millersport Highway (as provided by Town of Amherst)
- Node 3 – 36-inch sanitary sewer, North French Road – east of Campbell Boulevard (obtained from Town of Amherst)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

- Node 4 – 48-inch sanitary sewer, 411 North French Road- west of Sweethome (obtained from Town of Amherst)

2.0 SANITARY FACILITIES EXISTING AND PROPOSED CONDITIONS

2.1 Existing Conditions

Downstream Routing

Flow from the proposed 4300 Millersport Highway development would flow towards and be treated at the Town of Amherst Wastewater Treatment Plant (Plant #16) located on Tonawanda Creek Road.

There is an existing wastewater pump station to the north of the project site. Flow from the pump station is directed southerly along Millersport Highway via a 10-inch forcemain. The forcemain empties into a 12-inch gravity sanitary sewer along Hopkins Road. Flow is then directed southerly until intercepting a 24-inch sanitary sewer along the south side of North French Rd. Wastewater is then directed westerly thru the French/Dodge Road Trunk sewer consisting of 24-inch, 36-inch and 48-inch diameter pipes until reaching Sundridge Dr. Wastewater flow is then directed northerly along Sundridge Dr. via 48-inch diameter pipe until reaching the Wastewater Treatment Plant (Plant 16) on Tonawanda Creek Rd.

Millersport Highway Pump Station - Existing Conditions

North of the proposed development area, along Millersport Highway, is an existing wastewater pump station. The pump station was designed as part of a Sanitary Sewer Master Plan and Pump Station Design that included the comprehensive Dockside Village Apartment Project. The existing pump station design included a 10-inch forcemain that travels southerly along the east side of Millersport Highway. The forcemain empties into a 12-inch gravity sanitary sewer along Hopkins Road.

Per information obtained from the Dockside Village 2014 DSCA report, the wastewater pump station was designed (May 2004) for a peak flow of 735 gpm, with operating conditions of 745 gpm at a TDH of 70-ft. Per a May 2014 pump test, completed by the Town of Amherst at the wastewater pump station, the actual daily and peak flows at the pump station were 25 gpm and 92 gpm respectively. The proposed flowrate from the 4300 Millersport Hwy project would increase flow thru the existing forcemain to 45.75 gpm and 176.6 gpm, respectively. The future flow rates thru the existing forcemain will remain well under the original design. The future peak flow rate of 176.6 gpd reaches 24% of the original design parameters.

Node 1 Existing Conditions – 12-inch sanitary sewer, 2035 Hopkins Road (obtained from 2018 data provided by Town of Amherst)

At Node 1, the Town of Amherst provided data collected at this location from August 30, 2018 thru November 20, 2018. During that time frame, a 1.71-inch rain event occurred on November 1st. The highest flow rate recorded was 0.21 MGD.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Node 2 Existing Conditions – 24-inch sanitary sewer, North French Road at Hopkins (data obtained from 2019 data as provided by Town of Amherst)

At Node 2, data was supplied by the Town of Amherst for the section of sanitary 24-inch sanitary sewer east of Campbell Boulevard. Data was collected from March 28, 2019 thru April 11, 2019. During that time frame a 0.89-inch rain event occurred in the evening of March 30th, extending into the morning of March 31st., with an additional 0.28 inches. The associated peak flow rate measured was 4.26 MGD.

Node 2A Existing Conditions – 24-inch sanitary sewer, North French Road - east of Millersport Highway (2019 data as provided by Town of Amherst)

At Node 2A, data was collected by TECsmith for the Town of Amherst. Data was collected from July 1, 2019 thru September 23, 2019. During that time frame a 2.2-inch rain event occurred on July 6th. The associated peak flow rate was 4.94 MGD.

Node 3 Existing Conditions – 36-inch sanitary sewer, North French Road – east of Campbell Boulevard (obtained from Town of Amherst)

At Node 3, data was supplied by the Town of Amherst. Data was provided for the time frame of March 1 ,2023 thru March 31, 2023. A peak flow of 5.72 MGD was recorded on March 17, 2023.

Node 4 Existing Conditions – 36-inch sanitary sewer, North French Road- east of Sweethome (obtained from Town of Amherst)

At Node 4, data was supplied by the Town of Amherst. Data was provided for the time frame of March 1 ,2023 thru March 31, 2023. A peak flow of 9.25 MGD was recorded on March 17, 2023.

Existing Conditions Summary:

Sewer	Size	Slope	Manning "n" value	Capacity (MGD)	Flow Monitoring Results (MGD)
Hopkins Road	*12-inch*	*0.23%*	*0.011*	*1.31*	*0.21*
N. French Rd at Hopkins	*24-inch*	*0.08%*	*0.013*	*4.15*	*4.26*
N. French Rd (east of Millersport)	*24-inch*	*0.08%*	*0.013*	*4.15*	*4.94*
N. French Rd (east of Campbell)	*36-inch*			*9.66***	*5.72*
411 N. French Rd (west of Sweethome)	*48-inch*			*16.1***	*9.25*

** As provided by Town of Amherst

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

2.2 Proposed Conditions

Proposed Project Design Basis

Average Daily Flows	
PHASE 1	
Patio Homes - 38 homes	
Bedrooms per home =	2
Total number of bedroom (2*38) =	76
Flow rate per bedroom =	110 gpd
Average Daily Flow (76*110) =	**8,360 gpd**
Four Unit Town Homes – 7 buildings	
Bedrooms per unit =	2
Total number of bedrooms (7 * 4 *2) =	56
Flow rate per Bedroom =	110 gpd
Average Daily Flow (56 *110) =	**6,160 gpd**
Two Unit Town Homes - 6 buildings	
Bedrooms per unit =	2
Total number of bedrooms = (6 *2 *2)	24
Flow rate per bedroom =	110 gpd
Average Daily Flow = (24 *110)	**2,640 gpd**
PHASE 2	
MIXED USE BUILDING #1 – 11,000 sf footprint	
First floor commercial space – 11,000 sf	
Average daily flow = (0.1 gpd * 11,000 sf)	**1,100 gpd**
Employees =	28
Average daily flow = (15 gpd * 28)	**420 gpd**
Second Floor apartments =	11
Bedrooms per apartment =	2
Total number of bedrooms = (11*2)	22
Flow rate per bedroom =	110 gpd
Average Daily Flow = (22 *110)	**2,420 gpd**
Third Floor apartments =	11
Bedrooms per apartment =	2
Total number of bedrooms =	22
Flow rate per bedroom =	110 gpd
Average Daily Flow = (11* 110)	**2,420 gpd**

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

PHASE 3	
MIXED USE BUILDING #2 – 11,000 sf footprint	
First floor commercial space – 11,000 sf	
Average daily flow = (0.1 gpd * 11,000 sf)	***1,100 gpd***
Employees =	*28*
Average daily flow = (15 gpd * 28)	***420 gpd***
Second Floor apartments =	*11*
Bedrooms per apartment =	*2*
*Total number of bedrooms = (11*2)*	*22*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow = (22 *110)	***2,420 gpd***
Third Floor apartments =	*11*
Bedrooms per apartment =	*2*
Total number of bedrooms =	*22*
Flow rate per bedroom =	*110 gpd*
Average Daily Flow = (11* 110)	***2,420 gpd***
TOTAL AVERAGE DAILY FLOW (Phases 1 thru 3)	***29,880 GPD***
Peak Daily flow	
Population (P) =	*299 people*
P = Population / 1,000 = 299 / 1,000	*0.299*
Peak Factor = Qmax/ Qavg = (18+(P)^1/2) / (4+(P)^1/2)	*4.079*
Peak Daily Flow = Avg. Daily Flow X Peak Factor	***121,880 gpd*** ***84.6 gpm (over 24 hours)***

Millersport Highway Pump Station - Proposed Conditions

Per information obtained from the Dockside Village 2014 DSCA report and per a May 2014 pump test completed by the Town of Amherst at the wastewater pump station, the actual daily and peak flows at the pump station was 25 gpm and 92 gpm respectively. Accounting for the final phase of the Dockside apartment project, the daily and peak flow rates are expected to increase to 69 gpm and 252 gpm respectively.

Adding in the future average and peak flow rates from the proposed 4300 Millersport Highway project (20.75 gpm and 84.6 gpm respectively), *the future average and peak flow rates to the pump station are estimated at* ***89.75 gpm*** *and* ***336.6 gpm*** *respectively.*

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Comparing the future flow rates to the original pump station design flow rates (***operating condition of 745 gpm***), the projected flow rates are less that the original design flow rates. No upgrades to the pump station and downstream force main are anticipated based on the increased flow rate.

Node 1 Proposed Conditions – 12-inch sanitary sewer, 2035 Hopkins Road (obtained from 2018 data provided by Town of Amherst)

At Node 1, the highest recorded flow rate was 0.21 MGD. Based on the pipe characteristics, the *pipe capacity is estimated at 1.31 MGD.* Accounting for the future peak flow rate from the 4300 Millersport Highway development (0.122 MGD), anticipated future peak flow thru Node 1 is 0.332 MGD. ***The future peak flow rate is 25.3% of full flow capacity.***

Node 2 Proposed Conditions – 24-inch sanitary sewer, North French Road at Hopkins (data obtained from 2019 data as provided by Town of Amherst)

At Node 2, the highest recorded flow rate is 4.26 MGD. The recorded flow rate corresponds to a 0.89-inch and 0.28-inch rain event extending from March 30th thru March 31st, 2019. Accounting for the future peak flow rate from the 4300 Millersport Highway Project (0.122 MGD), the anticipated peak flow rate thru Node 2 is 4.38 MGD. The available pipe capacity is 4.15 MGD. **Based on the future peak flow rate, 105% of the full flow capacity is used, during a 2-yr – 6 hr rain event.** ***Based on the flow information provided by the Town of Amherst, during the March 30th – 31st rain event, the highest flow level measurement was 54.49 inches and the highest velocity measured in the pipe was 2.10 fps. Although the pipe capacity was slightly exceeded, it does not appear that the flow stalled at any point in time. The crown of the pipe was submerged by 2.5 ft, but the level of surcharge did not approach the manhole rim. The Town of Amherst has also reviewed the impact of the future flow from the proposed 4300 Millersport Hwy project, within the Town modeling system. Under future flow conditions, the submerged level increases by 0.42 ft or 5-inches, resulting in an increased flow level measurement of 59.49-inches. The total height of the manhole is 14.5-ft from rim to invert. Under future flow conditions, the surcharge flow level of 59.49-inches (4.95 ft), still leaves 9.55-ft of freeboard within the manhole, above the surcharge level.***

Per information provided by the Town, the surcharge being experienced at this location is partially due to a section of existing sanitary sewer with a negative slope, just west of Hopkins Road.

Node 2A Proposed Conditions – 24-inch sanitary sewer, North French Road - east of Millersport Highway (2019 data as provided by Town of Amherst)

At Node 2A, the highest recorded flow rate was 4.94 MGD. The recorded flow rate corresponds to a 2.20-inch rain event occurring on July 6, 2019. Accounting for the peak future peak flow rate from the 4300 Millersport Highway Project (0.122 MGD), the anticipated peak flow rate thru Node 2A is 5.06 MGD. The available pipe capacity is 4.15 MGD. ***Based on the flow information provided by the Town of Amherst, during the July 6, 2019 rain event, the highest flow level measurement was 22.16 inches and within the pipe, a peak velocity of 2.42 fps. Although the pipe capacity was exceeded it does not appear that the flow stalled at any point in time.***

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Node 3 Proposed Conditions – 36-inch sanitary sewer, North French Road – east of Campbell Boulevard (data obtained from Town of Amherst)

At Node 3, for March 17, 2023, the recorded peak flow rate was 5.72 MGD. Accounting for the peak future peak flow rate from the 4300 Millersport Highway Project (0.122 MGD), the anticipated peak flow rate thru Node 3 is 5.84 MGD. The available pipe capacity is 9.66 MGD. ***The future peak flow rate is 60.4 % of full flow capacity.***

Node 4 Proposed Conditions – 48-inch sanitary sewer, 411 North French Road - west of Sweethome (data obtained from Town of Amherst)

At Node 4,for March 17, 2023, the recorded peak flow rate was 9.25 MGD. Accounting for the peak future peak flow rate from the 4300 Millersport Highway Project (0.122 MGD), the anticipated peak flow rate thru Node 4 is 9.37 MGD. The available pipe capacity is 16.1 MGD. ***The future peak flow rate is 58.2% of full flow capacity.***

2.3 Conclusions

Analyzing the peak flow events, combined with future flow rates, there is sufficient capacity within the downstream wastewater routing system.

As is described in section 2.2 above (Node 2), during the greater peak storm event (4.33 MGD), available pipe capacity is exceeded. Based on the flow information provided by the Town of Amherst, during the March 30- 31st rain event, the highest flow level measurement was 54.49 inches and the highest velocity measured in the pipe was 2.10 fps. Although the pipe capacity was exceeded it does not appear that flow stalled at any point in time. Also, under future flow conditions, the submerged level increases by 0.42 ft or 5-inches, resulting in an increased flow level measurement of 59.49-inches. The total height of the manhole is 14.5-ft from rim to invert. Under future flow conditions, the surcharge flow level of 59.49-inches (4.95 ft), still leaves 9.55-ft of freeboard within the manhole, above the surcharge level.

In accordance with the Town of Amherst and NYS Department of Environmental Conservation Infiltration/ Inflow (I/I) mitigation program, four (4) gallons of I/I must be removed from the sanitary sewer collection system for every one (1) gallon of projected new sanitary flow.

In accordance with Town of Amherst Local Sewer Use Law, the Project Owner is required to make a financial contribution to the Town of Amherst Sewer Remediation Trust Fund. The Town's current rate is $250 per gallon of Inflow/Infiltration mitigated flow.

The mitigated flow for the proposed 4300 Millersport Highway development project is 4 times the peak flow (0.122 MGD) or 0.488 MGD. This converts to a flow rate of 338.9 gpm. The resulting financial contribution is $84,725.00 (338.9 gpm x $250.00).

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

3.0 PROJECT ADMINISTRATION

3.1 Technical Questions

Technical questions concerning data presented herein or concerning respective engineering drawings and details should be addressed to:

Wm. Schutt & Associates, P.C.
37 Central Avenue
Lancaster, New York 14086-2143
Tel: (716) 683-5961
Fax: (716) 683-0169
Attn: Patricia Bittar
pbittar@wmschutt.com

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

FIGURE 1

PROJECT LOCATION MAP

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

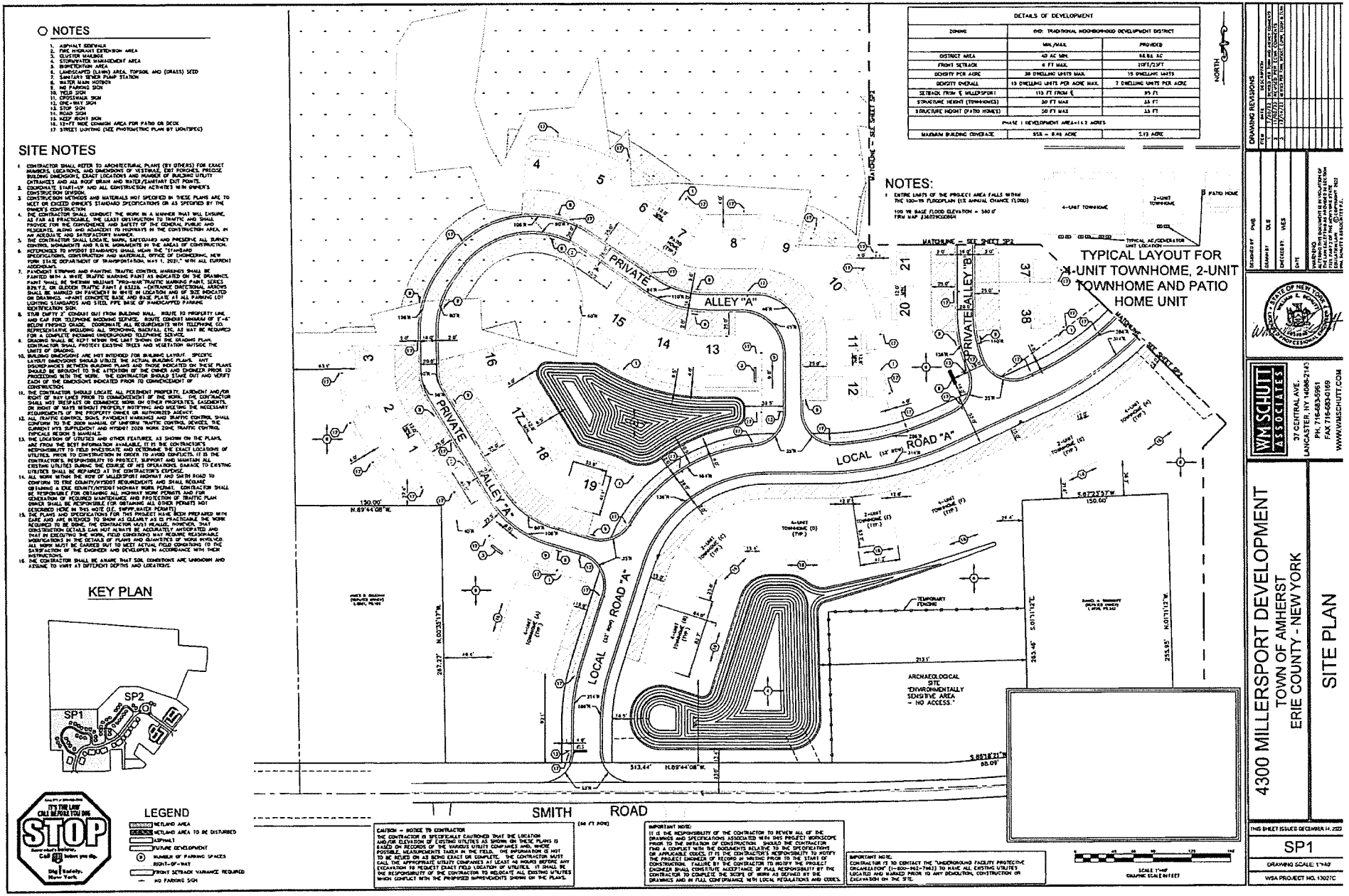
Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

FIGURE 2

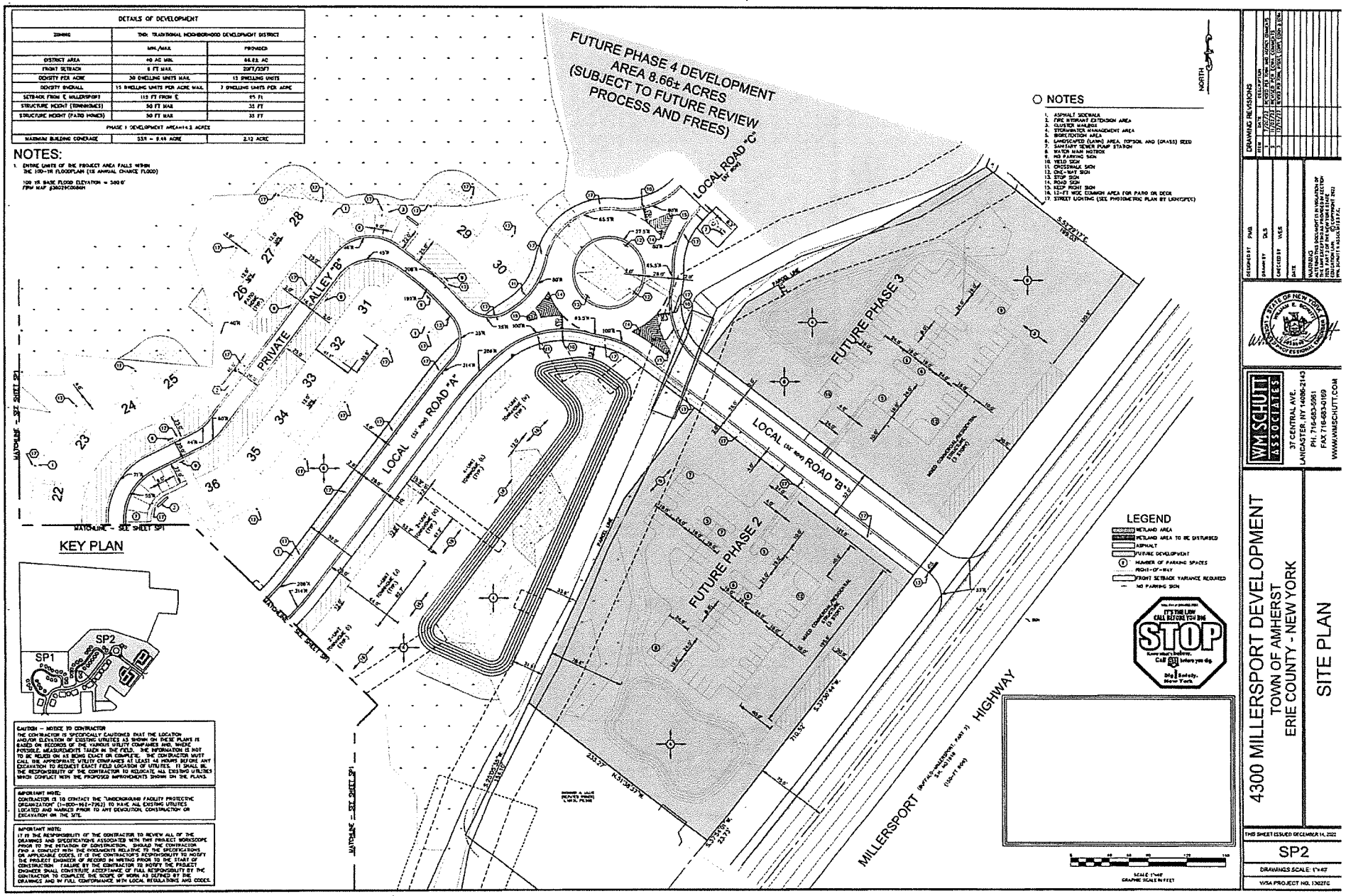
SITE PLANS-

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



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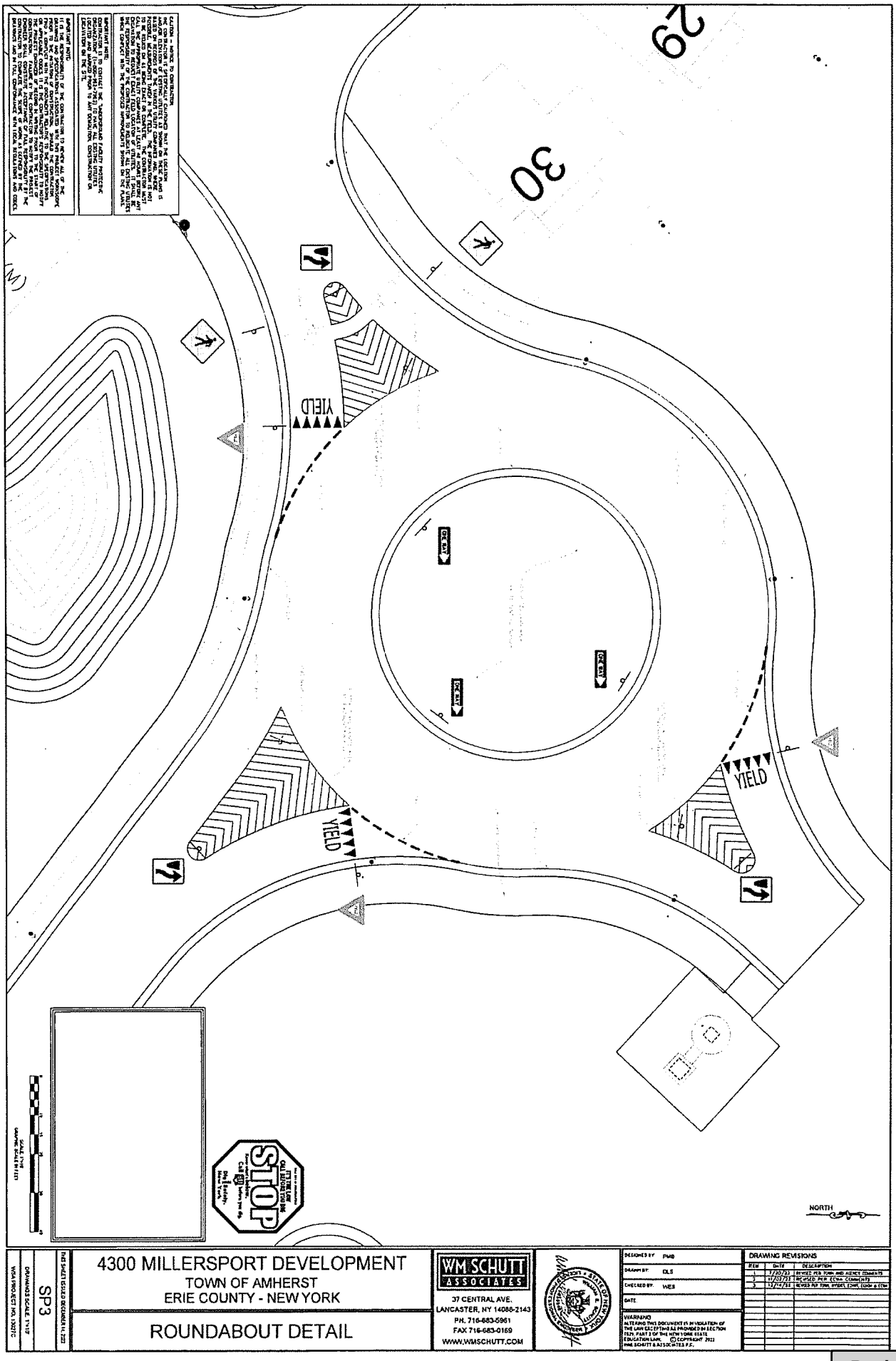

4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

ROUNDABOUT DETAIL

SP3

WM SCHUTT ASSOCIATES
37 CENTRAL AVE.
LANCASTER, NY 14086-2143
PH. 716-683-5961
FAX 716-683-0169
WWW.WMSCHUTT.COM

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	7/20/23	REVISED PER TOWN AND AGENCY COMMENTS
2	11/03/23	REVISED PER TOWN COMMENTS
3	12/14/23	REVISED PER TOWN, BYDEPT, TOWN & TOWN

WARNING
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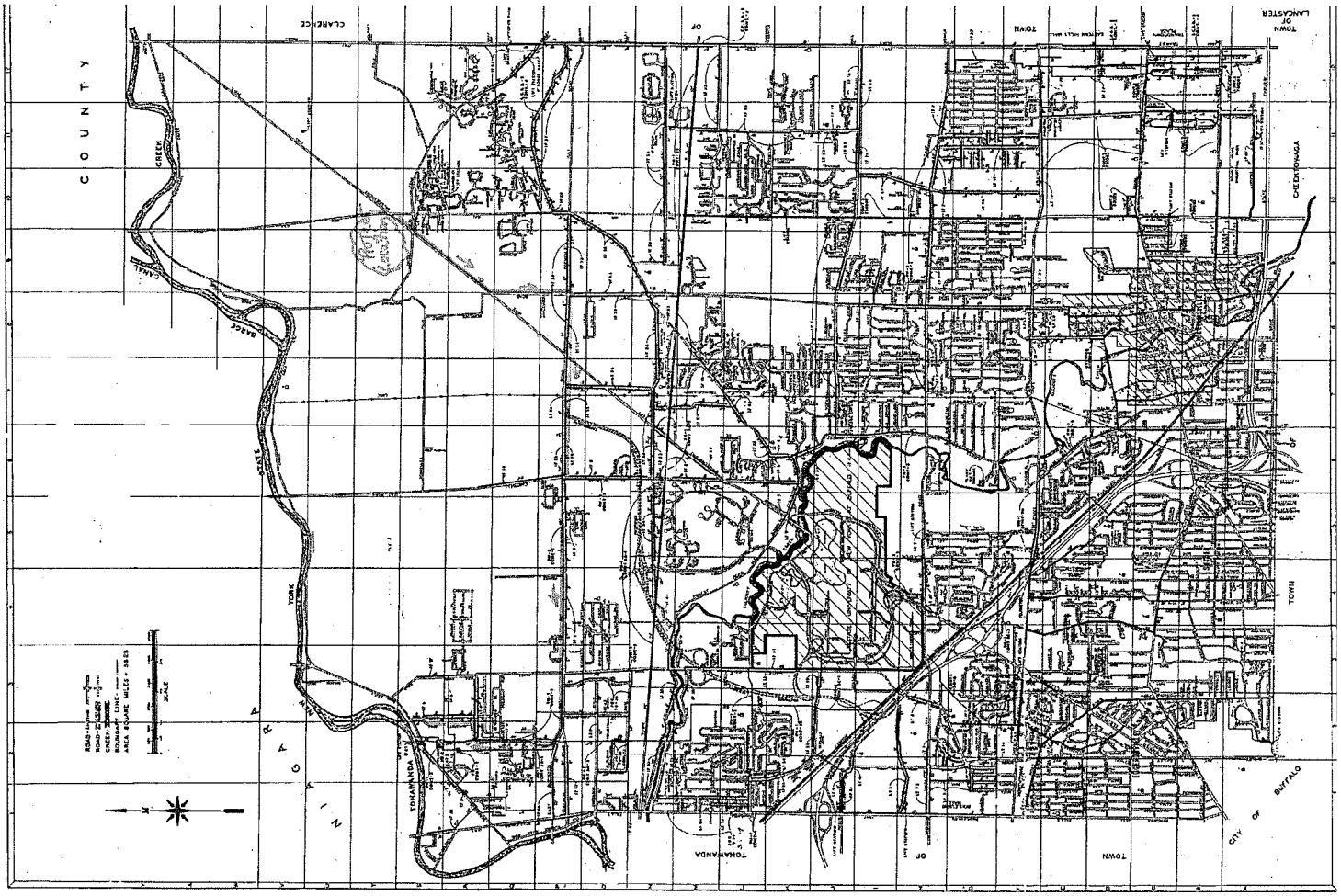
APPENDIX A

DOWNSTREAM ROUTING PLAN

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

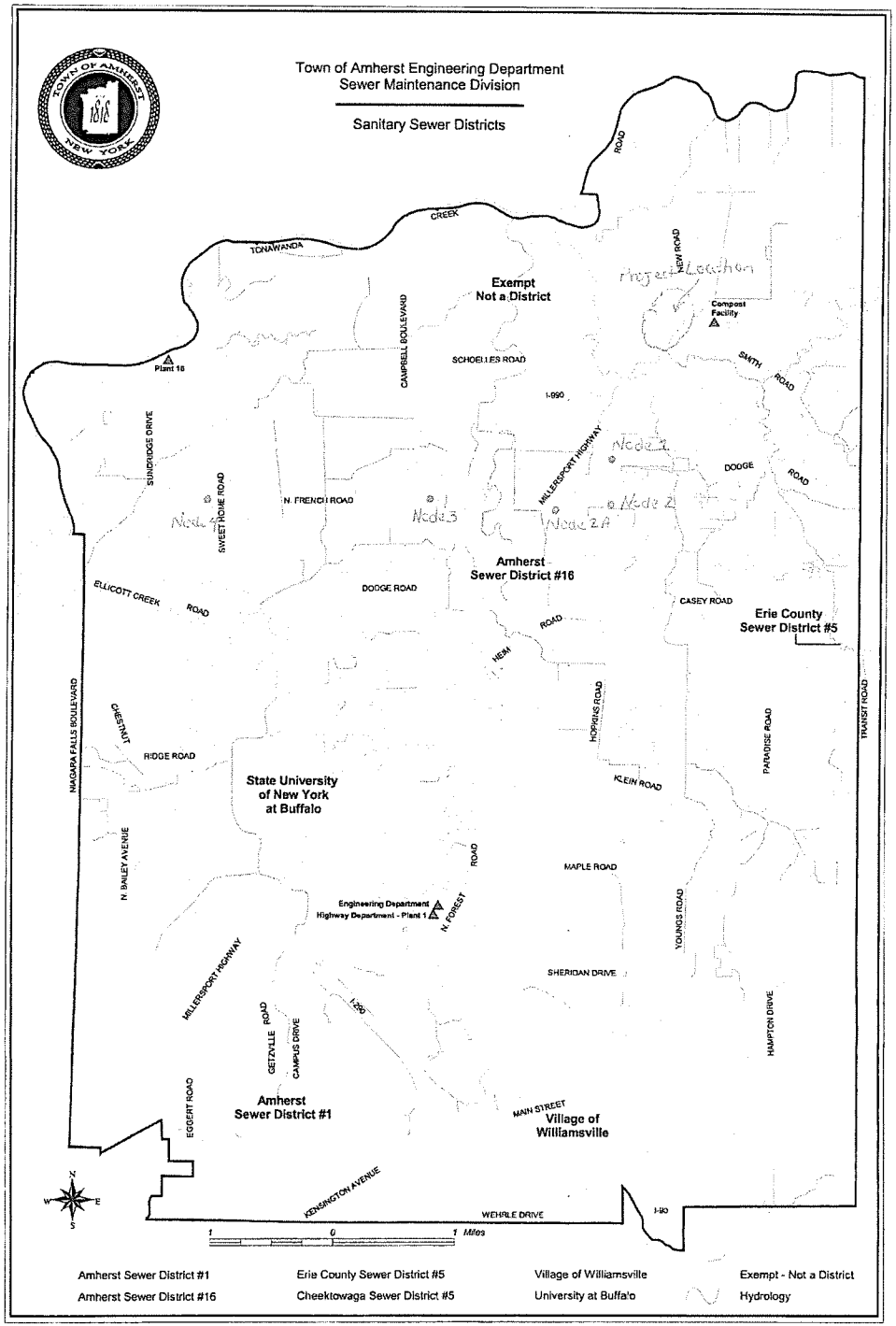


Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX B

FLOW METER NODE LOCATIONS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

APPENDIX C

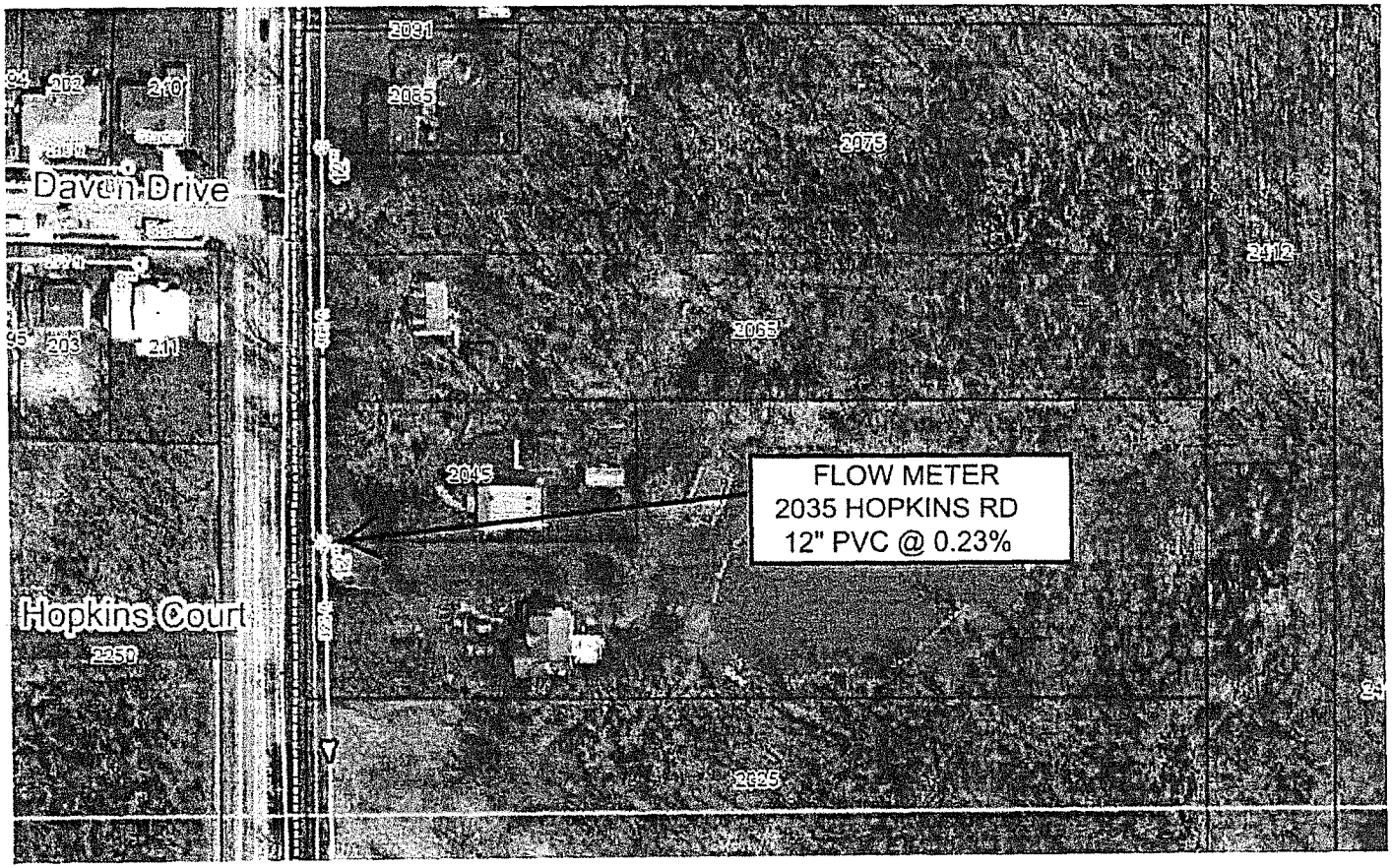
FLOW METER RECORDS

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NODE 1

12-inch sanitary sewer, 2035 Hopkins Road (obtained from 2018 data provided by Town of Amherst)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Custom
Amherst Engineering
00000004_2035 Hopkins
10/10/2018 12:00 AM - 11/20/2018 04:52 PM

Level Summary

Maximum (in):	11.71	11/02/2018 12:45 AM
Minimum (in):	0.83	11/08/2018 06:50 AM
Average (in):	2.78	

Date	Maximum (In)	Maximum Time	Minimum (In)	Minimum Time	Average (In)
10/10/2018 12:00 AM	3.78	21:10	1.81	03:35	2.78
10/11/2018 12:00 AM	3.67	08:20	1.75	04:20	2.78
10/12/2018 12:00 AM	3.73	09:00	1.73	06:30	2.70
10/13/2018 12:00 AM	3.96	11:20	1.62	05:25	2.82
10/14/2018 12:00 AM	4.01	13:40	1.64	07:35	2.96
10/15/2018 12:00 AM	3.94	21:10	1.67	05:00	2.94
10/16/2018 12:00 AM	3.89	21:25	1.67	06:15	2.77
10/17/2018 12:00 AM	3.84	08:40	1.68	05:05	2.76
10/18/2018 12:00 AM	4.01	08:00	1.73	05:15	2.84
10/19/2018 12:00 AM	3.76	09:35	1.51	05:10	2.72
10/20/2018 12:00 AM	3.90	11:40	1.56	04:10	2.81
10/21/2018 12:00 AM	3.89	11:20	1.62	03:35	2.84
10/22/2018 12:00 AM	3.83	09:15	1.67	05:30	2.74
10/23/2018 12:00 AM	3.78	21:30	1.73	04:20	2.69
10/24/2018 12:00 AM	3.72	07:40	1.67	03:20	2.74
10/25/2018 12:00 AM	3.67	08:10	1.56	04:15	2.69
10/26/2018 12:00 AM	3.66	08:15	1.56	04:05	2.70
10/27/2018 12:00 AM	4.39	11:30	1.61	04:50	2.83
10/28/2018 12:00 AM	3.84	14:05	1.72	06:15	2.91
10/29/2018 12:00 AM	3.77	20:45	1.57	04:25	2.73
10/30/2018 12:00 AM	3.61	22:05	1.75	06:30	2.67
10/31/2018 12:00 AM	3.82	08:00	1.84	06:05	2.71
11/01/2018 12:00 AM	10.99	23:50	1.90	02:20	3.57
11/02/2018 12:00 AM	11.71	00:45	2.52	16:25	6.69
11/03/2018 12:00 AM	4.01	10:25	1.92	06:20	3.01
11/04/2018 12:00 AM	4.10	11:15	1.96	06:50	3.00
11/05/2018 12:00 AM	3.89	08:35	1.90	04:55	2.91
11/06/2018 12:00 AM	3.85	09:30	1.90	03:45	2.87
11/07/2018 12:00 AM	3.94	08:55	1.19	18:30	2.39
11/08/2018 12:00 AM	2.75	09:35	0.83	06:50	1.77
11/09/2018 12:00 AM	2.92	21:35	0.90	05:00	1.90
11/10/2018 12:00 AM	3.10	11:55	0.94	07:10	2.06
11/11/2018 12:00 AM	3.26	11:25	1.04	04:45	2.22
11/12/2018 12:00 AM	3.20	21:05	1.11	07:05	2.29
11/13/2018 12:00 AM	3.20	22:40	1.34	06:05	2.31
11/14/2018 12:00 AM	3.43	23:35	1.33	06:50	2.41
11/15/2018 12:00 AM	3.60	22:20	1.45	07:10	2.53
11/16/2018 12:00 AM	3.60	10:00	1.83	06:40	2.73
11/17/2018 12:00 AM	3.83	12:55	1.69	07:15	2.86
11/18/2018 12:00 AM	3.66	14:30	1.85	07:35	2.87
11/19/2018 12:00 AM	3.76	09:55	1.78	06:00	2.74
11/20/2018 12:00 AM	3.66	09:10	1.72	07:10	2.62

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Custom
Amherst Engineering
00000004_2035 Hopkins
10/10/2018 12:00 AM - 11/20/2018 04:52 PM

Velocity Summary

Maximum (fps):	4.03	11/07/2018 01:05 PM
Minimum (fps):	0.00	10/12/2018 06:30 AM
Average (fps):	0.69	

Date	Maximum (fps)	Maximum Time	Minimum (fps)	Minimum Time	Average (fps)
10/10/2018 12:00 AM	1.24	20:50	0.39	06:15	0.81
10/11/2018 12:00 AM	1.24	08:40	0.34	04:50	0.80
10/12/2018 12:00 AM	1.25	09:00	0.00	06:30	0.75
10/13/2018 12:00 AM	1.34	11:20	0.00	04:45	0.79
10/14/2018 12:00 AM	1.30	12:10	0.00	02:55	0.80
10/15/2018 12:00 AM	1.21	09:05	0.00	02:45	0.73
10/16/2018 12:00 AM	1.21	21:25	0.00	03:20	0.74
10/17/2018 12:00 AM	1.26	21:40	0.00	01:50	0.74
10/18/2018 12:00 AM	1.23	20:55	0.00	01:40	0.72
10/19/2018 12:00 AM	1.14	12:00	0.00	01:20	0.73
10/20/2018 12:00 AM	1.24	12:00	0.00	03:15	0.76
10/21/2018 12:00 AM	1.32	10:20	0.00	00:50	0.74
10/22/2018 12:00 AM	1.15	07:45	0.00	01:45	0.66
10/23/2018 12:00 AM	1.17	21:55	0.00	02:10	0.66
10/24/2018 12:00 AM	1.19	21:40	0.00	01:00	0.72
10/25/2018 12:00 AM	1.23	20:55	0.00	02:25	0.72
10/26/2018 12:00 AM	1.17	08:15	0.00	03:00	0.71
10/27/2018 12:00 AM	1.27	13:45	0.00	03:15	0.77
10/28/2018 12:00 AM	1.20	14:05	0.00	04:00	0.77
10/29/2018 12:00 AM	1.25	08:15	0.00	01:20	0.75
10/30/2018 12:00 AM	1.23	07:45	0.00	04:05	0.73
10/31/2018 12:00 AM	1.22	08:30	0.00	02:10	0.72
11/01/2018 12:00 AM	1.32	20:55	0.00	02:00	0.70
11/02/2018 12:00 AM	1.23	23:15	0.00	04:50	0.51
11/03/2018 12:00 AM	1.30	13:15	0.11	21:50	0.84
11/04/2018 12:00 AM	1.54	22:45	0.00	03:20	0.61
11/05/2018 12:00 AM	1.01	04:35	0.00	00:00	0.23
11/06/2018 12:00 AM	0.84	14:20	0.00	00:10	0.18
11/07/2018 12:00 AM	4.03	13:05	0.00	00:00	0.45
11/08/2018 12:00 AM	1.37	08:55	0.17	14:30	0.78
11/09/2018 12:00 AM	1.21	09:30	0.00	04:45	0.74
11/10/2018 12:00 AM	1.30	11:55	0.00	06:25	0.72
11/11/2018 12:00 AM	1.28	11:10	0.00	04:30	0.77
11/12/2018 12:00 AM	1.22	20:40	0.00	03:15	0.75
11/13/2018 12:00 AM	1.18	21:00	0.07	03:15	0.68
11/14/2018 12:00 AM	1.20	08:55	0.07	03:30	0.67
11/15/2018 12:00 AM	1.19	22:20	0.00	05:55	0.69
11/16/2018 12:00 AM	1.26	09:20	0.05	02:40	0.63
11/17/2018 12:00 AM	1.26	12:35	0.14	15:20	0.83
11/18/2018 12:00 AM	1.31	23:45	0.00	05:40	0.82
11/19/2018 12:00 AM	1.31	08:55	0.00	17:10	0.62
11/20/2018 12:00 AM	1.22	08:45	0.00	03:00	0.42

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Custom
Amherst Engineering
00000004_2035 Hopkins
10/10/2018 12:00 AM - 11/20/2018 04:52 PM

Flow Summary

Maximum (mgd):	0.2809	11/07/2018 01:05 PM
Minimum (mgd):	0.0000	10/12/2018 06:30 AM
Average (mgd):	0.0663	
Total (gal):	2,754,117.5	

Date	Maximum (mgd)	Maximum Time	Minimum (mgd)	Minimum Time	Average (mgd)	Total (gal)	
10/10/2018 12:00 AM	0.1665	21:10	0.0187	06:15	0.0766	76,596.3	
10/11/2018 12:00 AM	0.1604	08:20	0.0166	05:25	0.0763	76,311.0	
10/12/2018 12:00 AM	0.1687	09:00	0.0000	06:30	0.0698	69,836.9	
10/13/2018 12:00 AM	0.1955	11:20	0.0000	04:45	0.0802	80,203.1	
10/14/2018 12:00 AM	0.1865	12:10	0.0000	02:55	0.0868	86,836.2	
10/15/2018 12:00 AM	0.1727	09:05	0.0000	02:45	0.0782	78,174.6	
10/16/2018 12:00 AM	0.1727	21:25	0.0000	03:20	0.0730	72,959.4	
10/17/2018 12:00 AM	0.1742	08:40	0.0000	01:50	0.0720	71,981.5	
10/18/2018 12:00 AM	0.1791	08:00	0.0000	01:40	0.0734	73,417.4	
10/19/2018 12:00 AM	0.1434	12:00	0.0000	01:20	0.0697	69,681.4	
10/20/2018 12:00 AM	0.1765	11:40	0.0000	03:15	0.0769	76,894.8	
10/21/2018 12:00 AM	0.1703	10:20	0.0000	00:50	0.0776	77,589.3	
10/22/2018 12:00 AM	0.1544	07:45	0.0000	01:45	0.0650	64,975.8	
10/23/2018 12:00 AM	0.1575	21:30	0.0000	02:10	0.0638	63,765.3	
10/24/2018 12:00 AM	0.1498	21:40	0.0000	01:00	0.0696	69,588.4	
10/25/2018 12:00 AM	0.1590	08:10	0.0000	02:25	0.0687	68,699.0	
10/26/2018 12:00 AM	0.1537	08:15	0.0000	03:00	0.0673	67,266.3	
10/27/2018 12:00 AM	0.1895	11:30	0.0000	03:15	0.0792	79,168.9	
10/28/2018 12:00 AM	0.1682	14:05	0.0000	04:00	0.0820	81,987.9	
10/29/2018 12:00 AM	0.1680	08:15	0.0000	01:20	0.0724	72,371.4	
10/30/2018 12:00 AM	0.1520	07:45	0.0000	04:05	0.0679	67,941.8	
10/31/2018 12:00 AM	0.1633	08:30	0.0000	02:10	0.0683	68,310.7	
11/01/2018 12:00 AM	0.2124	20:55	0.0000	02:00	0.0841	84,147.0	
11/02/2018 12:00 AM	0.1703	07:55	0.0000	04:50	0.0960	96,017.3	
11/03/2018 12:00 AM	0.1868	13:15	0.0091	21:50	0.0895	89,493.4	
11/04/2018 12:00 AM	0.1665	12:05	0.0000	03:20	0.0662	66,229.1	
11/05/2018 12:00 AM	0.1092	00:10	0.0000	00:00	0.0241	24,149.5	
11/06/2018 12:00 AM	0.1047	09:55	0.0000	00:10	0.0200	20,024.6	
~~11/07/2018 12:00 AM~~	~~0.2809~~	~~13:05~~	~~0.0000~~	~~00:00~~	~~0.0284~~	~~28,435.0~~	Bad Data Little Rainfall
11/08/2018 12:00 AM	0.1123	08:55	0.0038	06:50	0.0413	41,323.7	
11/09/2018 12:00 AM	0.1102	21:35	0.0000	04:45	0.0434	43,378.7	
11/10/2018 12:00 AM	0.1353	11:55	0.0000	06:25	0.0489	48,860.8	
11/11/2018 12:00 AM	0.1348	15:15	0.0000	04:30	0.0580	57,966.9	
11/12/2018 12:00 AM	0.1253	21:05	0.0000	03:15	0.0574	57,418.6	
11/13/2018 12:00 AM	0.1217	09:35	0.0026	03:15	0.0530	52,953.8	
11/14/2018 12:00 AM	0.1380	23:35	0.0031	02:55	0.0552	55,174.0	
11/15/2018 12:00 AM	0.1522	22:20	0.0000	05:55	0.0598	59,847.1	
11/16/2018 12:00 AM	0.1583	10:00	0.0028	02:40	0.0621	62,132.6	
11/17/2018 12:00 AM	0.1661	12:55	0.0127	17:40	0.0831	83,054.8	
11/18/2018 12:00 AM	0.1677	11:35	0.0000	05:40	0.0841	84,143.1	
11/19/2018 12:00 AM	0.1724	08:55	0.0000	17:10	0.0617	61,661.9	
11/20/2018 12:00 AM	0.1557	08:45	0.0000	03:00	0.0427	23,148.2	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NODE 2

24-inch sanitary sewer, North French Road at Hopkins (data obtained from 2019 data as provided by Town of Amherst)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Custom
Amherst Engineering
00000009_French @ Hopkins
03/28/2019 12:00 AM - 04/11/2019 08:29 AM

Level Summary

Maximum (in):	54.49	03/31/2019 04:45 PM
Minimum (in):	5.01	03/28/2019 05:30 AM
Average (in):	17.68	

Date	Maximum (in)	Maximum Time	Minimum (In)	Minimum Time	Average (In)
03/28/2019 12:00 AM	14.53	21:45	5.01	05:30	10.54
03/29/2019 12:00 AM	13.85	12:30	8.25	05:45	12.15
03/30/2019 12:00 AM	20.88	23:45	8.21	06:30	13.99
03/31/2019 12:00 AM	54.49	16:45	21.13	00:00	45.84
04/01/2019 12:00 AM	45.34	00:00	21.34	07:30	26.79
04/02/2019 12:00 AM	23.15	00:00	15.34	06:00	18.55
04/03/2019 12:00 AM	18.56	00:00	12.99	05:30	16.21
04/04/2019 12:00 AM	16.53	12:00	11.39	05:15	14.79
04/05/2019 12:00 AM	15.98	22:15	10.43	06:15	14.21
04/06/2019 12:00 AM	17.76	14:00	10.65	06:15	14.71
04/07/2019 12:00 AM	16.54	12:45	9.92	06:30	13.98
04/08/2019 12:00 AM	23.79	11:45	12.04	02:45	18.52
04/09/2019 12:00 AM	18.11	00:00	12.13	05:45	15.37
04/10/2019 12:00 AM	15.96	00:00	10.52	05:45	14.02
04/11/2019 12:00 AM	15.34	00:00	9.64	06:00	11.71

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Custom
Amherst Engineering
00000009_French @ Hopkins
03/28/2019 12:00 AM - 04/11/2019 08:29 AM

Velocity Summary

Maximum (fps):	2.12	04/08/2019 05:45 AM
Minimum (fps):	1.38	03/28/2019 07:00 AM
Average (fps):	1.94	

Date	Maximum (fps)	Maximum Time	Minimum (fps)	Minimum Time	Average (fps)
03/28/2019 12:00 AM	1.95	11:30	1.38	07:00	1.81
03/29/2019 12:00 AM	1.92	20:15	1.74	05:15	1.86
03/30/2019 12:00 AM	1.97	22:00	1.73	07:45	1.88
03/31/2019 12:00 AM	2.10	16:30	1.74	01:45	2.00
04/01/2019 12:00 AM	2.02	00:15	1.73	05:15	1.85
04/02/2019 12:00 AM	2.07	02:30	1.85	00:00	1.98
04/03/2019 12:00 AM	2.05	01:30	1.92	05:00	1.99
04/04/2019 12:00 AM	2.02	11:15	1.89	04:45	1.97
04/05/2019 12:00 AM	2.03	22:00	1.88	04:15	1.96
04/06/2019 12:00 AM	2.02	19:15	1.91	05:15	1.96
04/07/2019 12:00 AM	2.03	23:45	1.87	06:30	1.96
04/08/2019 12:00 AM	2.12	05:45	1.88	12:15	1.98
04/09/2019 12:00 AM	2.06	17:30	1.91	04:30	2.02
04/10/2019 12:00 AM	2.04	11:45	1.87	03:15	1.98
04/11/2019 12:00 AM	2.01	00:15	1.87	04:30	1.93

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Custom
Amherst Engineering
00000009_French @ Hopkins
03/28/2019 12:00 AM - 04/11/2019 08:29 AM

Flow Summary

Maximum (mgd):	4.2569	03/31/2019 04:30 PM
Minimum (mgd):	0.4808	03/28/2019 05:30 AM
Average (mgd):	2.7177	
Total (gal):	39,007,813.8	

Date	Maximum (mgd)	Maximum Time	Minimum (mgd)	Minimum Time	Average (mgd)	Total (gal)
03/28/2019 12:00 AM	2.4863	21:45	0.4808	05:30	1.6156	1,615,631.6
03/29/2019 12:00 AM	2.3084	00:00	1.1003	05:45	1.9320	1,932,015.6
03/30/2019 12:00 AM	3.5842	23:45	1.0660	06:00	2.3174	2,317,350.0
03/31/2019 12:00 AM	4.2569	16:30	3.5317	01:45	4.0633	4,063,289.3
04/01/2019 12:00 AM	4.1027	00:15	3.5200	05:15	3.7310	3,730,985.9
04/02/2019 12:00 AM	3.7349	00:30	2.6935	05:00	3.3225	3,322,477.2
04/03/2019 12:00 AM	3.3783	00:00	2.1803	05:15	2.8927	2,892,648.7
04/04/2019 12:00 AM	3.0080	12:00	1.8185	05:15	2.5877	2,587,709.7
04/05/2019 12:00 AM	2.8983	22:00	1.6046	06:15	2.4490	2,448,956.6
04/06/2019 12:00 AM	3.2121	13:45	1.6883	06:15	2.5527	2,552,671.0
04/07/2019 12:00 AM	2.9569	13:15	1.4856	06:30	2.4098	2,409,811.7
04/08/2019 12:00 AM	3.8818	11:00	1.9822	03:00	3.2530	3,252,982.0
04/09/2019 12:00 AM	3.3358	00:00	2.0544	06:15	2.7675	2,767,527.0
04/10/2019 12:00 AM	2.9087	00:00	1.6720	05:45	2.4412	2,441,225.2
04/11/2019 12:00 AM	2.7466	00:00	1.4623	05:00	1.9027	672,532.4

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NODE 2A

24-inch sanitary sewer, North French Road - east of Millersport Highway (data obtained Town of Amherst)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Town of Amherst Data

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Custom
Amherst Engineering
00000007_N French EO Millersport
07/01/2019 12:00 AM - 09/23/2019 11:30 PM

Level Summary

Maximum (in):	22.16	07/06/2019 06:15 PM
Minimum (in):	10.52	09/21/2019 06:45 AM
Average (in):	14.46	

Date	Maximum (in)	Maximum Time	Minimum (in)	Minimum Time	Average (in)
07/01/2019 12:00 AM	15.55	22:45	11.54	07:00	14.23
07/02/2019 12:00 AM	15.19	22:45	11.71	06:30	13.99
07/03/2019 12:00 AM	15.19	14:45	11.66	06:30	14.04
07/04/2019 12:00 AM	15.75	15:30	11.66	07:30	14.07
07/05/2019 12:00 AM	15.77	14:45	11.70	07:15	14.08
07/06/2019 12:00 AM	22.16	18:15	12.17	07:30	16.79
07/07/2019 12:00 AM	18.55	00:00	13.99	07:30	16.11
07/08/2019 12:00 AM	16.20	13:30	13.01	07:00	15.13
07/09/2019 12:00 AM	16.21	23:00	12.39	06:30	14.84
07/10/2019 12:00 AM	16.04	00:15	12.75	07:00	14.84
07/11/2019 12:00 AM	16.50	23:00	12.00	07:00	14.51
07/12/2019 12:00 AM	16.30	00:00	13.28	06:45	15.18
07/13/2019 12:00 AM	16.67	15:00	12.20	06:30	14.58
07/14/2019 12:00 AM	15.43	13:30	11.35	06:45	13.84
07/15/2019 12:00 AM	15.86	16:00	11.29	05:45	14.22
07/16/2019 12:00 AM	15.08	00:15	11.59	06:45	14.01
07/17/2019 12:00 AM	15.98	13:45	11.36	06:30	14.29
07/18/2019 12:00 AM	15.66	23:15	11.76	06:45	14.31
07/19/2019 12:00 AM	15.47	13:00	12.34	07:00	14.51
07/20/2019 12:00 AM	16.91	14:30	12.45	07:00	14.69
07/21/2019 12:00 AM	16.38	15:15	11.81	07:30	14.53
07/22/2019 12:00 AM	15.53	14:00	11.87	05:45	14.36
07/23/2019 12:00 AM	15.30	14:00	11.65	07:15	14.00
07/24/2019 12:00 AM	15.03	14:00	11.39	06:45	13.82
07/25/2019 12:00 AM	15.08	12:45	11.25	05:00	13.80
07/26/2019 12:00 AM	15.25	13:30	11.13	06:00	13.78
07/27/2019 12:00 AM	15.66	15:45	10.96	07:30	13.81
07/28/2019 12:00 AM	15.83	16:15	11.31	07:15	13.94
07/29/2019 12:00 AM	15.41	22:00	11.54	07:15	13.99
07/30/2019 12:00 AM	15.89	23:00	12.12	05:45	14.67
07/31/2019 12:00 AM	16.27	13:30	12.82	05:30	14.88
08/01/2019 12:00 AM	15.39	00:15	11.92	06:45	14.07
08/02/2019 12:00 AM	15.64	12:15	12.02	06:00	14.10
08/03/2019 12:00 AM	15.48	14:15	10.96	07:30	13.77
08/04/2019 12:00 AM	15.67	15:15	10.96	07:30	13.75
08/05/2019 12:00 AM	15.08	14:30	10.82	06:45	13.71
08/06/2019 12:00 AM	15.47	23:00	11.02	05:15	13.81
08/07/2019 12:00 AM	15.94	22:30	12.28	05:45	14.66
08/08/2019 12:00 AM	17.64	17:15	12.04	06:45	15.15
08/09/2019 12:00 AM	16.45	00:00	12.61	06:45	14.83
08/10/2019 12:00 AM	16.34	14:45	12.05	07:45	14.43
08/11/2019 12:00 AM	15.89	13:00	11.38	07:45	14.06
08/12/2019 12:00 AM	15.38	22:15	11.03	05:45	13.75
08/13/2019 12:00 AM	16.28	21:30	11.07	06:45	14.32

11/18/2019 04:16 PM

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Custom
Amherst Engineering
00000007_N French EO Millersport
07/01/2019 12:00 AM - 09/23/2019 11:30 PM

Date	Maximum (in)	Maximum Time	Minimum (in)	Minimum Time	Average (in)
08/14/2019 12:00 AM	15.94	12:30	12.06	06:30	14.55
08/15/2019 12:00 AM	15.83	13:15	11.67	05:45	14.14
08/16/2019 12:00 AM	15.33	13:30	11.42	06:15	13.95
08/17/2019 12:00 AM	19.35	14:45	11.08	07:30	15.06
08/18/2019 12:00 AM	18.83	14:15	12.54	06:30	16.08
08/19/2019 12:00 AM	17.19	12:45	13.64	03:30	15.67
08/20/2019 12:00 AM	16.13	00:00	12.40	06:45	14.71
08/21/2019 12:00 AM	21.62	10:30	12.56	04:00	17.90
08/22/2019 12:00 AM	17.18	00:00	13.15	06:00	15.39
08/23/2019 12:00 AM	15.77	12:15	12.17	06:15	14.56
08/24/2019 12:00 AM	16.27	14:30	11.66	07:30	14.21
08/25/2019 12:00 AM	16.05	14:00	11.47	06:15	14.03
08/26/2019 12:00 AM	15.33	22:30	11.26	07:00	13.90
08/27/2019 12:00 AM	15.19	23:00	11.25	05:45	13.75
08/28/2019 12:00 AM	15.49	13:45	12.05	05:00	14.26
08/29/2019 12:00 AM	15.30	22:30	11.71	07:00	14.02
08/30/2019 12:00 AM	15.20	13:30	11.26	06:00	13.81
08/31/2019 12:00 AM	15.93	14:30	10.98	07:30	13.78
09/01/2019 12:00 AM	18.37	23:45	11.08	06:15	14.07
09/02/2019 12:00 AM	19.22	14:00	15.04	05:30	17.26
09/03/2019 12:00 AM	16.81	00:00	13.07	06:30	15.16
09/04/2019 12:00 AM	16.10	23:30	12.40	06:00	14.63
09/05/2019 12:00 AM	15.91	00:15	12.44	04:15	14.50
09/06/2019 12:00 AM	15.41	00:00	12.04	06:45	14.32
09/07/2019 12:00 AM	16.11	14:45	11.42	06:45	14.12
09/08/2019 12:00 AM	16.21	14:15	11.78	08:00	14.37
09/09/2019 12:00 AM	15.56	23:15	11.41	05:30	13.86
09/10/2019 12:00 AM	15.52	23:00	11.36	05:30	13.78
09/11/2019 12:00 AM	15.88	23:30	12.67	03:15	14.60
09/12/2019 12:00 AM	16.95	11:45	13.03	06:45	15.41
09/13/2019 12:00 AM	15.75	12:30	12.38	05:15	14.67
09/14/2019 12:00 AM	17.55	14:45	13.70	07:45	15.48
09/15/2019 12:00 AM	16.67	14:15	12.18	07:00	14.77
09/16/2019 12:00 AM	15.83	00:00	11.94	05:30	14.27
09/17/2019 12:00 AM	15.80	23:00	11.89	06:00	14.13
09/18/2019 12:00 AM	15.30	00:00	11.47	07:00	13.90
09/19/2019 12:00 AM	15.23	11:45	11.00	06:45	13.73
09/20/2019 12:00 AM	14.99	13:00	10.96	06:15	13.60
09/21/2019 12:00 AM	15.82	13:45	10.52	06:45	13.79
09/22/2019 12:00 AM	16.04	15:00	11.31	07:30	13.95
09/23/2019 12:00 AM	21.65	21:45	10.99	06:00	14.69

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Custom
Amherst Engineering
00000007_N French EO Millersport
07/01/2019 12:00 AM - 09/23/2019 11:30 PM

Velocity Summary

Maximum (fps):	2.76	09/02/2019 03:15 AM
Minimum (fps):	0.00	07/13/2019 01:30 PM
Average (fps):	1.62	

Date	Maximum (fps)	Maximum Time	Minimum (fps)	Minimum Time	Average (fps)
07/01/2019 12:00 AM	2.48	14:30	1.13	07:30	1.68
07/02/2019 12:00 AM	1.93	23:15	1.17	06:45	1.62
07/03/2019 12:00 AM	1.98	13:45	1.16	06:30	1.66
07/04/2019 12:00 AM	2.03	14:30	1.12	07:15	1.64
07/05/2019 12:00 AM	2.00	12:00	1.17	06:30	1.64
07/06/2019 12:00 AM	2.42	21:15	1.16	05:00	1.82
07/07/2019 12:00 AM	2.26	14:15	1.56	06:00	1.94
07/08/2019 12:00 AM	2.06	12:30	1.34	06:45	1.81
07/09/2019 12:00 AM	2.61	21:30	1.20	05:45	1.75
07/10/2019 12:00 AM	2.58	21:00	1.15	06:15	1.72
07/11/2019 12:00 AM	2.44	18:30	1.15	06:45	1.73
07/12/2019 12:00 AM	2.41	19:30	1.12	04:00	1.71
07/13/2019 12:00 AM	2.51	11:15	0.00	13:30	0.85
07/14/2019 12:00 AM	0.00	00:00	0.00	00:00	0.00
07/15/2019 12:00 AM	1.91	23:15	0.00	00:00	0.69
07/16/2019 12:00 AM	1.85	00:15	1.07	06:15	1.58
07/17/2019 12:00 AM	2.00	22:45	0.97	05:30	1.62
07/18/2019 12:00 AM	1.98	13:00	1.20	06:45	1.66
07/19/2019 12:00 AM	1.99	22:00	1.15	05:45	1.67
07/20/2019 12:00 AM	2.05	15:00	1.20	04:00	1.67
07/21/2019 12:00 AM	2.62	16:30	1.13	07:45	1.64
07/22/2019 12:00 AM	1.94	21:15	1.12	05:30	1.63
07/23/2019 12:00 AM	1.98	00:00	1.09	05:15	1.61
07/24/2019 12:00 AM	1.98	17:45	1.03	07:00	1.58
07/25/2019 12:00 AM	2.13	13:15	1.01	06:30	1.60
07/26/2019 12:00 AM	1.96	15:00	1.04	06:30	1.55
07/27/2019 12:00 AM	1.96	15:15	1.01	06:45	1.54
07/28/2019 12:00 AM	1.91	12:30	1.05	07:45	1.56
07/29/2019 12:00 AM	1.90	17:15	1.00	07:00	1.55
07/30/2019 12:00 AM	2.04	21:30	1.25	06:15	1.72
07/31/2019 12:00 AM	2.02	11:15	1.24	07:15	1.71
08/01/2019 12:00 AM	1.92	12:00	1.12	06:45	1.62
08/02/2019 12:00 AM	1.90	20:15	1.03	06:45	1.58
08/03/2019 12:00 AM	2.00	14:30	1.00	06:30	1.57
08/04/2019 12:00 AM	1.92	14:15	1.05	07:30	1.58
08/05/2019 12:00 AM	1.92	15:15	1.03	07:15	1.57
08/06/2019 12:00 AM	2.01	18:45	0.96	06:15	1.61
08/07/2019 12:00 AM	2.00	22:15	1.20	06:00	1.66
08/08/2019 12:00 AM	2.24	18:00	1.15	06:30	1.74
08/09/2019 12:00 AM	2.10	12:15	1.23	06:00	1.72
08/10/2019 12:00 AM	2.04	14:15	1.18	05:00	1.68
08/11/2019 12:00 AM	2.07	13:30	1.15	07:00	1.64
08/12/2019 12:00 AM	1.97	12:15	1.02	07:00	1.63
08/13/2019 12:00 AM	2.07	18:45	1.03	06:45	1.69

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Custom
Amherst Engineering
00000007_N French EO Millersport
07/01/2019 12:00 AM - 09/23/2019 11:30 PM

Date	Maximum (fps)	Maximum Time	Minimum (fps)	Minimum Time	Average (fps)
08/14/2019 12:00 AM	2.26	13:30	1.26	06:00	1.72
08/15/2019 12:00 AM	2.03	19:45	1.18	06:00	1.67
08/16/2019 12:00 AM	2.01	13:30	1.14	05:45	1.63
08/17/2019 12:00 AM	2.17	13:45	1.14	08:00	1.70
08/18/2019 12:00 AM	2.21	15:15	1.14	06:30	1.86
08/19/2019 12:00 AM	2.16	10:15	1.44	03:30	1.88
08/20/2019 12:00 AM	2.20	13:15	1.37	06:00	1.79
08/21/2019 12:00 AM	2.30	08:45	1.33	04:30	1.93
08/22/2019 12:00 AM	2.08	17:45	1.46	07:15	1.79
08/23/2019 12:00 AM	2.01	14:30	1.26	06:30	1.69
08/24/2019 12:00 AM	2.22	15:45	1.17	07:15	1.65
08/25/2019 12:00 AM	2.25	21:00	1.08	06:15	1.61
08/26/2019 12:00 AM	1.88	16:15	1.00	06:45	1.56
08/27/2019 12:00 AM	2.23	23:00	0.99	06:00	1.53
08/28/2019 12:00 AM	2.02	12:45	1.18	07:00	1.63
08/29/2019 12:00 AM	2.05	19:15	1.15	04:15	1.56
08/30/2019 12:00 AM	2.00	19:00	0.96	05:45	1.56
08/31/2019 12:00 AM	2.04	12:30	1.02	06:45	1.52
09/01/2019 12:00 AM	2.52	20:45	1.07	06:30	1.54
09/02/2019 12:00 AM	2.76	03:15	1.22	01:00	1.87
09/03/2019 12:00 AM	2.43	00:00	1.20	04:15	1.71
09/04/2019 12:00 AM	2.51	21:00	1.08	05:45	1.63
09/05/2019 12:00 AM	2.38	22:30	1.05	06:00	1.58
09/06/2019 12:00 AM	2.63	10:15	1.00	07:00	1.57
09/07/2019 12:00 AM	2.45	17:00	0.99	06:00	1.55
09/08/2019 12:00 AM	2.42	19:45	1.14	05:15	1.65
09/09/2019 12:00 AM	2.01	22:00	1.00	05:00	1.55
09/10/2019 12:00 AM	2.21	12:45	0.83	07:00	1.54
09/11/2019 12:00 AM	2.37	21:15	1.22	20:30	1.66
09/12/2019 12:00 AM	2.54	21:30	1.36	06:15	1.78
09/13/2019 12:00 AM	2.54	12:00	1.20	05:15	1.69
09/14/2019 12:00 AM	2.52	15:45	1.24	23:15	1.76
09/15/2019 12:00 AM	2.70	13:45	1.10	06:00	1.68
09/16/2019 12:00 AM	2.42	22:30	1.17	05:15	1.67
09/17/2019 12:00 AM	2.39	23:00	0.95	05:45	1.67
09/18/2019 12:00 AM	2.50	12:45	0.73	20:45	1.69
09/19/2019 12:00 AM	2.52	23:00	1.06	06:15	1.65
09/20/2019 12:00 AM	2.52	11:30	1.00	06:15	1.62
09/21/2019 12:00 AM	2.62	13:45	1.01	04:45	1.61
09/22/2019 12:00 AM	2.47	22:45	1.06	06:30	1.62
09/23/2019 12:00 AM	2.40	20:45	1.04	07:15	1.71

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Custom
Amherst Engineering
00000007_N French EO Millersport
07/01/2019 12:00 AM - 09/23/2019 11:30 PM

Flow Summary

Maximum (mgd):	4.9474	07/06/2019 06:45 PM
Minimum (mgd):	0.0000	07/13/2019 01:30 PM
Average (mgd):	2.1715	
Total (gal):	184,532,262.8	

Date	Maximum (mgd)	Maximum Time	Minimum (mgd)	Minimum Time	Average (mgd)	Total (gal)
07/01/2019 12:00 AM	3.5007	14:30	1.2000	07:30	2.1989	2,198,936.6
07/02/2019 12:00 AM	2.6821	23:15	1.1959	06:45	2.0814	2,081,425.0
07/03/2019 12:00 AM	2.7256	13:45	1.1671	06:30	2.1362	2,136,237.8
07/04/2019 12:00 AM	2.9650	14:30	1.1669	07:15	2.1202	2,120,221.5
07/05/2019 12:00 AM	2.8417	14:30	1.2068	06:30	2.1263	2,126,267.6
07/06/2019 12:00 AM	4.9474	18:45	1.2696	07:45	2.9474	2,947,404.3
07/07/2019 12:00 AM	3.7065	00:00	2.0109	07:30	2.9247	2,924,646.5
07/08/2019 12:00 AM	3.1069	13:30	1.5616	06:45	2.5473	2,547,324.7
07/09/2019 12:00 AM	3.8918	21:30	1.3440	05:45	2.3994	2,399,390.1
07/10/2019 12:00 AM	3.7345	21:00	1.3089	06:15	2.3692	2,369,229.1
07/11/2019 12:00 AM	3.6310	23:30	1.2310	06:45	2.3153	2,315,241.0
07/12/2019 12:00 AM	3.5710	19:30	1.4144	04:00	2.4119	2,411,881.9
07/13/2019 12:00 AM	3.3872	11:15	0.0000	13:30	1.0795	1,079,485.3
07/14/2019 12:00 AM	0.0000	00:00	0.0000	00:00	0.0000	0.0
07/15/2019 12:00 AM	2.6934	21:15	0.0000	00:00	0.9662	966,227.4
07/16/2019 12:00 AM	2.5721	00:15	1.1042	06:15	2.0256	2,025,624.7
07/17/2019 12:00 AM	2.9458	22:45	0.9597	05:30	2.1450	2,144,966.4
07/18/2019 12:00 AM	2.8028	13:00	1.2235	06:45	2.1882	2,188,189.7
07/19/2019 12:00 AM	2.7969	22:00	1.2602	07:30	2.2327	2,232,645.1
07/20/2019 12:00 AM	3.2197	14:30	1.3778	06:00	2.2738	2,273,739.4
07/21/2019 12:00 AM	3.8787	16:30	1.1714	07:45	2.2057	2,205,678.7
07/22/2019 12:00 AM	2.7487	12:30	1.1882	05:30	2.1592	2,159,175.1
07/23/2019 12:00 AM	2.7662	00:00	1.1063	05:15	2.0680	2,067,955.1
07/24/2019 12:00 AM	2.6362	22:30	1.0068	07:00	1.9973	1,997,312.1
07/25/2019 12:00 AM	2.8864	13:15	1.0198	06:30	2.0176	2,017,596.0
07/26/2019 12:00 AM	2.6649	15:00	1.0026	06:30	1.9533	1,953,283.2
07/27/2019 12:00 AM	2.8126	16:00	0.9648	06:45	1.9670	1,966,979.1
07/28/2019 12:00 AM	2.7819	16:15	1.0310	07:45	2.0062	2,006,141.0
07/29/2019 12:00 AM	2.6055	17:15	1.0071	07:00	1.9919	1,991,879.4
07/30/2019 12:00 AM	2.9334	21:30	1.3280	06:15	2.3337	2,333,706.5
07/31/2019 12:00 AM	3.0008	12:00	1.4448	06:30	2.3483	2,348,310.0
08/01/2019 12:00 AM	2.6685	13:30	1.1645	06:45	2.0910	2,091,033.1
08/02/2019 12:00 AM	2.7341	12:15	1.0877	06:45	2.0401	2,040,085.3
08/03/2019 12:00 AM	2.8489	14:45	0.9541	06:30	1.9863	1,986,331.5
08/04/2019 12:00 AM	2.7841	14:15	0.9786	07:30	1.9964	1,996,413.3
08/05/2019 12:00 AM	2.6306	12:30	0.9584	06:45	1.9723	1,972,319.7
08/06/2019 12:00 AM	2.8647	18:45	0.9020	06:15	2.0500	2,049,995.7
08/07/2019 12:00 AM	2.9358	22:15	1.2961	06:00	2.2484	2,248,350.8
08/08/2019 12:00 AM	3.5717	18:00	1.2090	06:30	2.4733	2,473,275.0
08/09/2019 12:00 AM	3.1091	12:15	1.4197	06:00	2.3622	2,362,169.3
08/10/2019 12:00 AM	3.0357	14:15	1.2841	08:00	2.2423	2,242,285.2
08/11/2019 12:00 AM	3.0381	13:30	1.1533	07:00	2.1172	2,117,162.6
08/12/2019 12:00 AM	2.6979	22:15	1.0023	07:00	2.0589	2,058,886.6
08/13/2019 12:00 AM	3.0366	18:45	0.9690	06:45	2.2470	2,246,976.1

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Custom
Amherst Engineering
00000007_N French EO Millersport
07/01/2019 12:00 AM - 09/23/2019 11:30 PM

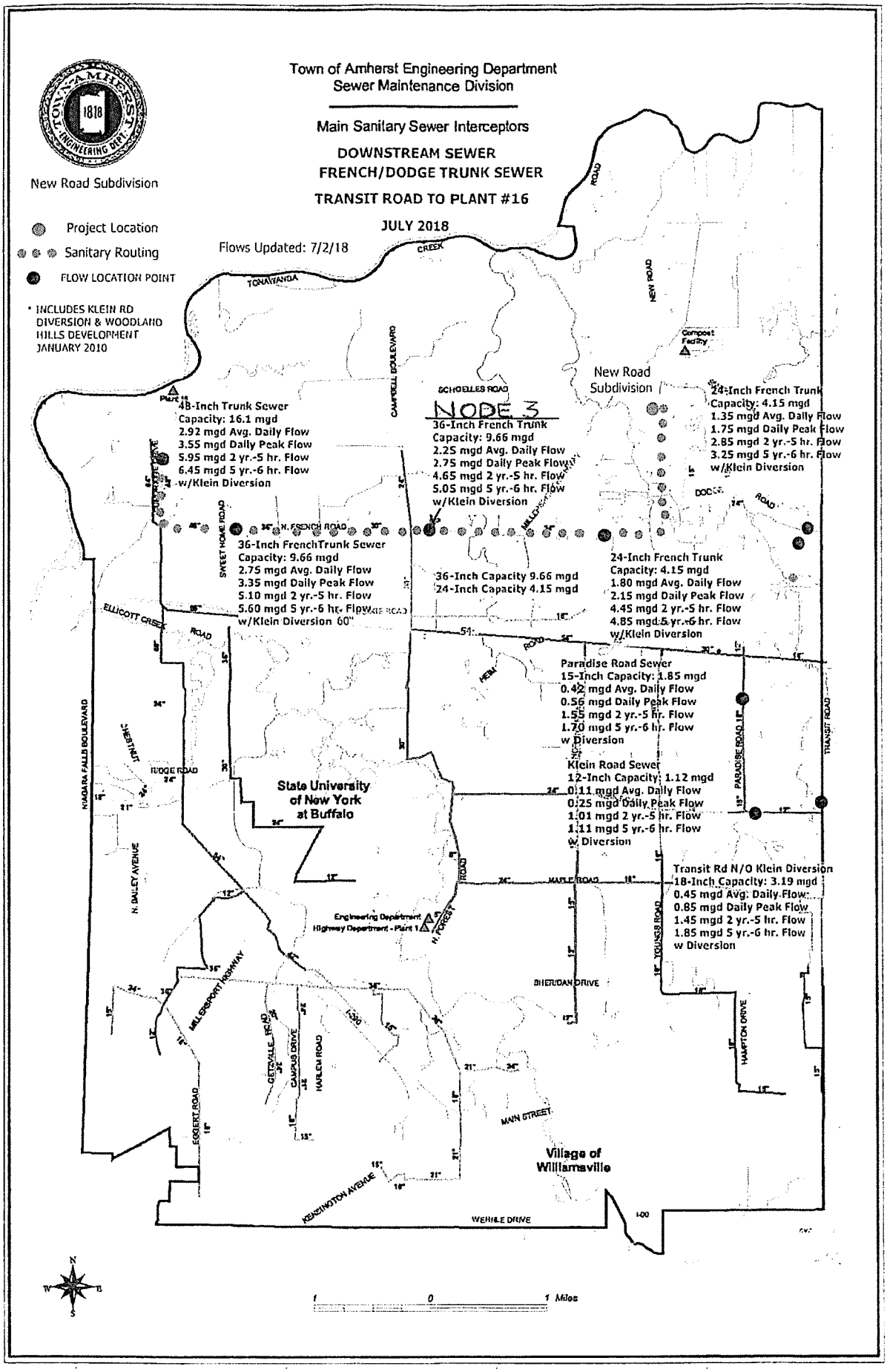
Date	Maximum (mgd)	Maximum Time	Minimum (mgd)	Minimum Time	Average (mgd)	Total (gal)
08/14/2019 12:00 AM	3.3377	13:30	1.3854	06:00	2.3093	2,309,249.7
08/15/2019 12:00 AM	2.8760	13:15	1.1906	06:00	2.1677	2,167,717.9
08/16/2019 12:00 AM	2.8431	13:30	1.1295	06:15	2.0803	2,080,296.1
08/17/2019 12:00 AM	3.9222	14:45	1.1034	08:00	2.4297	2,429,697.7
08/18/2019 12:00 AM	3.8298	15:15	1.2615	06:30	2.8197	2,819,649.1
08/19/2019 12:00 AM	3.4653	13:00	1.7754	03:30	2.7472	2,747,233.6
08/20/2019 12:00 AM	3.2815	13:15	1.5141	06:45	2.4381	2,438,129.7
08/21/2019 12:00 AM	4.6135	10:30	1.5068	04:00	3.2665	3,266,491.8
08/22/2019 12:00 AM	3.2216	13:30	1.7548	06:30	2.5630	2,562,991.1
08/23/2019 12:00 AM	2.8815	13:15	1.4049	06:30	2.2669	2,266,938.9
08/24/2019 12:00 AM	3.3507	15:45	1.2087	07:15	2.1635	2,163,526.7
08/25/2019 12:00 AM	3.1026	21:00	1.0670	06:15	2.0736	2,073,606.9
08/26/2019 12:00 AM	2.6238	13:00	0.9714	06:45	1.9871	1,987,056.5
08/27/2019 12:00 AM	3.1211	23:00	0.9620	06:00	1.9151	1,915,096.7
08/28/2019 12:00 AM	2.8943	12:45	1.3167	05:00	2.1323	2,132,240.1
08/29/2019 12:00 AM	2.7300	19:15	1.2135	04:15	1.9938	1,993,800.0
08/30/2019 12:00 AM	2.6149	19:00	0.9246	05:45	1.9623	1,962,308.9
08/31/2019 12:00 AM	2.9757	15:30	0.9932	06:45	1.9271	1,927,076.9
09/01/2019 12:00 AM	3.7193	20:45	1.0123	06:30	2.0197	2,019,649.1
09/02/2019 12:00 AM	4.3500	13:15	2.0856	01:00	3.0364	3,036,398.9
09/03/2019 12:00 AM	3.8279	00:00	1.4712	04:15	2.3945	2,394,458.1
09/04/2019 12:00 AM	3.5709	21:00	1.1798	05:45	2.2008	2,200,764.5
09/05/2019 12:00 AM	3.4778	22:30	1.1577	06:00	2.1095	2,109,458.2
09/06/2019 12:00 AM	3.5194	10:15	1.1024	07:00	2.0657	2,065,702.7
09/07/2019 12:00 AM	3.4876	17:00	0.9674	06:00	2.0208	2,020,758.7
09/08/2019 12:00 AM	3.3905	19:45	1.1834	06:45	2.1912	2,191,149.9
09/09/2019 12:00 AM	2.7941	22:45	0.9814	05:00	1.9603	1,960,317.8
09/10/2019 12:00 AM	3.0195	12:45	0.8118	07:00	1.9448	1,944,775.3
09/11/2019 12:00 AM	3.4309	21:15	1.3933	05:45	2.2329	2,232,890.8
09/12/2019 12:00 AM	3.9042	21:30	1.6184	06:15	2.5551	2,555,056.6
09/13/2019 12:00 AM	3.6581	12:00	1.3103	05:15	2.2826	2,282,605.7
09/14/2019 12:00 AM	4.0289	15:45	1.6468	07:15	2.5305	2,530,531.9
09/15/2019 12:00 AM	4.0862	13:45	1.2088	06:00	2.3018	2,301,810.4
09/16/2019 12:00 AM	3.4184	22:30	1.2648	05:15	2.1956	2,195,600.3
09/17/2019 12:00 AM	3.5101	23:00	0.9939	05:45	2.1705	2,170,470.3
09/18/2019 12:00 AM	3.4678	12:45	0.9725	20:45	2.1542	2,154,142.6
09/19/2019 12:00 AM	3.4773	23:00	1.0208	06:15	2.0622	2,062,206.0
09/20/2019 12:00 AM	3.3959	11:30	0.9270	06:15	2.0060	2,006,026.3
09/21/2019 12:00 AM	3.8548	13:45	0.9957	05:30	2.0454	2,045,355.2
09/22/2019 12:00 AM	3.5496	22:45	1.0461	06:30	2.0906	2,090,548.5
09/23/2019 12:00 AM	4.7064	23:00	1.0298	07:15	2.3450	2,296,091.5

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NODE 3

36-inch sanitary sewer, North French Road – east of Campbell Boulevard (obtained from Town of Amherst)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Insight For Windows: Version: 5.10.6

Month Report - MAR 23

Channel: Level
Site Id: 00000005
Description: French At Campbell

Date		Maximum Time	Maximum (in.)	Minimum Time	Minimum (in.)	Average (in.)
01/MAR/23	Wed	11:25pm	24.849	07:40am	13.729	18.189
02/MAR/23	Thu	12:05am	24.652	07:45am	15.849	20.392
03/MAR/23	Fri	12:00am	30.937	07:40am	16.144	20.577
04/MAR/23	Sat	08:15pm	55.108	12:05am	31.350	48.933
05/MAR/23	Sun	10:10pm	54.657	10:30am	28.672	43.087
06/MAR/23	Mon	12:05am	53.542	08:10pm	27.951	34.390
07/MAR/23	Tue	12:05am	29.052	07:50am	18.686	22.974
08/MAR/23	Wed	12:05am	25.203	07:15am	16.754	20.711
09/MAR/23	Thu	12:05am	23.129	01:00pm	0.000	16.137
10/MAR/23	Fri	12:05am	22.555	07:35am	15.852	19.029
11/MAR/23	Sat	04:45pm	22.155	08:15am	14.838	18.771
12/MAR/23	Sun	03:45pm	20.962	07:10am	14.530	18.322
13/MAR/23	Mon	10:45pm	19.754	05:45am	14.311	17.562
14/MAR/23	Tue	12:05am	19.176	06:15am	14.244	17.220
15/MAR/23	Wed	10:05pm	19.808	06:10am	13.599	17.027
16/MAR/23	Thu	11:25pm	28.624	06:30am	13.930	19.368
17/MAR/23	Fri	06:35pm	65.268	03:10am	24.578	50.151
18/MAR/23	Sat	12:05am	60.798	12:00am	34.917	48.492
19/MAR/23	Sun	12:05am	34.664	08:15am	18.055	22.482
20/MAR/23	Mon	12:05am	20.817	06:25am	14.895	18.147
21/MAR/23	Tue	10:40pm	19.517	06:15am	14.451	17.540
22/MAR/23	Wed	12:05am	18.950	05:50am	14.268	17.087
23/MAR/23	Thu	09:15pm	34.206	06:00am	13.875	22.648
24/MAR/23	Fri	12:05am	30.871	07:15am	17.278	20.479
25/MAR/23	Sat	10:20pm	55.219	07:05am	14.708	33.313
26/MAR/23	Sun	12:05am	53.677	12:00am	23.987	32.267
27/MAR/23	Mon	11:10pm	24.387	06:05am	16.177	20.148
28/MAR/23	Tue	12:05am	24.012	05:55am	16.571	19.878
29/MAR/23	Wed	12:05am	20.632	06:40am	15.126	18.045
30/MAR/23	Thu	12:05am	18.739	06:10am	14.145	16.882
31/MAR/23	Fri	11:20pm	21.828	06:20am	13.669	17.570

Month Summary

Maximum:	65.268 (in.)	17/MAR/23	06:35p.m.
Minimum:	0.000 (in.)	09/MAR/23	01:00p.m.
Average:	24.123 (in.)		

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Month Report - MAR 23

Channel: Vel. 1
Site Id: 00000005
Description: French At Campbell

Date		Maximum Time	Maximum (fps)	Minimum Time	Minimum (fps)	Average (fps)
01/MAR/23	Wed	03:25pm	1.22	10:15pm	0.86	1.02
02/MAR/23	Thu	09:20am	1.14	12:35am	0.88	1.00
03/MAR/23	Fri	09:15am	1.15	12:00am	0.75	1.01
04/MAR/23	Sat	07:25pm	1.11	12:15am	0.67	0.97
05/MAR/23	Sun	11:30pm	1.09	08:10am	0.68	0.89
06/MAR/23	Mon	01:20am	1.08	08:00am	0.68	0.85
07/MAR/23	Tue	10:05am	1.07	12:55am	0.83	0.94
08/MAR/23	Wed	04:50am	1.18	07:10am	0.91	1.00
09/MAR/23	Thu	09:20am	1.15	01:00pm	0.00	0.84
10/MAR/23	Fri	09:20am	1.16	07:00am	0.97	1.05
11/MAR/23	Sat	12:00pm	1.16	07:40am	0.96	1.03
12/MAR/23	Sun	01:05pm	1.17	03:25am	0.95	1.05
13/MAR/23	Mon	11:20am	1.16	05:00am	0.96	1.04
14/MAR/23	Tue	09:05am	1.14	04:40am	0.96	1.07
15/MAR/23	Wed	06:50am	1.20	04:10am	0.96	1.06
16/MAR/23	Thu	11:25am	1.18	11:00pm	0.88	1.03
17/MAR/23	Fri	06:50pm	1.30	06:35am	0.72	1.09
18/MAR/23	Sat	12:30am	1.28	12:00am	0.78	1.03
19/MAR/23	Sun	09:10am	1.15	12:45am	0.75	0.97
20/MAR/23	Mon	07:30am	1.21	05:45am	0.96	1.08
21/MAR/23	Tue	11:35am	1.21	05:40am	1.00	1.10
22/MAR/23	Wed	10:05am	1.19	03:55am	1.00	1.09
23/MAR/23	Thu	09:20am	1.17	07:50pm	0.77	0.97
24/MAR/23	Fri	08:30am	1.19	12:20am	0.84	1.05
25/MAR/23	Sat	07:20am	1.18	12:55pm	0.72	1.04
26/MAR/23	Sun	12:25am	1.14	07:40am	0.74	0.93
27/MAR/23	Mon	08:50am	1.16	01:10am	0.91	1.03
28/MAR/23	Tue	08:25am	1.21	01:15am	0.94	1.07
29/MAR/23	Wed	05:15pm	1.20	06:00pm	1.02	1.09
30/MAR/23	Thu	10:30am	1.22	05:45am	0.98	1.10
31/MAR/23	Fri	09:15am	1.29	05:05pm	0.96	1.08

Month Summary

Maximum:	1.30 (fps)	17/MAR/23	06:50p.m.
Minimum:	0.00 (fps)	09/MAR/23	01:00p.m.
Average:	1.02 (fps)		

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Month Report - MAR 23

Channel: Flow 1
Site Id: 00000005
Description: French At Campbell

Date		Maximum Time	Maximum (mgd)	Minimum Time	Minimum (mgd)	Total (gal) (x1000)
01/MAR/23	Wed	11:05pm	3.039	07:00am	1.463	2291.477
02/MAR/23	Thu	11:10pm	3.164	06:30am	1.881	2607.225
03/MAR/23	Fri	11:40pm	3.291	07:50am	1.959	2654.953
04/MAR/23	Sat	07:25pm	4.880	12:15am	2.791	4267.518
05/MAR/23	Sun	11:30pm	4.787	09:10am	2.752	3844.144
06/MAR/23	Mon	01:20am	4.751	08:00am	2.826	3471.875
07/MAR/23	Tue	12:10am	3.317	07:40am	2.125	2837.837
08/MAR/23	Wed	12:30am	3.182	07:10am	1.878	2674.195
09/MAR/23	Thu	11:00pm	3.264	01:00pm	0.000	2121.036
10/MAR/23	Fri	12:15am	3.054	07:45am	1.860	2520.047
11/MAR/23	Sat	03:50pm	3.002	07:40am	1.700	2446.946
12/MAR/23	Sun	04:10pm	2.942	06:25am	1.722	2415.079
13/MAR/23	Mon	10:30pm	2.699	05:20am	1.627	2271.461
14/MAR/23	Tue	10:40pm	2.672	06:15am	1.647	2274.951
15/MAR/23	Wed	10:40pm	2.718	05:55am	1.510	2225.361
16/MAR/23	Thu	10:15pm	3.507	06:10am	1.553	2502.125
17/MAR/23	Fri	06:50pm	5.716	03:40am	3.081	4565.758
18/MAR/23	Sat	12:30am	5.624	12:00am	3.411	4518.869
19/MAR/23	Sun	12:05am	3.547	06:40am	2.157	2807.218
20/MAR/23	Mon	12:10am	2.882	05:45am	1.743	2447.117
21/MAR/23	Tue	10:20pm	2.808	05:40am	1.721	2398.544
22/MAR/23	Wed	11:05pm	2.705	06:15am	1.699	2305.239
23/MAR/23	Thu	10:25pm	3.777	04:35am	1.604	2678.351
24/MAR/23	Fri	12:10am	3.516	05:35am	2.140	2733.653
25/MAR/23	Sat	10:35pm	5.018	06:15am	1.818	3337.621
26/MAR/23	Sun	12:25am	4.986	08:25am	2.937	3537.087
27/MAR/23	Mon	10:35pm	3.214	05:30am	1.882	2640.483
28/MAR/23	Tue	11:15am	3.132	05:50am	2.091	2708.045
29/MAR/23	Wed	09:45pm	2.977	04:55am	1.879	2462.825
30/MAR/23	Thu	10:30pm	2.685	05:45am	1.622	2283.684
31/MAR/23	Fri	10:10pm	2.878	05:00am	1.724	2329.925

Month Summary

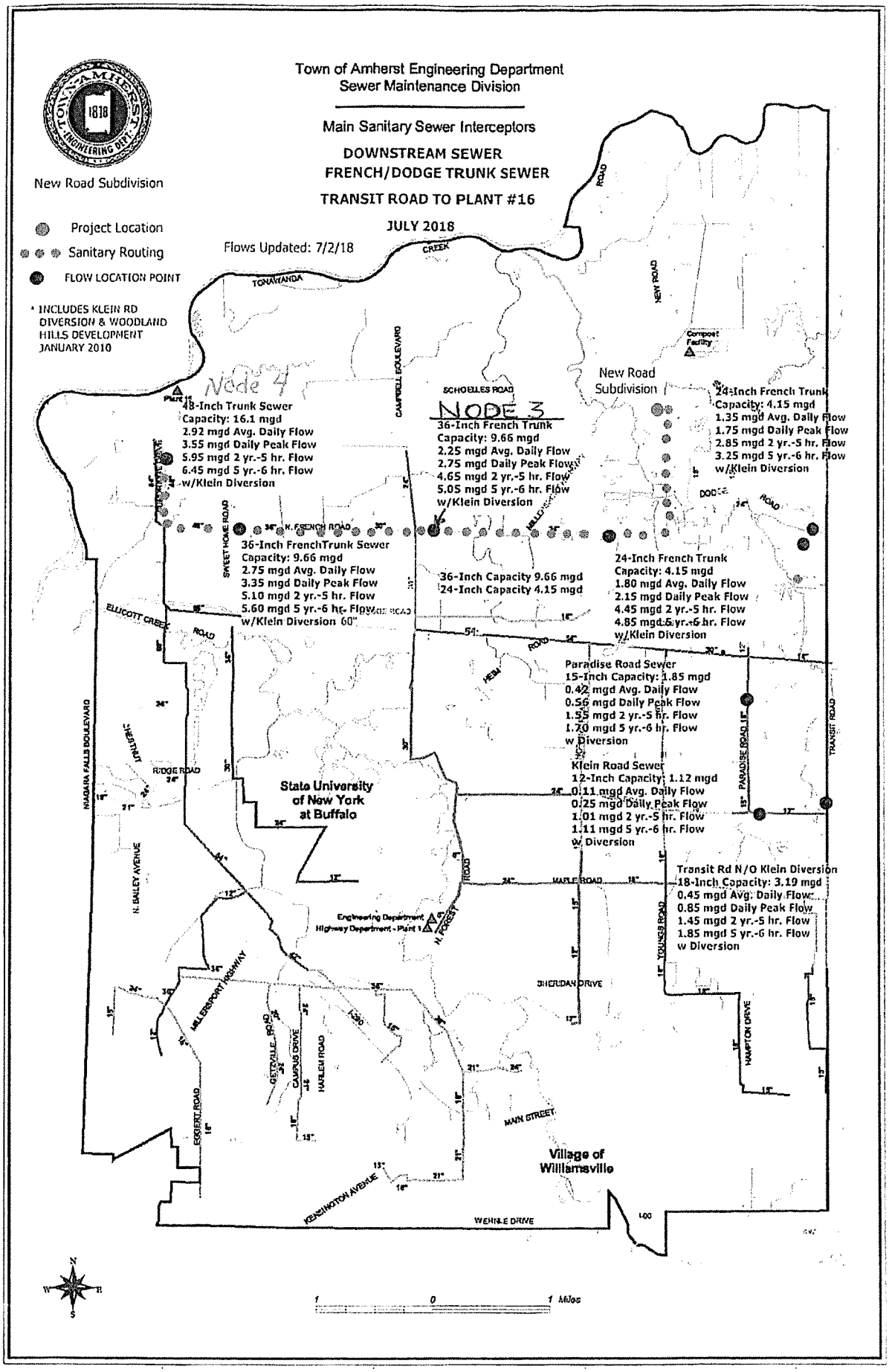
Maximum:	5.716 (mgd)	17/MAR/23	06:50p.m.
Minimum:	0.000 (mgd)	09/MAR/23	01:00p.m.
Average:	2.812 (mgd)		
Total:	87180.650 (gal)	x1000	

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NODE 4

48-inch sanitary sewer, 411 North French Road- west of Sweethome (obtained from Town of Amherst)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Previous Month

411 N. French

03/01/2023 12:00 AM - 03/31/2023 11:59 PM

Level Summary

Maximum (in) :	39.04 03/17/2023 05:30 PM
Minimum (in) :	22.51 03/31/2023 05:45 AM
Average (in) :	28.45

Date (MST)	Maximum (in)	Maximum Time (MST)	Minimum (in)	Minimum Time (MST)	Average (in)
03/01/2023	30.56	11:30:00 PM	22.55	07:00:00 AM	26.10
03/02/2023	30.51	11:30:00 PM	24.70	07:45:00 AM	27.88
03/03/2023	32.59	11:45:00 PM	25.06	08:00:00 AM	28.02
03/04/2023	35.27	04:30:00 PM	32.87	12:00:00 AM	34.63
03/05/2023	35.11	09:45:00 PM	32.22	10:00:00 AM	33.79
03/06/2023	34.81	12:00:00 AM	32.19	07:00:00 PM	32.85
03/07/2023	32.25	12:00:00 AM	27.18	08:00:00 AM	29.79
03/08/2023	30.94	12:00:00 AM	25.61	07:30:00 AM	28.30
03/09/2023	29.82	12:15:00 AM	24.80	07:15:00 AM	27.55
03/10/2023	29.46	12:00:00 AM	24.66	07:00:00 AM	27.14
03/11/2023	29.33	05:30:00 PM	23.76	07:30:00 AM	26.75
03/12/2023	28.37	05:30:00 PM	23.33	08:00:00 AM	26.39
03/13/2023	27.68	12:00:00 AM	23.23	06:15:00 AM	25.92
03/14/2023	27.37	12:00:00 AM	23.25	06:30:00 AM	25.67
03/15/2023	27.58	10:00:00 PM	22.52	06:15:00 AM	25.44
03/16/2023	31.99	11:30:00 PM	23.04	06:30:00 AM	26.86
03/17/2023	39.04	05:30:00 PM	31.26	03:30:00 AM	35.23
03/18/2023	35.63	12:00:00 AM	32.83	11:45:00 PM	34.26
03/19/2023	32.74	12:00:00 AM	26.54	08:30:00 AM	29.35
03/20/2023	28.69	12:00:00 AM	23.94	06:30:00 AM	26.51
03/21/2023	27.46	12:00:00 AM	23.43	06:45:00 AM	25.93
03/22/2023	27.18	12:00:00 AM	23.31	06:30:00 AM	25.62
03/23/2023	32.88	08:30:00 PM	22.87	06:00:00 AM	28.09
03/24/2023	32.32	12:00:00 AM	26.13	07:15:00 AM	28.23
03/25/2023	35.29	07:00:00 PM	23.70	06:15:00 AM	30.20
03/26/2023	34.84	12:00:00 AM	30.54	11:45:00 PM	32.33
03/27/2023	30.45	12:00:00 AM	25.14	06:30:00 AM	27.93
03/28/2023	30.26	12:00:00 AM	25.43	07:15:00 AM	27.74
03/29/2023	28.25	12:15:00 AM	24.09	06:45:00 AM	26.32
03/30/2023	26.94	12:00:00 AM	22.98	06:15:00 AM	25.32
03/31/2023	28.87	11:45:00 PM	22.51	05:45:00 AM	25.77

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Previous Month

411 N. French

03/01/2023 12:00 AM - 03/31/2023 11:59 PM

Velocity Summary

Maximum (fps) :	2.00 03/19/2023 10:45 PM
Minimum (fps) :	1.10 03/15/2023 06:15 AM
Average (fps) :	1.59

Date (MST)	Maximum (fps)	Maximum Time (MST)	Minimum (fps)	Minimum Time (MST)	Average (fps)
03/01/2023	1.72	07:00:00 PM	1.20	06:30:00 AM	1.55
03/02/2023	1.76	12:15:00 AM	1.50	12:00:00 AM	1.63
03/03/2023	1.76	08:45:00 PM	1.48	03:45:00 AM	1.62
03/04/2023	1.82	03:15:00 PM	1.43	07:15:00 AM	1.62
03/05/2023	1.82	05:45:00 PM	1.36	09:30:00 AM	1.62
03/06/2023	1.74	04:00:00 PM	1.39	12:15:00 AM	1.60
03/07/2023	1.75	07:30:00 AM	1.46	03:00:00 AM	1.60
03/08/2023	1.72	11:30:00 AM	1.46	12:15:00 AM	1.59
03/09/2023	1.74	01:00:00 AM	1.43	04:45:00 AM	1.60
03/10/2023	1.72	12:30:00 PM	1.47	05:00:00 AM	1.59
03/11/2023	1.70	06:00:00 PM	1.38	07:30:00 AM	1.55
03/12/2023	1.75	04:15:00 PM	1.31	08:15:00 AM	1.54
03/13/2023	1.68	10:00:00 PM	1.28	06:00:00 AM	1.54
03/14/2023	1.70	11:45:00 PM	1.31	06:30:00 AM	1.54
03/15/2023	1.71	10:30:00 PM	1.10	06:15:00 AM	1.52
03/16/2023	1.77	07:30:00 PM	1.27	06:30:00 AM	1.56
03/17/2023	1.81	08:45:00 PM	1.46	05:30:00 PM	1.64
03/18/2023	1.86	12:15:00 AM	1.51	02:00:00 PM	1.64
03/19/2023	2.00	10:45:00 PM	1.47	03:00:00 AM	1.63
03/20/2023	1.72	08:30:00 PM	1.39	06:00:00 AM	1.59
03/21/2023	1.73	10:00:00 PM	1.31	06:45:00 AM	1.57
03/22/2023	1.74	09:45:00 PM	1.22	05:30:00 AM	1.55
03/23/2023	1.77	04:45:00 PM	1.23	06:00:00 AM	1.57
03/24/2023	1.76	12:45:00 AM	1.52	07:30:00 PM	1.64
03/25/2023	1.81	07:30:00 PM	1.34	05:15:00 AM	1.61
03/26/2023	1.85	06:30:00 AM	1.55	01:45:00 PM	1.71
03/27/2023	1.76	01:15:00 PM	1.50	06:45:00 AM	1.64
03/28/2023	1.74	12:30:00 AM	1.44	07:15:00 AM	1.62
03/29/2023	1.72	11:45:00 PM	1.40	06:15:00 AM	1.58
03/30/2023	1.67	07:30:00 PM	1.25	06:15:00 AM	1.52
03/31/2023	1.78	06:00:00 PM	1.16	06:15:00 AM	1.52

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Data Summary Report

Previous Month

411 N. French

03/01/2023 12:00 AM - 03/31/2023 11:59 PM

Flow Summary

Maximum (mgd) :	9.2463	03/17/2023 08:45 PM
Minimum (mgd) :	2.3700	03/15/2023 06:15 AM
Average (mgd) :	5.4670	
Total (gal) :	169475407.29	

Date (MST)	Maximum (mgd)	Maximum Time (MST)	Minimum (mgd)	Minimum Time (MST)	Average (mgd)	Total (gal x1)
03/01/2023	6.5222	11:30:00 PM	2.6130	06:30:00 AM	4.5715	4571457.9
03/02/2023	6.7783	12:15:00 AM	3.9858	07:45:00 AM	5.3951	5395027.5
03/03/2023	6.8865	11:45:00 PM	4.1551	07:00:00 AM	5.4209	5420912.5
03/04/2023	8.7041	03:15:00 PM	6.6579	07:15:00 AM	7.5796	7579540.8
03/05/2023	8.5654	05:45:00 PM	5.7269	09:30:00 AM	7.3097	7309662.1
03/06/2023	7.7711	03:45:00 AM	6.1526	10:00:00 PM	6.9159	6915886.0
03/07/2023	6.9187	02:15:00 AM	5.0007	08:30:00 AM	5.9132	5913170.2
03/08/2023	6.2904	12:45:00 AM	4.3422	09:00:00 AM	5.4112	5411156.8
03/09/2023	6.4196	01:00:00 AM	3.8786	07:15:00 AM	5.1908	5190813.7
03/10/2023	6.1204	12:45:00 AM	3.8745	07:15:00 AM	5.0294	5029388.7
03/11/2023	6.1344	06:00:00 PM	3.3414	07:30:00 AM	4.7830	4782987.0
03/12/2023	5.9464	04:15:00 PM	3.0500	08:15:00 AM	4.6181	4618051.7
03/13/2023	5.4539	12:15:00 AM	2.9495	06:00:00 AM	4.4545	4454519.3
03/14/2023	5.3146	12:45:00 AM	3.0326	06:30:00 AM	4.3805	4380473.0
03/15/2023	5.5210	10:30:00 PM	2.3700	06:15:00 AM	4.2666	4266609.8
03/16/2023	7.0685	10:15:00 PM	2.8715	06:30:00 AM	4.8582	4858211.0
03/17/2023	9.2463	08:45:00 PM	5.9822	02:30:00 AM	7.8337	7833663.2
03/18/2023	9.0747	12:15:00 AM	6.7564	09:15:00 PM	7.5682	7568185.5
03/19/2023	7.4673	01:15:00 AM	4.6575	07:45:00 AM	5.8940	5893948.0
03/20/2023	5.7109	12:00:00 AM	3.4302	06:00:00 AM	4.8041	4804044.8
03/21/2023	5.5033	10:00:00 PM	3.0720	06:45:00 AM	4.5679	4567895.6
03/22/2023	5.3071	09:45:00 PM	2.8463	05:30:00 AM	4.3952	4395202.2
03/23/2023	7.6217	10:00:00 PM	2.7523	06:00:00 AM	5.3109	5310921.6
03/24/2023	7.3735	12:45:00 AM	4.6080	07:00:00 AM	5.5465	5546429.5
03/25/2023	8.6819	07:30:00 PM	3.2968	05:15:00 AM	6.1595	6159425.7
03/26/2023	8.4141	01:15:00 AM	6.3042	09:30:00 PM	7.2140	7213962.6
03/27/2023	6.6502	11:00:00 PM	4.1001	06:45:00 AM	5.4454	5445325.3
03/28/2023	6.6268	12:30:00 AM	4.0150	07:15:00 AM	5.3054	5305332.2
03/29/2023	5.6856	12:15:00 AM	3.4905	06:15:00 AM	4.7130	4712949.8
03/30/2023	5.0525	12:00:00 AM	2.8257	06:15:00 AM	4.2152	4215194.9
03/31/2023	5.9487	11:15:00 PM	2.5052	06:15:00 AM	4.4051	4405058.4

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

JM Davidson
Engineering, D.P.C.

935 Sheridan Drive, Suite 120
Tonawanda, New York 14150
Phone: 716.453.1646

Technical Memorandum



To:	Town of Amherst
From:	JM Davidson Engineering, D.P.C.
Date:	March 31, 2023
Subject:	4300 Millersport Development Project Sanitary Sewer Pump Station and Force Main Design

WM Schutt Associates (Schutt) contracted with JM Davidson Engineering, DPC (JMD), to develop a third-party engineer's report to include relevant calculations and findings to determine if the proposed sanitary wastewater pumping station proposed for the 4300 Millersport Development will function as intended (based on hydraulic calculations) and not create operational burdens or negative impacts on the existing Dockside Pump Station and force main. The third-party report was requested by the Town Engineering Office's correspondence with their Planning Department, dated February 10, 2023. This technical memorandum provides the requested information.

Background

Cimato Enterprises, LLC, proposed a new development consisting of townhomes and patio homes at 4300 Millersport Highway in the Town of Amherst. Cimato subsequently contracted with Schutt to design sanitary sewers and water lines to service the new development.

The site (4300 Millersport Highway) is located on Millersport Highway in Amherst, between New Road and Smith Road. As designed, gravity sewers would collect sanitary sewage from the development and convey flow to a new pumping station located on the development property (4300 Millersport Pump Station). This pump station would consist of two submersible pumps that would convey flows from the wet well through a 4-inch force main into the existing Dockside Pump Station force main, which runs south along the east side of Millersport Highway.

In this portion of East Amherst, existing sanitary sewer service is provided to the northeast of the 4300 Millersport site. Flows from the sewered area are tributary to the Dockside Pump Station, which is located approximately 3,700 feet north of where the 4300 Millersport force main is proposed to tie into the Dockside force main (refer to Figure 1). The Dockside force main is 10-inches in diameter and runs approximately 8,835 linear feet south along the east right-of-way on Millersport Highway, where it discharges to a gravity sewer manhole located on the Southeast corner of Millersport Highway and Hopkins Road intersection.

Report Objectives

Objectives of this memo include:

- Determining the effect of the proposed 4300 Millersport Pump Station on the Dockside Pump Station pumping capacity.
- Determining the pressure within the Dockside force main that the 4300 Millersport Pump Station will have to overcome, which affects the sizing and operating point of the 4300 Millersport pumps.
- Verifying the size of the 4300 Millersport pumps.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

- Confirming that operating velocities within the force mains are still maintained within 2 and 10 feet per second in accordance with the "Recommended Standards for Wastewater Facilities, 2014", commonly known as Ten States' Standards.

Information Reviewed

Schutt provided JMD with the following information to complete the evaluation:

- Pump curves for both the existing Dockside Pump Station and the proposed 4300 Millersport Pump Station.
- Pumping data for the Dockside Pump Station, including total gallons pumped for six days in 2022 (Feb. 17, Mar. 7, Apr. 26, Jun. 9, Jun. 25, Jul. 4, and Aug. 3)
- Town of Amherst's Engineering Department's responses to Town Planning Department submittal of the proposed development, dated February 10, 2023.
- Proposed Project Design Basis, indicating basis of design for flows tributary to the proposed 4300 Millersport Development
- Drawings SW2, SW5, and SS4, dated February 2, 2023, from the 4300 Millersport Development drawings, prepared by Schutt.
- Record Drawings, submitted May 2, 2004, and prepared by Pratt & Huth Associates, LLP, for the Dockside Village Pump Station and Force Main.

Dockside Pump Station

The existing Dockside Pump Station consists of an 8,835 linear-foot, 10-inch diameter polyvinyl chloride (PVC) force main that runs south along the eastern right-of-way of Millersport Highway to a discharge manhole at the corner of Millersport Highway and Hopkins Road. The Town has indicated that no surcharging occurs at this manhole; therefore, the force main is assumed to have a free discharge into the manhole.

Two Model T61-B-4, 1350 rpm, 30 hp Gorman Rupp Pumps are provided with draw suction from a 10-ft diameter wet well. The pumps are designed to alternate operation, with one in operation at a time and the other serving as a standby. Flow data provided by the Town for select days in 2022 indicated that the pump station conveyed a range of 91,425 gpd to 349,100 gpd for the dates monitored, which corresponded to operating approximately 8% to 29% of the day, using a peak flow rate of 833 gpm, noted by Town staff as the peak flow.

JMD developed calculations for the Dockside Pump Station and force main (Attachment 1), under current conditions (i.e., operating alone) to confirm pump sizing. The calculations indicated a pump operating point of 850 gpm at 64 ft TDH, which is within 2% of the noted 833 gpm maximum flow, suggesting that the assumptions used in calculating headlosses through the force main are representative of actual conditions. Velocities within the force main at this flow range were also adequate, falling in the 2 to 10 fps range indicated in Ten States' Standards as being acceptable.

It was also noted that the original design drawing for the Dockside Pump Station showed that the original design capacity of the Dockside pumps was 750 gpm, so the actual pumps currently have more capacity than originally designed.

4300 Millersport Pump Station

Based on information provided by Schutt, the proposed development would be implemented in 3 phases with average daily flows as follows:

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

- Phase 1 - 17,160 gallons per day (gpd)
- Phase 2 – 6,360 gpd
- Phase 3 – 6,360 gpd
- Total – 29,880 gpd
- Future phase – 7,000 gpm
- Total Average Daily Flow for all phases – 36,880 gpd (or 25.6 gpm if spread over 24 hours)

A peaking factor of 4.04 was applied to the average daily flow, based on a served population of 369, in accordance with Ten States' Standards, yielding a projected ultimate peak flow of 148,995 gpd (or 103.4 gpm if spread over 24 hours).

The pumps proposed for this Station are Myers 4RH 20 hp, 3-phase submersible pumps with a preliminary design point of 200 gpm at 75 ft TDH.

Therefore, a flow of 200 gpm was added onto the flows from the Dockside Pump Station at the connection point with the 4300 Millersport force main to account for additional headlosses associated with the additional flow for approximately 5,140 feet of force main length. This additional headloss led to a new design point of 775 gpm at 65-ft TDH (Attachment 2), which is still greater than the original design point of 750 gpm for the Dockside Pumps.

A backpressure of 53 psi of pressure on the 4300 Millersport force main by the Dockside Pump Station at the connection point was calculated. This backpressure was then applied to the 4300 Millersport calculations to yield a revised operating point of 175 gpm at 80-ft TDH for the 4300 Millersport pumps (Attachment 3). This revised design point is capable of being achieved using the Myers pumps initially proposed by Schutt.

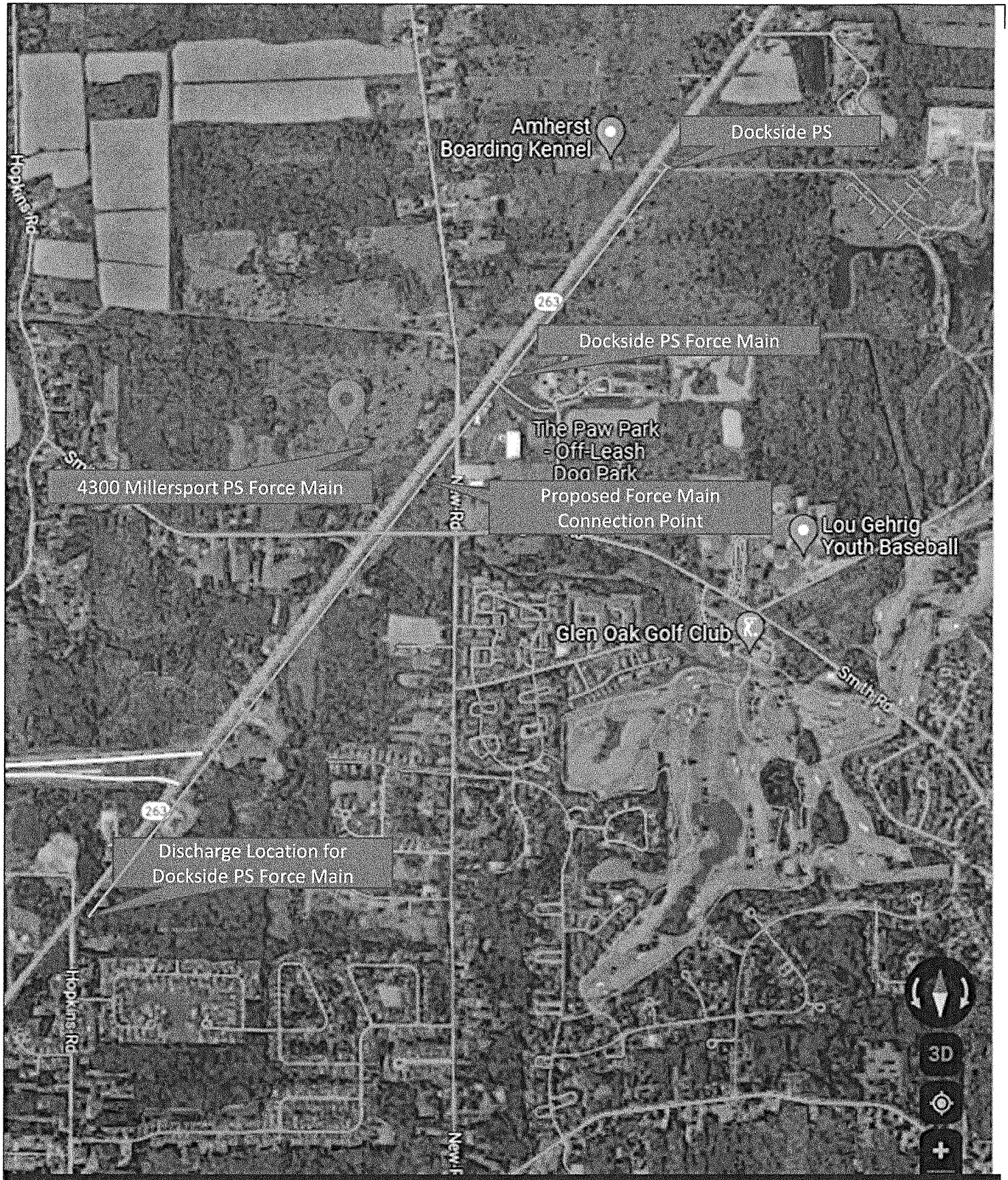
Conclusions

The following was concluded from this evaluation:

- Current Dockside pumping capacity of 833 gpm was confirmed with the calculations showing a design point of 850 gpm at 64-ft TDH.
- Dockside flow combined with up to 200 gpm flow from the 4300 Millersport Pump Station dropped the Dockside Pump Station flow to 775 gpm at 68-ft TDH. While less than the 833 gpm maximum observed by the Town of Amherst, note that the capacity is still greater than the 750 gpm pumping capacity that the station was originally designed for. This will result in the Dockside Pump Station running up to 10% more time per day than it is currently.
- The 4300 Millersport Pump Station was originally envisioned with a design point of 200 gpm at 75-ft TDH. When facing the backpressure associated with the Dockside Pump Station, the capacity decreases to 175 gpm, with a total discharge head of 80-ft. This point falls on the proposed pump curve, so the pumps chosen by Schutt will work for this application.

While design points for both pump stations have shifted slightly, it is expected that no adverse effects will be created with the installation of the 4300 Millersport Pump Station, as currently proposed and described in this memo, and using the horizontal and vertical alignments and pipe materials as indicated in the drawings.

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



JMDavidson Engineering, D.P.C.

FIGURE 1

PROJECT LOCATION MAP

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Attachment 1

Dockside Pump Station Calculations and Curves

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SYSTEM HEAD CURVE DETERMINATION

JMDavidson Engineering, D.P.C.

TOWN OF AMHERST/ WM. SCHUTT ASSOCIATES
4300 MILLERSPORT HIGHWAY
JMD Project No. 342301 - calculations for Dockside PS to confirm pump capacity.

The following formulas and assumptions were used in the calculations contained in this spreadsheet:

1. Pump operation scenarios: From Dockside Pump Station to Discharge Point at manhole at corner of Hopkins and Millersport.

2. Information on pumps, force main alignment and proposed flows provided by Wm Schutt on 3/9/2023. One pump operates at a time, with the second pump operating as a standby.

3. Piping head loss calculations use Hazen-Williams Formula for Water
   h=[(4.73*Q^1.85)*L]/(C^1.85*D^4.87) where: h = Head Loss
   Q = Flow (cfs)
   C = Roughness Coefficient
   D = Pipe Diameter (ft.)
   L = Pipe Length (ft.)

4. Fitting, entrance, and exit head loss calculations for water:
   h=KV^2/2g where: h = Head Loss
   K = Resistance Coefficient
   V = Flow Velocity (Q/A)
   g = Gravity (32.2 ft/sec^2)

K-values were obtained from "Cameron Hydraulic Data Handbook, 18th Edition" (1998) by Ingersoll-Dresser Pumps
For reducers, velocity of smaller end is used and for increasers the difference between the small and large end square velocities is used .
For tees with different inlet and outlet diameters, velocity in smaller diameter pipe is used.

A. HEAD LOSS OF SUCTION WELL TO PUMP (WET PIT SUBMERSIBLE)

Pipe assumed to be unlined ductile iron pipe per Pump Station Note No. 6

Fitting	No.	Inlet Dia.	Outlet Dia,	Length ft	C	K	(GPM) 0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Entrance Loss	1	-	10	-	-	0.50	0.00	0.00	0.01	0.01	0.02	0.03	0.05	0.06	0.09	0.10	0.13	0.16	0.19	0.22	0.25
Reducer	1	10	6	2	-	0.084	0.00	0.00	0.01	0.02	0.03	0.04	0.06	0.08	0.11	0.14	0.17	0.20	0.24	0.28	0.33
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
45 deg bend	1	-	6	-	-	0.24	0.00	0.00	0.02	0.04	0.06	0.12	0.17	0.24	0.31	0.39	0.48	0.58	0.69	0.81	0.94
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
Wye, thru	1	-	6	-	-	0.30	0.00	0.01	0.02	0.05	0.10	0.15	0.22	0.29	0.38	0.49	0.60	0.73	0.86	1.01	1.18
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
45 deg bend	1	-	6	-	-	0.24	0.00	0.00	0.02	0.04	0.06	0.12	0.17	0.24	0.31	0.39	0.48	0.58	0.69	0.81	0.94
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
Gate Valve	1	-	6	-	-	0.12	0.00	0.00	0.01	0.02	0.04	0.06	0.09	0.12	0.15	0.19	0.24	0.29	0.35	0.41	0.47
Pump																					
						Subtotal:	0.00	0.06	0.23	0.50	0.87	1.33	1.89	2.54	3.27	4.10	5.01	6.02	7.11	8.28	9.54

Dockside System Curve (C=140)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

B. HEAD LOSS CALCULATION FOR 4-INCH DISCHARGE FORCE MAIN FROM PUMP TO DOCKSIDE FORCE MAIN DISCHARGE POINT (DOCKSIDE OPERATING ALONE)

Fitting	No.	Inlet Dia.*	Outlet Dia,*	Length ft	C	K	(GPM) 0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Check Valve	1	-	6	-	-	1.50	0.00	0.05	0.12	0.27	0.48	0.75	1.08	1.47	1.92	2.43	3.00	3.63	4.32	5.07	5.88
90 deg bend	1	-	6	-	-	0.45	0.00	0.01	0.03	0.06	0.11	0.17	0.24	0.32	0.42	0.53	0.65	0.79	0.94	1.10	1.28
Piping Friction (FRP)	-	-	6	6	140	-	0.00	0.01	0.02	0.04	0.07	0.11	0.15	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73
Plug Valve (3-way)	1	-	6	-	-	0.45	0.00	0.01	0.03	0.06	0.11	0.17	0.24	0.32	0.42	0.53	0.65	0.79	0.94	1.10	1.28
Piping Friction (FRP)	-	-	6	6	140	-	0.00	0.01	0.02	0.04	0.07	0.11	0.15	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73
45 deg bend	2	-	4	-	-	0.24	0.00	0.05	0.19	0.44	0.78	1.21	1.75	2.38	3.11	3.93	4.86	5.88	7.00	8.21	9.52
Piping Friction (FRP)	-	-	6	6	140	-	0.00	0.01	0.02	0.04	0.07	0.11	0.15	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73
Increaser	1	6	10	2	-	0.175	0.00	0.00	0.01	0.03	0.05	0.08	0.11	0.15	0.19	0.25	0.30	0.37	0.44	0.51	0.60
Piping Friction (PVC) to connection	-	-	10	3696	140	-	0.00	0.28	1.02	2.16	3.68	5.55	7.78	10.35	13.25	16.48	20.02	23.89	28.06	32.54	37.32
Piping Friction (PVC) to discharge	-	-	10	5139	140	-	0.00	0.39	1.42	3.00	5.11	7.72	10.82	14.39	18.43	22.91	27.84	33.21	39.01	45.24	51.89
Pipe Exit	1	-	10	-	-	1.00	0.00	0.00	0.01	0.02	0.04	0.06	0.09	0.13	0.17	0.21	0.26	0.31	0.37	0.44	0.51
Subtotal (for total force main length):							**0.00**	**0.79**	**2.91**	**6.21**	**10.64**	**16.16**	**22.74**	**30.36**	**39.00**	**48.64**	**59.26**	**70.87**	**83.43**	**96.96**	**111.43**
Subtotal (to point of connection with 4300 Millersport PS force main):							**0.00**	**0.40**	**1.48**	**3.18**	**5.49**	**8.37**	**11.83**	**15.84**	**20.41**	**25.51**	**31.16**	**37.34**	**44.05**	**51.28**	**59.03**

SUMMARY TABLE

FLOW (GPM)			0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
PUMP STATION																	
WET WELL LOW WATER LEVEL (from drawing)			556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60
WET WELL HIGH WATER LEVEL (from drawing)			559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10
FORCE MAIN																	
VELOCITY IN FORCE MAIN (fps)*	DIAMETER (inch):	6	0.00	1.14	2.27	3.41	4.55	5.68	6.82	7.95	9.09	10.23	11.36	12.50	13.64	14.77	15.91
(recommended to operate between 2 and 10 fps per 10SS)		10	0.00	0.41	0.82	1.23	1.64	2.05	2.45	2.86	3.27	3.68	4.09	4.50	4.91	5.32	5.73
HEAD LOSSES IN FORCE MAIN (sum of suction losses and discharge losses)			0.00	0.86	3.14	6.71	11.51	17.49	24.63	32.89	42.27	52.73	64.28	76.88	90.54	105.24	120.97
HEAD LOSSES IN FORCE MAIN (to point of connection)			0.00	0.46	1.71	3.69	6.36	9.70	13.71	18.37	23.68	29.61	36.17	43.36	51.15	59.56	68.58
Discharge Pressure (assumes free discharge)			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PUMP DISCHARGE PIPE EXIT ELEVATION			574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80
MIN SYSTEM CURVE			15.7	16.6	18.8	22.4	27.2	33.2	40.3	48.6	58.0	68.4	80.0	92.6	106.2	120.9	136.7
MAX SYSTEM CURVE			18.2	19.1	21.3	24.9	29.7	35.7	42.8	51.1	60.5	70.9	82.5	95.1	108.7	123.4	139.2

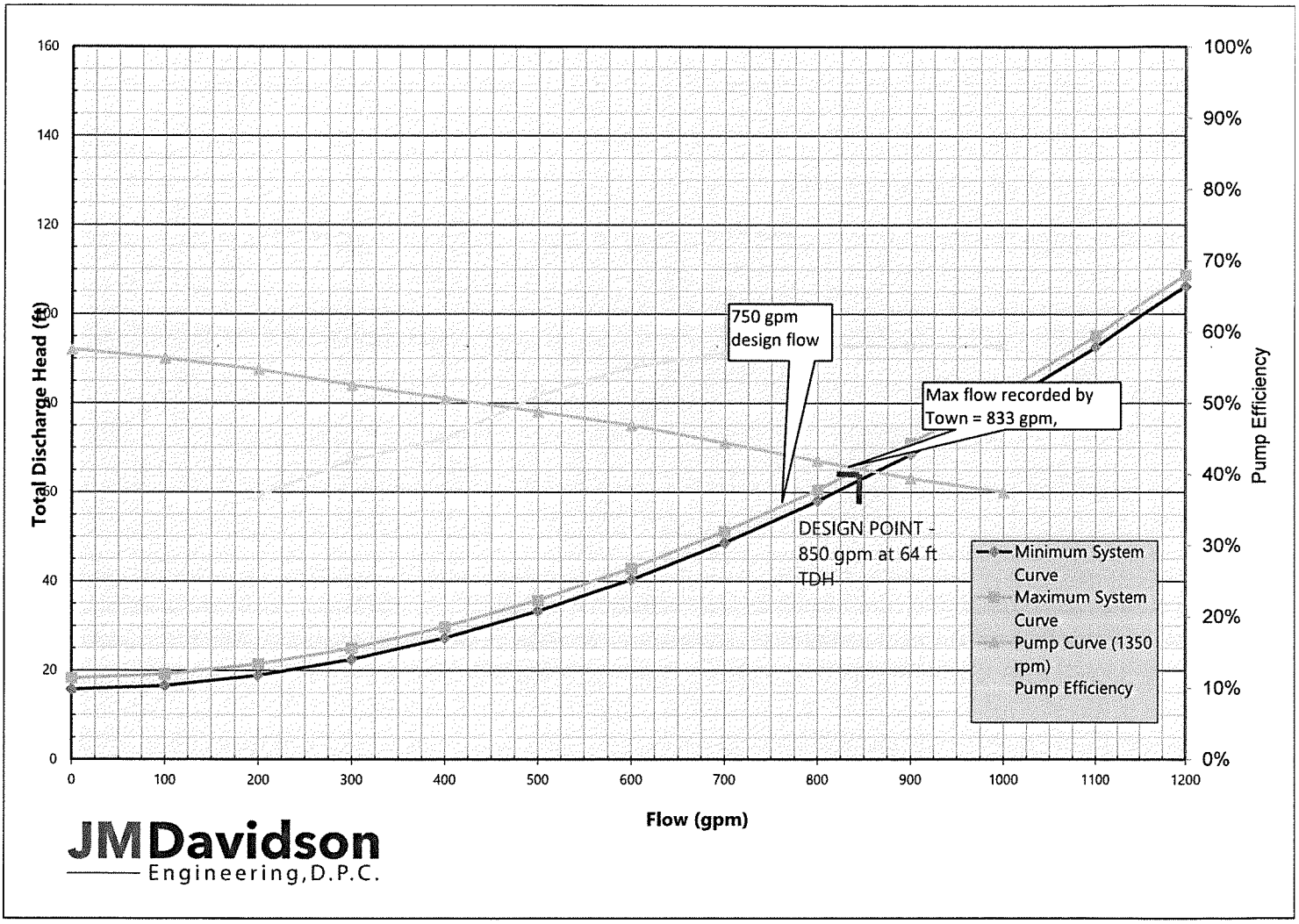
Calculations Completed 3/15/2023 *by* A. Hintz
Calculations Checked 3/21/2023 *by* C. Goerss-Murphy

*Red highlighted cells indicate those velocities outside of the normal operating range of 2-8 fps.
However, the operation of the Dockside PS is outside of the scope of this work, but only needed to calculate pressure on 4300 Millersport PS force main.

Max flow recorded by Town = 833 gpm
Based on Dockside Alone curve, design point should be 850 gpm.
Delta = 17 gpm
Calc within 2.0%
i.e., assumptions made during this evaluation are valid.

Dockside System Curve (C=140)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



Dockside Alone Graph

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Attachment 2

Dockside + 4300 Millersport Pump Station Calculations and Curves

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SYSTEM HEAD CURVE DETERMINATION

TOWN OF AMHERST/ WM. SCHUTT ASSOCIATES
4300 MILLERSPORT HIGHWAY
JMD Project No. 342301 - calculations for Dockside PS to feed into calculations for 4300 Millersport

JMDavidson Engineering, D.P.C.

The following formulas and assumptions were used in the calculations contained in this spreadsheet:

1. Pump operation scenarios: From Dockside Pump Station to Discharge Point.

2. Information on pumps, force main alignment and proposed flows provided by Wm Schutt on 3/9/2023. Pu

3. Piping head loss calculations use Hazen-Williams Formula for Water
   h=[(4.73*Q^1.85)*L]/(C^1.85*D^4.87) where: h = Head Loss
   Q = Flow (cfs)
   C = Roughness Coefficient
   D = Pipe Diameter (ft.)
   L = Pipe Length (ft.)

4. Fitting, entrance, and exit head loss calculations for water:
   h=KV^2/2g where: h = Head Loss
   K = Resistance Coefficient
   V = Flow Velocity (Q/A)
   g = Gravity (32.2 ft/sec^2)

K-values were obtained from "Cameron Hydraulic Data Handbook, 18th Edition" (1998) by Ingersoll-Dresser Pumps
For reducers, velocity of smaller end is used and for increasers the difference between the small and large end square velocities is used .
For tees with different inlet and outlet diameters, velocity in smaller diameter pipe is used.

A. HEAD LOSS OF SUCTION WELL TO PUMP (WET PIT SUBMERSIBLE)

Pipe assumed to be unlined ductile iron pipe per Pump Station Note No. 6

Fitting	No.	Inlet Dia.	Outlet Dia,	Length ft	C	K	(GPM) 0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Entrance Loss	1	-	10	-	-	0.50	0.00	0.00	0.01	0.01	0.02	0.03	0.05	0.06	0.08	0.10	0.13	0.16	0.19	0.22	0.25
Reducer	1	10	6	2	-	0.084	0.00	0.00	0.01	0.02	0.03	0.04	0.06	0.08	0.11	0.14	0.17	0.20	0.24	0.28	0.33
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
45 deg bend	1	-	6	-	-	0.24	0.00	0.00	0.02	0.04	0.08	0.12	0.17	0.24	0.31	0.39	0.48	0.58	0.69	0.81	0.94
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
Wye, thru	1	-	6	-	-	0.30	0.00	0.01	0.02	0.05	0.10	0.15	0.22	0.29	0.38	0.49	0.60	0.73	0.86	1.01	1.18
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
45 deg bend	1	-	6	-	-	0.24	0.00	0.00	0.02	0.04	0.08	0.12	0.17	0.24	0.31	0.39	0.48	0.58	0.69	0.81	0.94
Piping Friction	-	-	6	6	100	-	0.00	0.01	0.04	0.08	0.13	0.20	0.28	0.38	0.48	0.60	0.73	0.87	1.02	1.18	1.36
Gate Valve	1	-	6	-	-	0.12	0.00	0.00	0.01	0.02	0.04	0.06	0.09	0.12	0.15	0.19	0.24	0.29	0.35	0.41	0.47
Pump																					
						Subtotal:	0.00	0.06	0.23	0.50	0.87	1.33	1.89	2.54	3.27	4.10	5.01	6.02	7.11	8.28	9.54

Dockside + 4300 Curve (max)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

B. HEAD LOSS CALCULATION FOR 6-INCH DISCHARGE FORCE MAIN FROM PUMP TO CONNECTION WITH NEW 4300 FORCE MAIN

Fitting	No.	Inlet Dia.*	Outlet Dia,*	Length ft	C	K	(GPM) 0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
Check Valve	1	-	6	-	-	1.50	0.00	0.05	0.12	0.27	0.48	0.75	1.08	1.47	1.92	2.43	3.00	3.63	4.32	5.07	5.88
90 deg bend	1	-	6	-	-	0.45	0.00	0.01	0.04	0.08	0.14	0.22	0.32	0.44	0.58	0.73	0.90	1.09	1.30	1.52	1.76
Piping Friction (FRP)	-	-	6	6	140	-	0.00	0.01	0.02	0.04	0.07	0.11	0.15	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73
Plug Valve (3-way)	1	-	6	-	-	0.45	0.00	0.01	0.04	0.08	0.14	0.22	0.32	0.44	0.58	0.73	0.90	1.09	1.30	1.52	1.76
Piping Friction (FRP)	-	-	6	6	140	-	0.00	0.01	0.02	0.04	0.07	0.11	0.15	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73
45 deg bend	2	-	4	-	-	0.24	0.00	0.05	0.19	0.44	0.78	1.21	1.75	2.38	3.11	3.94	4.86	5.86	7.00	8.21	9.52
Piping Friction (FRP)	-	-	6	6	140	-	0.00	0.01	0.02	0.04	0.07	0.11	0.15	0.20	0.26	0.32	0.39	0.47	0.55	0.64	0.73
Increaser	1	6	10	2	-	0.175	0.00	0.00	0.01	0.03	0.05	0.08	0.11	0.15	0.19	0.25	0.30	0.37	0.44	0.51	0.60
Piping Friction (PVC) to connection	-	-	10	3696	140	-	0.00	0.28	1.02	2.16	3.68	5.55	7.78	10.35	13.25	16.48	20.02	23.88	28.06	32.54	37.32
Subtotal (to point of connection with 4300 Millersport PS force main):							**0.00**	**0.40**	**1.48**	**3.18**	**5.49**	**8.37**	**11.83**	**15.84**	**20.41**	**25.51**	**31.16**	**37.34**	**44.05**	**51.28**	**59.03**

C. HEAD LOSS CALCULATION FOR 6-INCH DISCHARGE FORCE MAIN FROM DOCKSIDE AND 200 GPM FLOW FROM 4300 MILLERSPORT (DESIGN FLOW OF 4300 MILLERSPORT PS PUMPS)

Fitting	No.	Inlet Dia.*	Outlet Dia,*	Length ft	C	K	(GPM) 200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
Piping Friction (PVC) to discharge	-	-	10	5139	140	-	1.42	3.00	5.11	7.72	10.82	14.39	18.43	22.93	27.84	33.21	39.01	45.24	51.89	58.95	66.43
Pipe Exit	1	-	10	-	-	1.00	0.01	0.02	0.04	0.06	0.09	0.13	0.17	0.21	0.26	0.31	0.37	0.44	0.51	0.58	0.66
Subtotal (for total force main length):							**1.43**	**3.03**	**5.15**	**7.79**	**10.92**	**14.52**	**18.59**	**23.12**	**28.10**	**33.53**	**39.39**	**45.68**	**52.39**	**59.53**	**67.09**

SUMMARY TABLE

FLOW (GPM)			0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
PUMP STATION																	
WET WELL LOW WATER LEVEL (from drawing)			556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60	556.60
WET WELL HIGH WATER LEVEL (from drawing)			559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10	559.10
FORCE MAIN																	
VELOCITY IN FORCE MAIN (fps)	DIAMETER (inch):	6	0.00	1.14	2.27	3.41	4.55	5.68	6.82	7.95	9.09	10.23	11.36	12.50	13.64	14.77	15.91
(recommended to operate between 2 and 8 fps per 10SS)		10	0.00	0.41	0.82	1.23	1.64	2.05	2.45	2.86	3.27	3.68	4.09	4.50	4.91	5.32	5.73
HEAD LOSSES IN FORCE MAIN (sum of suction losses and discharge losses)			1.43	3.49	6.86	11.47	17.27	24.22	32.31	41.50	51.78	63.14	75.56	89.03	103.55	119.10	135.67
HEAD LOSSES IN FORCE MAIN (to point of connection)			0.00	0.46	1.71	3.69	6.36	9.70	13.71	18.37	23.68	29.61	36.17	43.36	51.15	59.56	68.58
Discharge Pressure (assumes free discharge)			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PUMP DISCHARGE PIPE EXIT ELEVATION***			574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80	574.80
MIN SYSTEM CURVE			17.1	19.2	22.6	27.2	33.0	39.9	48.0	57.2	67.5	78.8	91.3	104.7	119.2	134.8	151.4
MAX SYSTEM CURVE			19.6	21.7	25.1	29.7	35.5	42.4	50.5	59.7	70.0	81.3	93.8	107.2	121.7	137.3	153.9

Now to determine pressure at point of interconnection, assume pipe elevation at point of interconnection is the same as ultimate discharge
Use existing pump curve and subtract headloss from Dockside PS to connection point.

Pump curve	92.0	90.0	87.5	84.0	81.0	78.0	75.0	71.0	67.0	63.0	60.0
Pump curve minus headloss	92.0	89.5	85.8	80.3	74.6	68.3	61.3	52.6	43.3	33.4	23.8

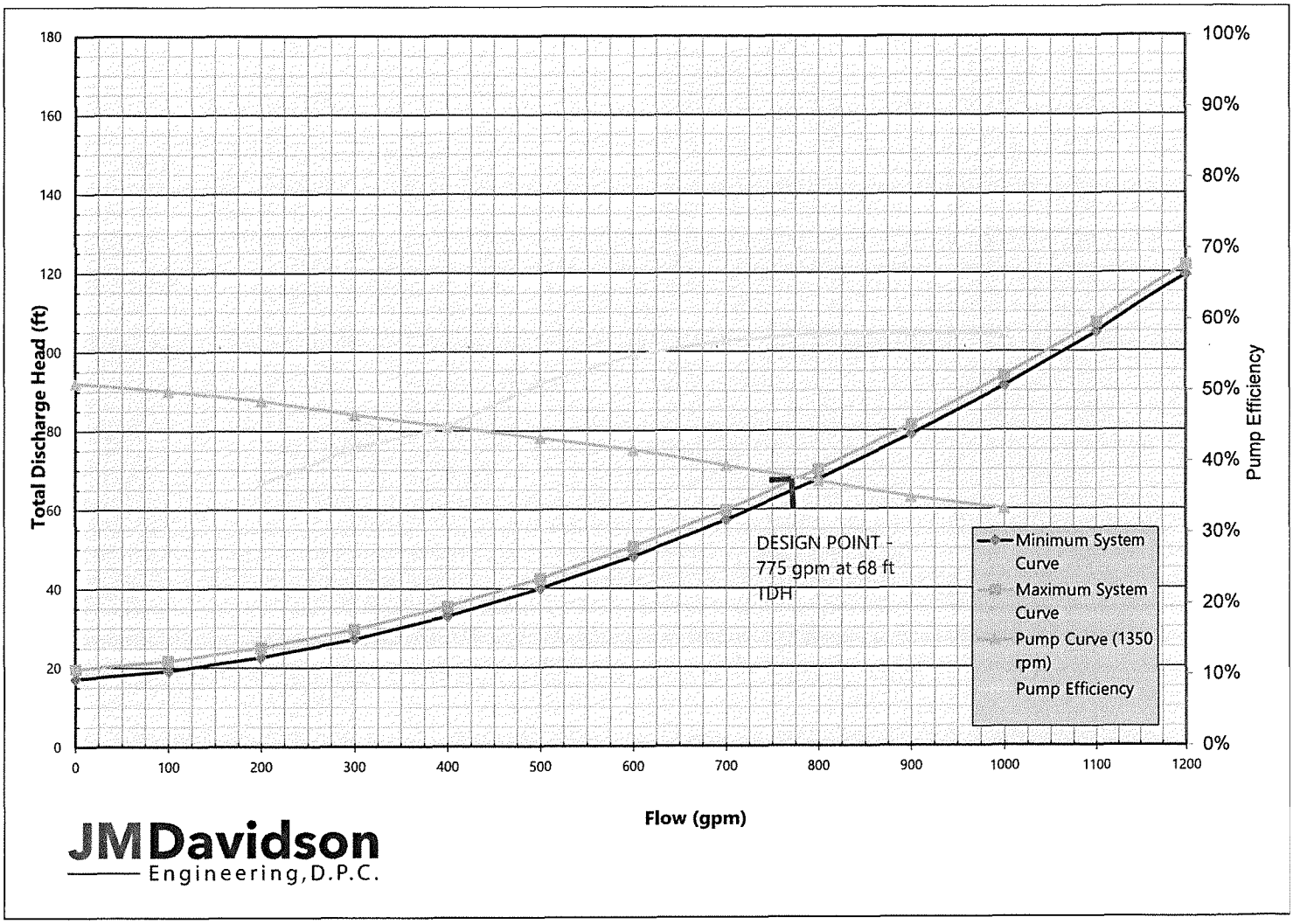
At flow of approximately 800 gpm, pressure is approximately 53 ft. That pressure was added into the calculations for 4300 Millersport.

Calculations Completed 3/16/2023 *by* A. Hintz
Calculations Checked 3/21/2023 *by* C. Goerss-Murphy

Conclusion: Adding the flow from 4300 Millersport will decrease the Dockside Pump Station capacity from 833 gpm to approximately 775 gpm

Dockside + 4300 Curve (max)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



JMDavidson Engineering, D.P.C.

Dockside + 4300 Graph

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Attachment 3

4300 Millersport Pump Station Calculations and Curves

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SYSTEM HEAD CURVE DETERMINATION

TOWN OF AMHERST/ WM. SCHUTT ASSOCIATES
4300 MILLERSPORT HIGHWAY
JMD Project No. 342301 - calculations of new 4300 Millersport Pump Station (designed by Wm Schutt Associates)

JMDavidson Engineering, D.P.C.

The following formulas and assumptions were used in the calculations contained in this spreadsheet:

1. Pump operation scenarios: From Pump Suction Well to Discharge at Dockside Pump Station Force Main, assumes one pump in operation, 2nd pump as standby only (per Ten States' Standards)

2. Information on pumps, force main alignment and proposed flows provided by Wm Schutt on 3/9/2023.

3. Piping head loss calculations use Hazen-Williams Formula for Water
   h=[(4.73*Q^1.85)*L]/(C^1.85*D^4.87) where: h = Head Loss
   Q = Flow (cfs)
   C = Roughness Coefficient
   D = Pipe Diameter (ft.)
   L = Pipe Length (ft.)

4. Fitting, entrance, and exit head loss calculations for water:
   h=KV^2/2g where: h = Head Loss
   K = Resistance Coefficient
   V = Flow Velocity (Q/A)
   g = Gravity (32.2 ft/sec^2)

K-values were obtained from "Cameron Hydraulic Data Handbook, 18th Edition" (1998) by Ingersoll-Dresser Pumps
For reducers, velocity of smaller end is used and for increasers the difference between the small and large end square velocities is used .
For tees with different inlet and outlet diameters, velocity in smaller diameter pipe is used.

A. HEAD LOSS FROM SUCTION TO EACH PUMP (WET PIT SUBMERSIBLE)

Pump design point is 200 gpm at 75' TDH (from info provided by Wm Schutt)

Fitting	No.	Inlet Dia.	Outlet Dia,	Length ft	C	K	(GPM) 0	20	40	60	80	100	120	140	160	180	200	220	240	260	280
Entrance Loss	1	-	4	-	-	0.50	0.00	0.00	0.01	0.02	0.03	0.05	0.07	0.10	0.13	0.16	0.20	0.24	0.29	0.34	0.40
Pump																					
						Subtotal:	0.00	0.00	0.01	0.02	0.03	0.05	0.07	0.10	0.13	0.16	0.20	0.24	0.29	0.34	0.40

B. HEAD LOSS CALCULATION FOR 4-INCH DISCHARGE FORCE MAIN FROM PUMP TO DOCKSIDE FORCE MAIN

Fitting	No.	Inlet Dia.*	Outlet Dia,*	Length ft	C	K	(GPM) 0	20	40	60	80	100	120	140	160	180	200	220	240	260	280
90 deg bend	1	-	4	-	-	0.51	0.00	0.00	0.01	0.02	0.05	0.05	0.07	0.10	0.13	0.17	0.21	0.25	0.30	0.35	0.40
Piping Friction	-	-	4	6	100	-	0.00	0.00	0.01	0.03	0.05	0.07	0.10	0.14	0.18	0.22	0.27	0.32	0.37	0.43	0.50
90 deg bend	1	-	4	-	-	0.51	0.00	0.00	0.01	0.02	0.03	0.05	0.07	0.10	0.13	0.17	0.21	0.25	0.30	0.35	0.40
Piping Friction	-	-	4	6	100	-	0.00	0.00	0.01	0.03	0.05	0.07	0.10	0.14	0.18	0.22	0.27	0.32	0.37	0.43	0.50
Gate Valve	1	-	4	-	-	0.14	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.04	0.05	0.06	0.07	0.08	0.10	0.11
Check Valve	1	-	4	-	-	1.70	0.00	0.01	0.03	0.06	0.11	0.17	0.25	0.34	0.44	0.56	0.69	0.83	0.99	1.16	1.35

4300 System Curve (C=140)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Plug Valve	1	-	4	-	-	0.31	0.00	0.00	0.01	0.01	0.02	0.03	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.21	0.25
90 deg bend	1	-	4	-	-	0.51	0.00	0.00	0.01	0.02	0.03	0.05	0.07	0.10	0.13	0.17	0.21	0.25	0.30	0.35	0.40
Cross, Branch Flow	1	-	4	-	-	1.02	0.00	0.00	0.02	0.04	0.07	0.10	0.15	0.20	0.26	0.33	0.41	0.50	0.59	0.70	0.81
Gate Valve	1	-	4	-	-	0.14	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.10	0.11
Piping Friction	-	-	4	600	140	-	0.00	0.20	0.73	1.55	2.63	3.98	5.58	7.42	9.50	11.81	14.35	17.12	20.11	23.32	26.74
45 deg bend	2	-	4	-	-	0.27	0.00	0.00	0.01	0.02	0.03	0.05	0.08	0.11	0.14	0.18	0.22	0.26	0.31	0.37	0.42
46 deg bend	2	-	4	-	-	0.27	0.00	0.00	0.01	0.02	0.03	0.05	0.08	0.11	0.14	0.18	0.22	0.26	0.31	0.37	0.42
45 deg bend	4	-	4	-	-	0.27	0.00	0.00	0.02	0.04	0.07	0.11	0.16	0.21	0.28	0.35	0.44	0.53	0.63	0.74	0.86
Gate Valve	1	-	4	-	-	0.14	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.10	0.11
45 deg bend	6	-	4	-	-	0.27	0.00	0.01	0.03	0.06	0.10	0.16	0.24	0.32	0.42	0.53	0.66	0.79	0.94	1.11	1.29
Wye (10" x 10" x 4")	1	-	4	-	-	1.02	0.00	0.00	0.02	0.04	0.07	0.10	0.15	0.20	0.26	0.33	0.41	0.50	0.59	0.70	0.81
Pipe Exit	1	-	4	-	-	1.00	0.00	0.00	0.02	0.04	0.06	0.10	0.15	0.20	0.26	0.33	0.40	0.49	0.58	0.68	0.79
						Subtotal:	**0.00**	**0.25**	**0.93**	**2.00**	**3.43**	**5.22**	**7.36**	**9.83**	**12.64**	**15.78**	**19.25**	**23.04**	**27.14**	**31.56**	**36.29**

SUMMARY TABLE

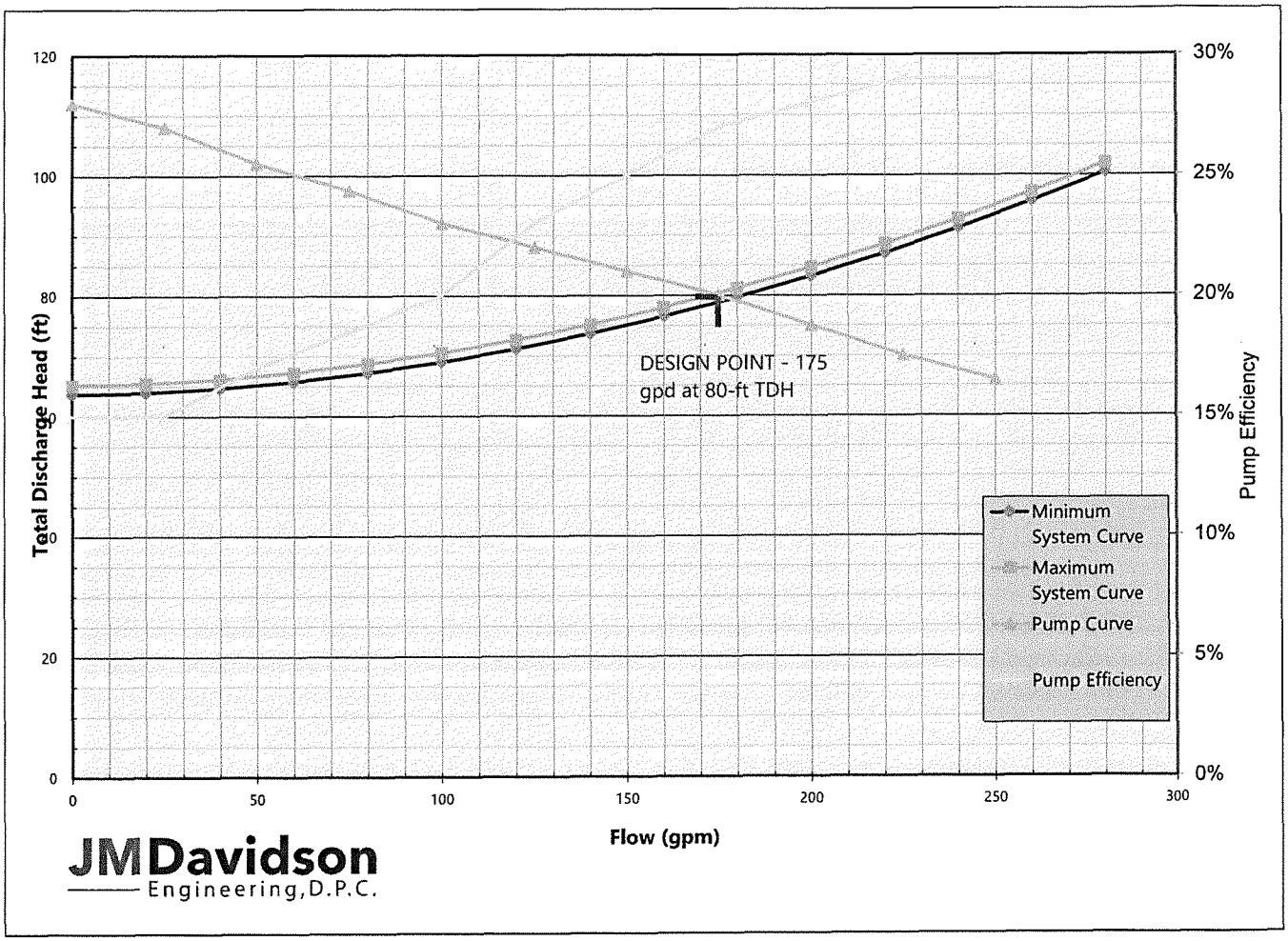
FLOW (GPM)	**0**	**20**	**40**	**60**	**80**	**100**	**120**	**140**	**160**	**180**	**200**	**220**	**240**	**260**	**280**
PUMP STATION															
WET WELL LOW WATER LEVEL (from drawing)	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79	557.79
WET WELL HIGH WATER LEVEL (from drawing)	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29	559.29
FORCE MAIN															
VELOCITY IN FORCE MAIN (fps) DIAMETER (inch): 4	0.00	0.51	1.02	1.53	2.05	2.56	3.07	3.58	4.09	4.60	5.11	5.62	6.14	6.65	7.16
(recommended to operate between 2 and 10 fps per 10SS)															
HEAD LOSSES IN FORCE MAIN (sum of suction losses and discharge losses)	0.00	0.26	0.94	2.02	3.46	5.27	7.43	9.93	12.77	15.95	19.45	23.28	27.43	31.90	36.69
Discharge Pressure (see Dockside PS Calcs)	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00	53.00
PUMP DISCHARGE PIPE EXIT ELEVATION***	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00	570.00
MIN SYSTEM CURVE	63.7	64.0	64.7	65.7	67.2	69.0	71.1	73.6	76.5	79.7	83.2	87.0	91.1	95.6	100.4
MAX SYSTEM CURVE	65.2	65.5	66.2	67.2	68.7	70.5	72.6	75.1	78.0	81.2	84.7	88.5	92.6	97.1	101.9

Calculations Completed 3/15/2023 *by* A. Hintz

Calculations Checked 3/21/2023 *by* C. Goerss-Murphy

4300 System Curve (C=140)

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



4300 Graph

Attachment: SP-2022-03_A_application_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

4300 MILLERSPORT

PART OF LOT 53, TOWNSHIP 13, RANGE 7
TOWN OF AMHERST - ERIE COUNTY - NEW YORK

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF AMHERST STANDARD CONSTRUCTION SPECIFICATIONS AND/OR SUBJECT TO THE LATEST REVISIONS APPROVED BY THE TOWN ENGINEER. THE CONTRACTOR IS REQUIRED TO SUBMIT SHOP DRAWINGS TO THE TOWN OF AMHERST TOWN ENGINEER.

   ALL WATER MAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH ERIE COUNTY WATER AUTHORITY STANDARD SPECIFICATIONS AND DETAILS.

2. THE LOCATION OF UTILITIES AND OTHER FEATURES, AS SHOWN ON THE PLANS, ARE FROM THE BEST INFORMATION AVAILABLE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD INVESTIGATE AND DETERMINE THE EXACT LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION IN ORDER TO AVOID CONFLICTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT, SUPPORT AND MAINTAIN ALL EXISTING UTILITIES DURING THE COURSE OF HIS OPERATIONS. DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

3. ALL PROVISIONS OF THE NEW YORK STATE INDUSTRIAL CODE RULE 53 AND THE NEW YORK STATE VOLTAGE PROXIMITY ACT MUST BE FOLLOWED. THE CONTRACTOR SHALL BE RESPONSIBLE TO ADVISE ALL UTILITIES AND AGENCIES OF HIS PROPOSED OPERATIONS.

4. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS TO EXISTING PAVEMENT, SHOULDERS, DRIVES AND STORM DRAINAGE FACILITIES SHALL BE REPAIRED OR REPLACED IN KIND BY THE CONTRACTOR AT HIS EXPENSE. ALL REPAIRS OR REPLACEMENTS MADE BY THE CONTRACTOR SHALL BE ACCEPTABLE TO THE OWNER OR AGENCY HAVING JURISDICTION.

5. THE CONTRACTOR SHALL TAKE ANY PRECAUTIONS NECESSARY TO PROTECT TREES AND SHRUBBERY FROM DAMAGE, UNLESS SPECIFICALLY ORDERED FOR CLEARING.

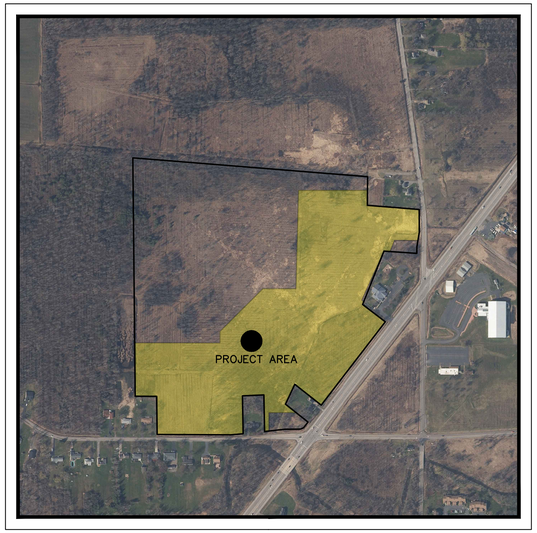
6. THE CONTRACTOR SHALL BE AWARE THAT SOIL CONDITIONS ARE UNKNOWN AND ASSUMED TO VARY AT DIFFERENT DEPTHS AND LOCATIONS.

7. ~~ALL UTILITY OPEN CUT ROAD CROSSINGS~~ ALL UTILITY OPEN CUT ROAD CROSSINGS SHALL BE BACKFILLED WITH NO. 2 RUN OF CRUSHER STONE AND COMPACTED TO A MINIMUM OF 95% MAXIMUM DENSITY ASTM D-1557 PER TRENCH DETAILS. SELECT BACKFILL MATERIAL SHALL EXTEND A MINIMUM OF 5-FEET BEYOND EDGE OF PAVEMENT.

8. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL STATUTES REGARDING THE PREVENTION AND ABATEMENT OF SOIL EROSION, SEDIMENTATION AND WATER POLLUTION.

9. THE PLANS AND SPECIFICATIONS FOR THIS PROJECT HAVE BEEN PREPARED WITH CARE AND ARE INTENDED TO SHOW AS CLEARLY AS IS PRACTICABLE THE WORK REQUIRED TO BE DONE. THE CONTRACTOR MUST REALIZE, HOWEVER, THAT CONSTRUCTION DETAILS CAN NOT ALWAYS BE ACCURATELY ANTICIPATED AND THAT IN EXECUTING THE WORK, FIELD CONDITIONS MAY REQUIRE REASONABLE MODIFICATIONS IN THE DETAILS OF PLANS AND QUANTITIES OF WORK INVOLVED. ALL WORK MUST BE CARRIED OUT TO MEET ACTUAL FIELD CONDITIONS TO THE SATISFACTION OF THE ENGINEER AND DEVELOPER IN ACCORDANCE WITH THEIR INSTRUCTIONS.

CONTACT MARK JARMUZ 716-685-8266 AT ECWA PRIOR TO THE START OF CONSTRUCTION



LOCATION MAP
N.T.S.

SHEET INDEX

Sheet Number	Sheet Title
CVR	COVER SHEET
BS-1	BOUNDARY SURVEY
TS-1	TOPOGRAPHIC SURVEY
TS-2	TREE SURVEY
OP	OVERALL SITE PLAN
SP1	SITE PLAN
SP2	SITE PLAN
SP3	SITE PLAN
SW1	SANITARY AND WATERMAIN PLAN
SW2	SANITARY AND WATERMAIN PLAN
SW3	SANITARY AND WATERMAIN PLAN
SW4	SANITARY AND WATERMAIN PROFILES LOCAL ROAD A (LS)
SW5	SANITARY AND WATERMAIN PROFILE LOCAL ROAD A AND B (LS)
SW6	SANITARY AND WATERMAIN PROFILE LOCAL ROAD C AND D (LS)
SW7	SANITARY AND WATERMAIN PROFILE LOCAL ROAD A (RS)
SW8	SANITARY AND WATERMAIN PROFILE LOCAL ROAD A AND B (RS)
SW9	SANITARY AND WATERMAIN PROFILES LOCAL ROAD C AND D (RS)
SS1	SANITARY SEWER DETAILS
SS2	SANITARY SEWER DETAILS
SS3	SANITARY SEWER DETAILS
SS4	SANITARY SEWER DETAILS
WM1	ECWA DETAILS
WM2	ECWA DETAILS
WM3	ECWA DETAILS
WM4	ECWA DETAILS
WM5	ECWA DETAILS
PD1	PAVING AND DRAINAGE PLAN
PD2	PAVING AND DRAINAGE PLAN
PD3	PAVING AND DRAINAGE PLAN
PD4	PAVING AND DRAINAGE PROFILE LOCAL ROAD A
PD5	PAVING AND DRAINAGE PROFILE LOCAL ROAD A AND B
PD6	PAVING AND DRAINAGE PROFILE LOCAL ROAD C AND D
PD7	PAVING AND DRAINAGE DETAILS
PD8	PAVING AND DRAINAGE DETAILS
PD9	PAVING AND DRAINAGE DETAILS
PD10	PAVING AND DRAINAGE DETAILS
EASE1	EASEMENT MAP
EASE2	EASEMENT MAP
EASE3	EASEMENT MAP
CV1	26B CREEK CROSSING
CV2	26B CREEK CROSSING
SWPPP1	STORM WATER POLLUTION PREVENTION PLAN
SWPPP2	STORM WATER POLLUTION PREVENTION PLAN
SWPPP3	STORM WATER POLLUTION PREVENTION PLAN
SWPPP4	STORM WATER POLLUTION PREVENTION DETAILS
GP1	LOT GRADING PLAN
GP2	LOT GRADING PLAN
GP3	LOT GRADING PLAN
GP4	GRADING INTERSECTION DETAILS
LS1	OVERALL LANDSCAPE PLAN
LS2	LANDSCAPE PLAN
LS3	LANDSCAPE PLAN
LS4	LANDSCAPE PLAN
WZTC1	NYSDOT WZTC PLAN FORCEMAIN CROSSING AND DETAILS
WZTC2	NYSDOT WZTC NOTES
WZTC3	ECHWY WZTC PLAN
WZTC4	ECHWY WZTC NOTES
WZTC5	ECHWY BOX BEAM GUIDE RAIL PLAN
WZTC6	ECHWY BOX BEAM GUIDE RAIL DETAILS
PHOTO1	PHOTOMETRIC PLAN
PHOTO2	PHOTOMETRIC PLAN
PHOTO3	PHOTOMETRIC PLAN
PHOTO4	PHOTOMETRIC PLAN
TRUCK1	TRUCK CIRCULATION PLAN
TRUCK2	TRUCK CIRCULATION PLAN
TRUCK3	TRUCK CIRCULATION PLAN
COVER	COVER - PASSERO
EX-1	EXISTING COND, DEMO PLAN - PASSERO
RP-1	ROADWAY & STRIPING PLAN - PASSERO
GP-1	GRADING & UTILITY PLAN - PASSERO
AX-1	ROAD B PROFILE - PASSERO
AX-2	CROSS SECTIONS - PASSERO
AX-3	CROSS SECTIONS - PASSERO
MD-1	DETAILS - PASSERO
MD-2	DETAILS - PASSERO
MD-3	DETAILS - PASSERO
MD-4	DETAILS - PASSERO
MD-5	DETAILS - PASSERO
MD-6	DETAILS - PASSERO
MD-7	DETAILS - PASSERO
C001	NYSDOT WZTC PLAN - PASSERO
C002	NYSDOT WZTC PLAN - PASSERO

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New York

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

WM SCHUTT ASSOCIATES
37 CENTRAL AVE.
LANCASTER, NY 14086-2143
PH. 716-683-5961
FAX 716-683-0169
WWW.WMSCHUTT.COM

DEVELOPER:
CIMATO & SONS
9220 TRANSIT ROAD
EAST AMHERST, NEW YORK 1451

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

THIS SHEET ISSUED APRIL 18, 2024

CVR

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

Legal Description
Vacant Lot
Millersport Hwy. & Smith Road
Amherst, New York

ALL THAT TRACT OR PARCEL OF LAND situate in the Town of Amherst, County of Erie and State of New York, being part of Lot No. 53, Township 13, and Range 7 of the Holland Land Company's Survey, being more particularly bounded and described as follows;

BEGINNING at a point on the north line of Smith Road (66' wide and varies) distant 300.00 feet east of the west line of lands formerly conveyed to Adam Brick, as recorded in the Erie County Clerk's Office under Liber 351 of deeds at page 550 said point also being on the east line of lands conveyed to James S. Coleman as recorded in the Erie County Clerk's Office under Liber 8581 of deeds at page 189; Thence N.00°35'17"W. along the east line of said lands conveyed to Coleman, a distance of 267.27 feet to an iron pin; Thence N.89°44'08"W. along the north line of said lands conveyed to Coleman and parallel with the centerline of Smith Road, a distance of 150.00 feet to an iron pipe on the east line of lands conveyed to Albert Lavocat as recarded in the Erie County Clerk's Office under Liber 6830 of deeds at page 521; Thence N.00°35'17" W. along the east line of said lands conveyed to Lavocat a distance of 1665.32 feet to an iron pipe on the north line of Lot 53; Thence S.85°24'47"E. along the north line of Lot 53 a distance of 1645.62 feet to an iron pipe on the west line of lands conveyed to James R. Cornwell as recorded in the Erie County Clerk's Office under Liber 11204 of deeds at page 7496; Thence S.00°41'52"W. along the west line of said lands conveyed to Cornwell a distance of 200.00 feet to an iron pipe on the south line of said lands conveyed to Cornwell; Thence S.85°24'47"E. along the south line of said lands conveyed to Cornwell a distance of 363.50 feet to the west line of New Road (66' wide); Thence southerly along the west line of New Road being a curved line to the right having a radius of 1967.00 feet an arc distance of 26.53 feet; Thence S.00°33'55"W. continuing along the west line of New Road a distance of 132.46 feet to a point in the west line of lands appropriated by the State of New York as shown on Map No. 72, parcel No. 91; Thence S.09°31'35"W. along the west line of said Parcel No.91 a distance of 103.46 feet to an angle point therein; Thence S.00°37'47"W. continuing along the west line of said Parcel No. 91 a distance of 46.00 feet to a point on the north line of lands conveyed to EM-CEE Realty Inc., as recorded in the Erie County Clerk's Office under Liber 11091 of deeds at page 2844; Thence N.85°59'17"W. along the north line of said lands conveyed to EM-CEE Realty Inc. a distance of 230.21 feet to a point in the centerline of a ditch; Thence S.21°44'05"W. along the centerline of said ditch and the west line of said lands conveyed to EM-CEE Realty Inc., a distance of 401.43 feet to the south line of said lands conveyed to EM-CEE Realty Inc.; Thence S.52°29'17"E. along the south line of said lands conveyed to EM-CEE Realty inc. a distance of 199.03 feet to a point on the west line of Millersport Highway as appropriated by the State of New York as shown on Map No.72, Parcel No.90; Thence S.37°30'44"W. along the west line of said Parcel No. 90 a distance of 710.52 feet to an angle point therein; Thence S.37°54'01"W. continuing along the west line of said Parcel No. 90 a distance of 23.73 feet to a point in the north line of lands conveyed to Richard A. Lillis as recorded in the Erie County Clerk's Office under Liber 10131 of deeds at page 508; Thence N.51°38'37"W. along the north line of said lands conveyed to Lillis a distance of 235.27 feet to the centerline of a ditch; Thence S.25°05'35"W. along the centerline of said ditch and the west line of said lands conveyed to Lillis, a distance of 154.10 feet to the south line of said lands conveyed to Lillis; Thence S.51°38'37"E. along the south line of said lands conveyed to Lillis a distance of 201.11 feet to the west line of Millersport Highway as appropriated by the State of New York as shown on Map No.72, Parcel No. 89; Thence S.37°54'01"W. along the west line of said Parcel No. 89 a distance of 51.00 feet; Thence S.66°47'47"W. along the north line of Smith Road a distance of 22.36 feet to a point on the north line of Smith Road as appropriated by the State of New York as shown on Map No. 72, Parcel No. 88; Thence S.89°17'04"W. along the north line of said Parcel No. 88, a distance of 110.36 feet to an angle point therein; Thence S.83°45'21"W. continuing along the north line of said Parcel No. 88 a distance of 141.99 feet to a point on the east line of lands conveyed to Daniel H. Trigoboff, as recorded in the Erie County Clerk's Office under Liber 9920 of deeds at page 332; Thence N.01°00'12"W. along the east line of said lands conveyed to Trigoboff a distance of 255.95 feet to an iron pipe; Thence S.87°23'57"W. along the north line of said lands conveyed to Trigoboff a distance of 150.00 feet to an iron pipe; Thence S.01°11'12"E. along the west line of said lands conveyed to Trigoboff a distance of 265.46 feet to a point on the north line of Smith Road; Thence S.85°18'21"W. along the north line of Smith Road a distance of 88.09 feet to an angle point therein; Thence N.89°44'08"W. continuing along the north line of Smith Road a distance of 513.44 feet to the Point of Beginning, containing 66.84 acres more or less.

NORTH LINE LOT 53
150.62'REC.
150.60'MS.
FND IP
1645.62'MEAS./1646.90'REC.
FND IP
S.85°24'47"E.
FND IP
365.89' REC. & MEAS.
68.21' REC. & MS.
WEST LINE OF HERBERT M. WARREN, L.6547, PG.13
JAMES R. CORNWELL (REPUTED OWNER) L.11204, PG.7496
S.00°41'52"W. 200.00'
SOUTH LINE OF HERBERT M. WARREN, L.6547, PG.13
397.06'MS./405.01'REC.
FND REBAR
363.50'MS./366.92'REC.
S.85°24'47"E.
FND IP
R=2000.00'
L=105.61'REC.
L=106.31'MS.
R=1967.00
L=26.53'
S.00°33'55"W. 132.46'
09°31'35"W. 103.46'
34.0'
MAP NO.72 PARCEL NO.91
S.00°37'47"W. 46.00'
30.00'
FND REBAR
230.21'
N.85°59'17"W.
FND REBAR W/CAP
50.00'
NORTH LINE OF ALLOYSIUS S. PFOHL, L.4566, PG.225
EM-CEE REALTY INC. (REPUTED OWNER) L.11091, PG.2844
60.00'
WEST LINE OF ALLOYSIUS S. PFOHL, L.4566, PG.225
S.21°44'05"W. 401.43'
75.00'
FND IP
SOUTH LINE OF ALLOYSIUS S. PFOHL, L.4566, PG.225
MAP NO.74, PARCEL NO.96
S.52°29'17"E. 199.03'
FND/REBAR
PSM 5-2354
NEW ROAD
EAST LINE LOT 53
NEW ROAD
MILLERSPORT (BUFFALO-MILLERSPORT, PART 2) HIGHWAY
S.H. NO.1949
RIGHT OF WAY 133'+/-
N.37°54'44"E.
CENTERLINE OF IMPROVEMENT
MAP NO.72, PARCEL NO.90
S.37°30'44"W.
710.52'
VAULT UNKNOWN
S.37°54'01"W. 23.73'
BM=586.4.317
75.00'
FND REBAR W/CAP
N.37°54'01"E.
MAP NO.72 PARCEL NO.89
S.37°54'01"W. 51.00'
S.66°47'47"W. 22.36'
S.83°45'21"W. 141.99'
S.89°17'04"W. 110.36'
BM=574.01.28
574.19+/-
574.49+/-
CENTERLINE OF IMPROVEMENT
CENTERLINE CURVE DATA
DELTA=2°45'29"
D=1°25'45"
L=199.96'
NORTHWEST LINE OF HEIM & LAVOCAT, L.4689, PG.53 & CENTERLINE STREAM
FND REBAR W/CAP
S.25°05'35"W. 154.10'
NORTH LINE OF HEIM & LAVOCAT, L.4689, PG.53
N.51°38'37"W. 235.27'
RICHARD A. LILLIS (REPUTED OWNER) L.10131, PG.508
FND REBAR
P.E. MAP NO.73, PARCEL NO.95
S.W. LINE OF HEIM & LAVOCAT, L.4689, PG.53
MAP NO.73 PARCEL NO.94
201.11'
S.51°38'37"E.
P.E. MAP NO.72, PARCEL NO.92
ROW MON
FND REBAR W/CAP
S.66°47'47"W. 22.36'
FND IP
S.87°23'57"W. 150.00'
FND IP
S.01°11'12"E. 265.46'
N.01°11'12"W. 255.95'
DANIEL H. TRIGOBOFF (REPUTED OWNER) L.9920, PG.332
FND REBAR
TELE BOX
FND REBAR W/CAP
S.83°45'21"W. 141.99'
4.02'
N.87°13'36"E. CENTERLINE OF IMPROVEMENT
MAP NO.72 PARCEL NO.88
S.89°17'04"W. 110.36'
S.85°18'21"W. 88.09'
513.44'
N.89°44'08"W.
SMITH ROAD
FND IP
FND REBAR W/CAP
300'REC./300.27'MEAS.
N.00°35'17"W. 267.27'
150.00'
N.89°44'08"W.
N.E. CORNER OF PATRICK F. DONOHUE, L.5919, PG.461
FND REBAR W/CAP
PARALLEL W/ CENTERLINE OF SMITH ROAD
JAMES S. COLEMAN (REPUTED OWNER) L.8581, PG.189
S.E. CORNER OF PATRICK F. DONOHUE, L.5919, PG.461
ALBERT LAVOCAT (REPUTED OWNER) L.6830, PG.521
1665.32'MEAS./1665.41'REC. N.00°35'17"W.
WEST LINE OF LANDS CONVEYED TO ADAM BRICK, L.351, PG.550
49.50'
66.00'
FND REBAR
FND IP
FND REBAR W/CAP
150.00'
300.00'
150.00'
FND REBAR W/CAP
FND IP
VACANT LOT
66.84 ACRES
CIMATO & SONS (REPUTED OWNER) L.9846, PG.585

TRUE NORTH @ 78°35' MERIDIAN OF WEST LONGITUDE

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 100 150 200 300 400
SCALE: 1"=100'
GRAPHIC SCALE IN FEET

THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN UP-TO-DATE ABSTRACT OF TITLE AND IS SUBJECT TO ANY STATE OF FACTS THAT MAY BE REVEALED BY AN EXAMINATION OF SUCH.

MEMBER OF: NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS

MEMBER OF: NIAGARA FRONTIER LAND SURVEYORS ASSOCIATION INC.

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ITEM	DATE	DESCRIPTION

DESIGNED BY:
DRAWN BY: GCW
CHECKED BY: GCW
DATE: JULY 21, 2013

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STATE OF NEW YORK
DANIEL J. REGAN
050201
LICENSED LAND SURVEYOR

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TOWN OF AMHERST
COUNTY OF ERIE, STATE OF NEW YORK
PART OF LOT 53, TOWNSHIP 13, RANGE 7
HOLLAND LAND COMPANY'S SURVEY

VACANT LOT MILLERSPORT HWY. & SMITH ROAD
BOUNDARY SURVEY

BS-1

DRAWING SCALE: 1"=100'

SURVEY FILE:D/13027-01
WSA PROJECT NO. 13027

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NORTH LINE LOT 53

150.62'REC.
150.60'MS.

1645.62'MEAS./1646.90'REC. S.85°24'47"E.

365.89' REC. & MEAS.

WEST LINE OF HERBERT M. WARREN, L.6547, PG.13

S.00°41'52"W. 200.00'

SOUTH LINE OF HERBERT M. WARREN, L.6547, PG.13

397.06'MS./405.01'REC.

363.50'MS./366.92'REC. S.85°24'47"E.

R=2000.00'
L=105.61'REC.
L=106.31'MS.

R=1967.00
L=26.53'

S.00°33'55"W. 132.46'

09°31'35"W. 103.46'

S.00°37'47"W. 46.00'

N.85°59'17"W. 230.21'

NORTH LINE OF ALLOYSUS S. PFOHL, L.4566, PG.225

WEST LINE OF ALLOYSUS S. PFOHL, L.4566, PG.225

S.21°44'05"W. 401.43'

SOUTH LINE OF ALLOYSUS S. PFOHL, L.4566, PG.225

S.52°29'17"E. 199.03'

VACANT LOT
66.84 ACRES
CIMATO & SONS
(REPUTED OWNER)
L.9846, PG.585

JAMES R. CORNWELL
(REPUTED OWNER)
L.11204, PG.7496

EM-CEE REALTY INC.
(REPUTED OWNER)
L.11091, PG.2844

ALBERT LAVOCAT
(REPUTED OWNER)
L.6830, PG.521

1665.32'MEAS./1665.41'REC. N.00°35'17"W.

WEST LINE OF LANDS CONVEYED TO ADAM BRICK, L.351, PG.550

S. DITCH

NEW ROAD

MAP NO.72
PARCEL NO.91

MAP NO.72
PARCEL NO.89

MAP NO.72
PARCEL NO.88

P.S.M. 5-2354

36" CMP INV=572.72
STM MH RIM=577.31
12'X4' BOX INV=570.97
STM MH RIM=577.26
36" CMP INV=570.81
12'X4' BOX INV=570.88
36" CMP INV=572.88
8"WM
10"WM
12"WM
6"WM
15" CMP INV=574.27
15" CMP INV=574.18
18" HDPE INV=574.41
18" HDPE INV=574.25
36" CMP INV=574.37 TN
36" CMP INV=574.42
CB RIM=578.19
12" CMP INV=575.56 W
15"STM
18" CMP INV=575.51
18" CMP INV=576.45
CB RIM=577.46
12" CMP INV=576.40
12" CMP INV=576.24
12" CMP INV=575.40
12" CMP INV=575.28
10.5'X5' BOX INV=567.30
10.5'X5' BOX INV=567.06
18" HDPE INV=575.28
8"WM
8"GAS
8"MAILBOX
HYD
UP NG 230
UP NG 240
UP NG 252
UP NG 264
UP 278
TELE BOX
GAS
OHW
W
TN

NORTHWEST LINE OF HEIM & LAVOCAT, L.4689, PG.53 & CENTERLINE STREAM

NORTH LINE OF HEIM & LAVOCAT, L.4689, PG.53

S.W. LINE OF HEIM & LAVOCAT, L.4689, PG.53

S.25°05'35"W. 154.10'

N.51°39'37"W. 201.11'

S.51°39'37"E. 235.27'

S.37°54'01"W. 237.73'

S.37°30'44"W. 710.52'

N.37°30'44"E.

CENTERLINE OF IMPROVEMENT

VAULT UNKNOWN

RICHARD A. LILLIS
(REPUTED OWNER)
L.10131, PG.508

DANIEL H. TRIGOBOFF
(REPUTED OWNER)
L.9920, PG.33

JAMES S. COLEMAN
(REPUTED OWNER)
L.8581, PG.189

S.87°23'57"W. 150.00'

S.85°18'21"W. 88.09'

N.89°44'08"W. 513.44'

150.00' N.89°44'08"W.

300'REC./300.27'MEAS. N.00°35'17"W. 267.27'

265.46' S.01°11'12"E.

255.95' N.01°11'12"W.

S.66°47'47"W. 22.36'

S.83°45'21"W. 141.99'

S.89°17'04"W. 110.36'

S.37°54'01"W. 51.00'

4.02'

N.87°13'56"E.

P.E. MAP NO.72, PARCEL NO.92

P.E. MAP NO.73, PARCEL NO.95

MAP NO.73 PARCEL NO.94

MAP NO.72 PARCEL NO.88

FND REBAR W/CAP

FND REBAR

FND IP

FND REBAR W/CAP

N.E. CORNER OF PATRICK F. DONOHUE, L.5919, PG.461

PARALLEL W/ CENTERLINE OF SMITH ROAD

S.E. CORNER OF PATRICK F. DONOHUE, L.5919, PG.461

SMITH ROAD

MILLERSPORT (BUFFALO-MILLERSPORT, PART 2) HIGHWAY

NEW ROAD

EAST LINE LOT 53

CENTERLINE CURVE DATA
DELTA=2°45'29"
D=1°22'45"
L=199.96'

CENTERLINE OF IMPROVEMENT

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 100 150 200 300 400

SCALE: 1"=100'
GRAPHIC SCALE IN FEET

TRUE NORTH @ 78°35' MERIDIAN OF WEST LONGITUDE

THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN UP-TO-DATE ABSTRACT OF TITLE AND IS SUBJECT TO ANY STATE OF FACTS THAT MAY BE REVEALED BY AN EXAMINATION OF SUCH.

MEMBER OF: NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS

MEMBER OF: NIAGARA FRONTIER LAND SURVEYORS ASSOCIATION INC.

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ITEM	DATE	DESCRIPTION

DESIGNED BY:
DRAWN BY: DJR
CHECKED BY: DJR
DATE: MARCH 17, 2022

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STATE OF NEW YORK
DANIEL J. REBAR
LICENSED LAND SURVEYOR
050731

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WWW.WMSCHUTT.COM

TOWN OF AMHERST
COUNTY OF ERIE, STATE OF NEW YORK
PART OF LOT 53, TOWNSHIP 13, RANGE 7
HOLLAND LAND COMPANY'S SURVEY

VACANT LOT MILLERSPORT HWY. & SMITH ROAD TOPOGRAPHIC SURVEY

TS-1

DRAWING SCALE: 1"=100'

SURVEY FILE:D/13027-03
WSA PROJECT NO. 13027

Attachment: SP-2022-03 A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

VACANT LOT

66.84 ACRES

OMATO & SONS
(REPUTED OWNER)
L.9846, PG.585

ALBERT LAVOCAT
(REPUTED OWNER)
L.6830, PG.521

1665.32'MEAS./1665.41'REC. N.00°35'17"W.

EM-CEE REALTY INC.
(REPUTED OWNER)
L.11091, PG.2844

NORTH

401.43' S.21°44'05"W.

WEST LINE OF ALLOYSIUS S. PFOHL, L.4566, PG.225

SOUTH LINE OF ALLOYSIUS S. PFOHL, L.4566, PG.225

S.52°29'17"E. 199.03'

S.37°30'44"W. 710.52'

S.37°54'01"W. 23.73'

MILLERSPORT (BUFFALO-MILLERSPORT, PART 2) HIGHWAY
S.H. NO.1949

JAMES S. COLEMAN
(REPUTED OWNER)
L.8581, PG.189

N.E. CORNER OF PATRICK F. DONOHUE, L.5919, PG.461

150.00'
N.89°44'08"W.

PARALLEL W/ CENTERLINE OF SMITH ROAD

300'REC./300.27'MEAS.

N.00°35'17"W.
267.27'

S.E. CORNER OF PATRICK F. DONOHUE, L.5919, PG.461

513.44' N.89°44'08"W.

150.00' 150.00'
300.00'

SMITH ROAD

DANIEL H. TRIGOBOFF
(REPUTED OWNER)
L.9920, PG.332

S.87°23'57"W.
150.00'

N.01°11'12"W.
255.95'

S.01°11'12"E.
265.46'

S.85°18'21"W.
88.09'

4.02'

S.83°45'21"W.
141.99'

S.66°47'47"W.
22.36'

S.37°54'01"W.
51.00'

S.89°17'04"W.
110.36'

MAP NO.72
PARCEL NO.88

MAP NO.72
PARCEL NO.89

MAP NO.72
PARCEL NO.94

P.E.
MAP NO.72,
PARCEL NO.92

RICHARD A. LILLIS
(REPUTED OWNER)
L.10131, PG.508

NORTHWEST LINE OF HEIM & LAVOCAT, L.4689, PG.53 & CENTERLINE STREAM

NORTH LINE OF HEIM & LAVOCAT, L.4689, PG.53

S.25°05'35"W. 154.10'

235.27' N.51°38'37"W.

P.E.
MAP NO.73,
PARCEL NO.95

S.W. LINE OF HEIM & LAVOCAT, L.4689, PG.53

201.11' S.51°38'37"E.

P.K. NAIL FOUND
STA.5+19+99.91

BM#33+01.36
STA.33+01.67

14" OAK
24" OAK
24" OAK
11" OAK
12" OAK
8" ASH
16" OAK
10" OAK
18" ELM
8" OAK
10" ELM
8" OAK
10" OAK
8" ELM
12" APPLE
10" ELM
10" ASH
8" ASH
10" ELM
27" OAK
36" COTTONWOOD
8" ELM
10" OAK
9" OAK
8" ASH
5" ASH
36" COTTONWOOD
8" OAK
10" ELM
5" ELM
12" ELM
7" ELM
8" OAK
11" ASH
9" ELM
8" ELM
26" APPLE
4" APPLE
5" ELM
12" MAPLE
5" ELM
5" ELM
6" ELM
6" ELM
4" ELM
6" ELM
5" ELM
8" PEAR
8" ELM
6" ELM
5" ELM
8" ELM
5" ELM
9" ELM
8" ELM
9" ELM
7" ELM
4" ELM
6" ELM
5" ELM
6" ELM
5" ELM
12" ASH
8" ELM
7" ELM
10" ELM
8" ELM
11" ELM
8" ELM
8" ASH
5" ASH
8" ASH
12" ELM
12" ELM
7" ELM
10" ASH
7" ELM
7" ELM
8" ASH
6" ELM
6" ELM
9" ELM
6" ELM
6" ASH
8" ELM
24" COTTONWOOD
16" COTTONWOOD
22" COTTONWOOD
8" ELM
12" ELM
9" ELM
9" ELM
5" ELM
5" ELM
8" ELM
10" ELM
4" ELM
10" ELM
4" ASH
7" ASH
14" OAK
4" ELM
17" COTTONWOOD
8" ELM
8" ELM
8" ELM
24" HICKORY
18" HICKORY
9" ELM
16" ELM
12" ELM
8" ELM
6" ASH
8" ELM
6" ASH
12" ELM
14" OAK
20" ELM
19" OAK
12" OAK
11" COTTONWOOD
14" COTTONWOOD
12" COTTONWOOD
12" COTTONWOOD
16" COTTONWOOD
14" COTTONWOOD
22" OAK
25" MAPLE
12" COTTONWOOD
9" ASH
16" COTTONWOOD
11" COTTONWOOD
20" COTTONWOOD
5" COTTONWOOD
16" COTTONWOOD
14" COTTONWOOD
5" COTTONWOOD
18" COTTONWOOD
10" COTTONWOOD
6" MAPLE
9" POPLAR
9" POPLAR
48" COTTONWOOD
40" COTTONWOOD
6" ASH
7" MAPLE
12" OAK
6" ASH
9" OAK
6" ASH
60" COTTONWOOD
10" ELM
13" COTTONWOOD
16" COTTONWOOD
15" OAK
18" OAK
14" COTTONWOOD
14" COTTONWOOD
14" COTTONWOOD
5" ELM
5" ASH
6" ASH
13" COTTONWOOD
16" COTTONWOOD
16" COTTONWOOD
12" OAK
13" COTTONWOOD
16" COTTONWOOD
12" COTTONWOOD
14" COTTONWOOD
12" COTTONWOOD
7" COTTONWOOD
9" COTTONWOOD
12" COTTONWOOD
10" COTTONWOOD
10" COTTONWOOD
8" COTTONWOOD
14" COTTONWOOD
12" COTTONWOOD
25" COTTONWOOD
14" COTTONWOOD
12" COTTONWOOD

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN UP-TO-DATE ABSTRACT OF TITLE AND IS SUBJECT TO ANY STATE OF FACTS THAT MAY BE REVEALED BY AN EXAMINATION OF SUCH.

0 60 90 120 180 240
SCALE: 1"=40'
GRAPHIC SCALE IN FEET

MEMBER OF:
NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS

MEMBER OF:
NIAGARA FRONTIER LAND SURVEYORS ASSOCIATION INC.

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ITEM	DATE	DESCRIPTION

DESIGNED BY:
DRAWN BY: AJK/DJR
CHECKED BY: DJR
DATE: JUNE 01, 2022

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STATE OF NEW YORK
DANIEL J. REGAN
050720
LICENSED LAND SURVEYOR

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TOWN OF AMHERST
COUNTY OF ERIE, STATE OF NEW YORK
PART OF LOT 53, TOWNSHIP 13, RANGE 7
HOLLAND LAND COMPANY'S SURVEY

VACANT LOT MILLERSPORT HWY. & SMITH ROAD TREE SURVEY

TS-2

DRAWING SCALE: 1" = 60'

SURVEY FILE: D/13027-TREES
WSA PROJECT NO. 13027

Attachment: SP-2022-03 A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOTE:
1. PRIOR TO AND THROUGHOUT CONSTRUCTION, THE LIMIT OF WORK LINE SHOULD BE ESTABLISHED AND REGULARLY INSPECTED. TREE CLEARING CANNOT TAKE PLACE UNTIL THE LIMIT OF WORK LINE IS ESTABLISHED AND THE WETLANDS ARE PROPERLY MARKED. NO CONSTRUCTION VEHICLES SHOULD BE ACTIVE OR STAGED IN THESE MARKED LOCATIONS.

WETLANDS

16,904 SF 0.39 ACRES OF DISTURBANCE

25,725 SF 0.59 ACRES OF MITIGATION

TND ZONING	
PHASE 1	
PATIO HOME UNITS (50'X50')	38 UNITS
4-UNIT TOWNHOMES	7 STRUCTURES (28 UNITS)
2-UNIT TOWNHOMES	6 STRUCTURES (12 UNITS)
TOTAL PROPOSED RESIDENTIAL UNITS IN PHASE 1 = 78 UNITS	

OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION (OPRHP)/NEW YORK STATE HISTORIC PRESERVATION OFFICE (SHPO) AVOIDANCE PLAN FOR THE PROTECTION OF ARCHEOLOGICAL SITES

SHORT TERM SITE AVOIDANCE/PROTECTION

- THE SITE(S) BOUNDARY (INCLUDING BUFFER) WILL BE CLEARLY DELINEATED ON THE FINAL CONSTRUCTION PLANS AND IDENTIFIED AS "ENVIRONMENTALLY SENSITIVE AREA – NO ACCESS."
- TEMPORARY FENCING SHALL BE INSTALLED AROUND THE BOUNDARIES OF THE AVOIDANCE AREA PRIOR TO AND CLEARING OR CONSTRUCTION ACTIVITIES WITHIN THE APE AND SHALL BE MAINTAINED UNTIL ALL CONSTRUCTION HAS CEASED.
- A PRECONSTRUCTION MEETING WITH THE CONSTRUCTION CONTRACTOR(S) IS TO BE REQUIRED TO NOTIFY THOSE IN CHARGE OF THE REQUIREMENTS TO PROTECT AND AVOID THE ARCHAEOLOGICAL SITE(S).
- INADVERTENT CONSTRUCTION IMPACTS ARE TO BE REPORTED TO THE SHPO IMMEDIATELY. ACTIVITY SHALL CEASE IN THE VICINITY OF THE SITE, SO THE DAMAGE CAN BE ASSESSED, AND A RECOMMENDATION PROVIDED TO REMEDIATE THE SITUATION.
- EXISTING LANDSCAPE AT THE SITE(S)WILL BE MAINTAINED. ANY PROPOSED MODIFICATIONS WILL REQUIRE CONSULTATION WITH THE SHPO.
- IN THE EVENT THAT HUMAN REMAINS ARE ENCOUNTERED DURING CONSTRUCTION, ALL WORK MUST STOP IN THE VICINITY OF THE FIND AND BE REPORTED TO THE SHPO.
- AFTER CONSTRUCTION IF FULLY COMPLETED, PROTECTIVE FENCES MAY BE REMOVED.

LONG TERM SITE AVOIDANCE/PROTECTION

- STATE AND FEDERAL REGULATIONS THAT INCLUDE RESTRICTIONS ASSOCIATED WITH THIS PROJECT WILL INCLUDE PROVISIONS FOR SITE(S) AVOIDANCE/PROTECTION.
- UNAUTHORIZED ACTIVITIES WITHIN THE SITE BOUNDARIES WILL REQUIRE NOTIFICATION TO THE SHPO AT (518)237-8643.
- SHOULD IMPACTS TO THE SITE BE PROPOSED IN THE FUTURE, SHPO MUST BE CONSULTED PRIOR TO CONSTRUCTION AND THE PROJECT SUBMITTED TO OUR OFFICE FOR REVIEW AND COMMENT.

CALL 811 or 800-962-7962
IT'S THE LAW
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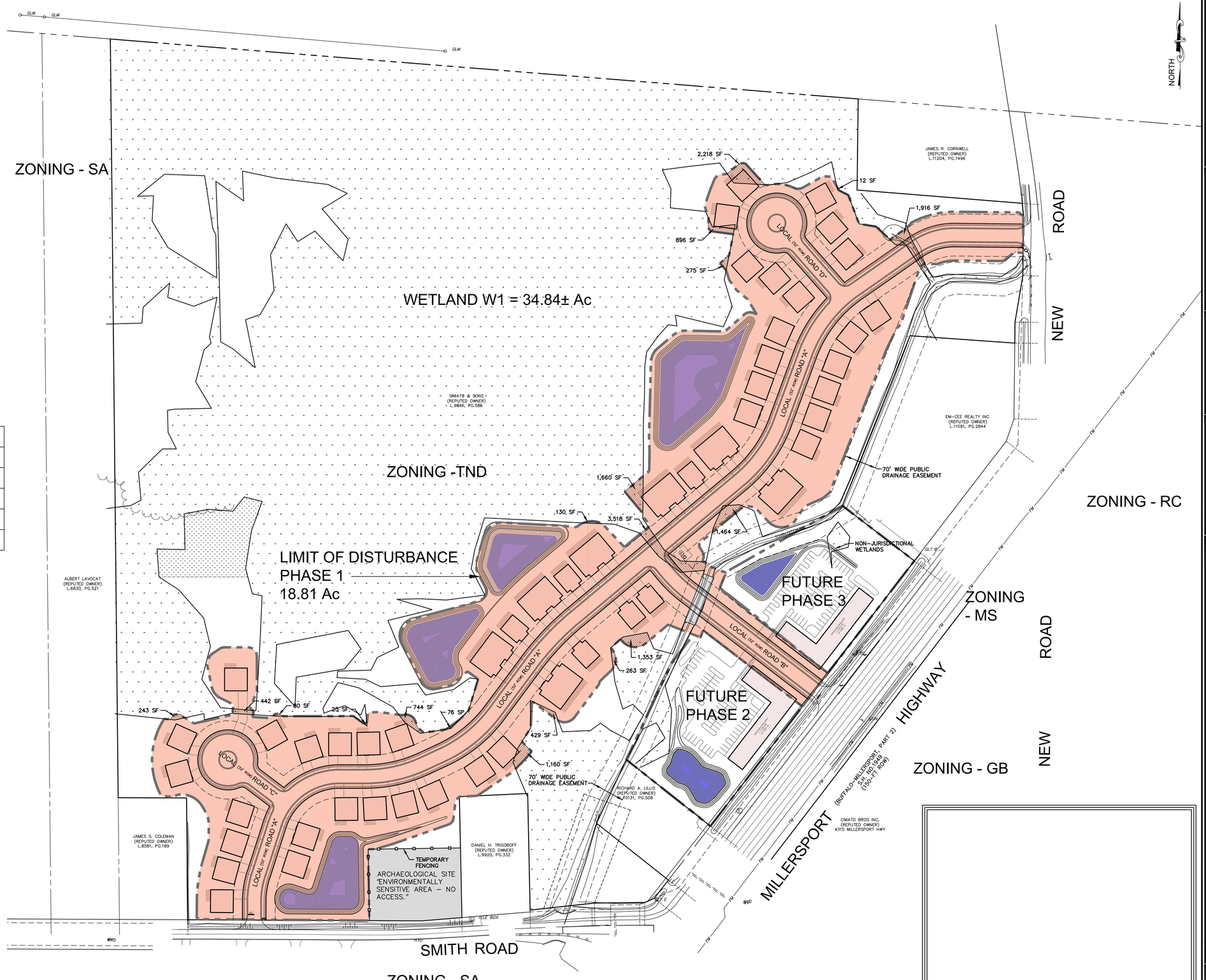
New York



DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/18/24	ADDED PHASES, REMOVED COLOR AERIAL

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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WILLIAM E. SCHUTT
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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

OVERALL SITE PLAN

THIS SHEET ISSUED APRIL 18, 2024

OP

DRAWING SCALE: 1"=100'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOTES

1. ASPHALT SIDEWALK
2. STORMWATER MANAGEMENT AREA
3. BIORETENTION AREA
4. LANDSCAPED (LAWN) AREA, TOPSOIL AND (GRASS) SEED
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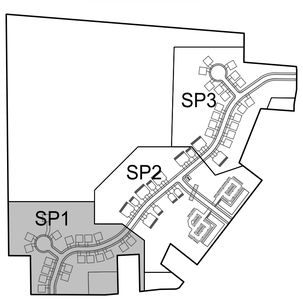
9. TYPICAL 20' DRIVEWAY
10. WETLAND DISTURBANCE
11. PRESERVE AND PROTECT WETLANDS
12. PROPOSED PATIO OR DECK
13. PROPOSED DECK ONLY

SITE NOTES

1. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS (BY OTHERS) FOR EXACT NUMBERS, LOCATIONS, AND DIMENSIONS OF VESTIBULE, EXIT PORCHES, PRECISE BUILDING DIMENSIONS, EXACT LOCATIONS AND NUMBER OF BUILDING UTILITY ENTRANCES AND ALL ROOF DRAIN AND WATER/SANITARY EXIT POINTS.
2. COORDINATE START-UP AND ALL CONSTRUCTION ACTIVITIES WITH OWNER'S CONSTRUCTION DIVISION.
3. CONSTRUCTION METHODS AND MATERIALS NOT SPECIFIED IN THESE PLANS ARE TO MEET OR EXCEED OWNER'S STANDARD SPECIFICATIONS OR AS SPECIFIED BY THE OWNER'S CONSTRUCTION
4. THE CONTRACTOR SHALL CONDUCT THE WORK IN A MANNER THAT WILL ENSURE, AS FAR AS PRACTICABLE, THE LEAST OBSTRUCTION TO TRAFFIC AND SHALL PROVIDE FOR THE CONVENIENCE AND SAFETY OF THE GENERAL PUBLIC AND RESIDENTS, ALONG AND ADJACENT TO HIGHWAYS IN THE CONSTRUCTION AREA, IN AN ADEQUIATE AND SATISFACTORY MANNER.
5. THE CONTRACTOR SHALL LOCATE, MARK, SAFEGUARD AND PRESERVE ALL SURVEY CONTROL MONUMENTS AND R.O.W. MONUMENTS IN THE AREAS OF CONSTRUCTION.
6. REFERENCES TO NYSDOT STANDARDS SHALL MEAN THE "STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, OFFICE OF ENGINEERING, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, MAY 1, 2021," WITH ALL CURRENT ADDENDUMS.
7. PAVEMENT STRIPING AND PAINTING TRAFFIC CONTROL MARKINGS SHALL BE PAINTED WITH A WHITE TRAFFIC MARKING PAINT AS INDICATED ON THE DRAWINGS. PAINT SHALL BE SHERWIN WILLIAMS "PRO-MAR"TRAFFIC MARKING PAINT, SERIES B29.Y.2, OR GLIDDEN TRAFFIC PAINT # 63228. -ENTRANCE DIRECTIONAL ARROWS SHALL BE MARKED ON PAVEMENT IN WHITE IN LOCATION AND OF SIZE INDICATED ON DRAWINGS. -PAINT CONCRETE BASE AND BASE PLATE AT ALL PARKING LOT LIGHTING STANDARDS AND STEEL PIPE BASE OF HANDICAPPED PARKING IDENTIFICATION SIGN.
8. STUB EMPTY 2" CONDUIT OUT FROM BUILDING WALL. ROUTE TO PROPERTY LINE AND CAP FOR TELEPHONE INCOMING SERVICE. ROUTE CONDUIT MINIMUM OF 2'-6" BELOW FINISHED GRADE. COORDINATE ALL REQUIREMENTS WITH TELEPHONE CO. REPRESENTATIVE INCLUDING ALL TRENCHING, BACKFILL, ETC. AS MAY BE REQUIRED FOR A COMPLETE INCOMING UNDERGROUND TELEPHONE SERVICE.
9. GRADING SHALL BE KEPT WITHIN THE LIMIT SHOWN ON THE GRADING PLAN. CONTRACTOR SHALL PROTECT EXISTING TREES AND VEGETATION OUTSIDE THE LIMITS OF GRADING.
10. BUILDING DIMENSIONS ARE NOT INTENDED FOR BUILDING LAYOUT. SPECIFIC LAYOUT DIMENSIONS SHOULD UTILIZE THE ACTUAL BUILDING PLANS. ANY DISCREPANCIES BETWEEN BUILDING PLANS AND THOSE INDICATED ON THESE PLANS SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHOULD STAKE OUT AND VERIFY EACH OF THE DIMENSIONS INDICATED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. THE CONTRACTOR SHOULD LOCATE ALL PERTINENT PROPERTY, EASEMENT AND/OR RIGHT OF WAY LINES PRIOR TO COMMENCEMENT OF THE WORK. THE CONTRACTOR SHALL NOT TRESPASS OR COMMENCE WORK ON OTHER PROPERTIES, EASEMENTS, OR RIGHT OF WAYS WITHOUT PROPERLY NOTIFYING AND MEETING THE NECESSARY REQUIREMENTS OF THE PROPERTY OWNER OR AUTHORIZED AGENCY.
12. ALL TRAFFIC CONTROL SIGNS, PAVEMENT MARKINGS AND TRAFFIC CONTROL SHALL CONFORM TO THE 2009 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT NYS SUPPLEMENT AND NYSDOT 2020 WORK ZONE TRAFFIC CONTROL TYPICALS REGION 5 MANUALS.
13. THE LOCATION OF UTILITIES AND OTHER FEATURES, AS SHOWN ON THE PLANS, ARE FROM THE BEST INFORMATION AVAILABLE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD INVESTIGATE AND DETERMINE THE EXACT LOCATIONS OF UTILITIES. PRIOR TO CONSTRUCTION IN ORDER TO AVOID CONFLICTS. IT IS THE CONTRACTOR'S. RESPONSIBILITY TO PROTECT, SUPPORT AND MAINTAIN ALL EXISTING UTILITIES DURING THE COURSE OF HIS OPERATIONS. DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
14. ALL WORK WITHIN THE ROW OF MILLERSPORT HIGHWAY AND SMITH ROAD TO CONFORM TO ERIE COUNTY/NYSDOT REQUIREMENTS AND SHALL REQUIRE OBTAINING A ERIE COUNTY/NYSDOT HIGHWAY WORK PERMIT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL HIGHWAY WORK PERMITS AND FOR GENERATION OF REQUIRED MAINTENANCE AND PROTECTION OF TRAFFIC PLAN. OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL OTHER PERMITS NOT DESCRIBED HERE IN THIS NOTE (I.E. SWPPP,WATER PERMITS)
15. THE PLANS AND SPECIFICATIONS FOR THIS PROJECT HAVE BEEN PREPARED WITH CARE AND ARE INTENDED TO SHOW AS CLEARLY AS IS PRACTICABLE THE WORK REQUIRED TO BE DONE. THE CONTRACTOR MUST REALIZE, HOWEVER, THAT CONSTRUCTION DETAILS CAN NOT ALWAYS BE ACCURATELY ANTICIPATED AND THAT IN EXECUTING THE WORK, FIELD CONDITIONS MAY REQUIRE REASONABLE MODIFICATIONS IN THE DETAILS OF PLANS AND QUANTITIES OF WORK INVOLVED. ALL WORK MUST BE CARRIED OUT TO MEET ACTUAL FIELD CONDITIONS TO THE SATISFACTION OF THE ENGINEER AND DEVELOPER IN ACCORDANCE WITH THEIR INSTRUCTIONS.
16. THE CONTRACTOR SHALL BE AWARE THAT SOIL CONDITIONS ARE UNKNOWN AND ASSUME TO VARY AT DIFFERENT DEPTHS AND LOCATIONS.

KEY PLAN



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LEGEND

- RIGHT-OF-WAY
- BUILDING SETBACK
- LIMIT OF DISTURBANCE (PHASE 1)

DETAILS OF DEVELOPMENT		
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	MIN./MAX.	PROVIDED
DISTRICT AREA	40 AC MIN.	66.8± AC
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PARKING	PATIO HOMES: 2SP (DRIVEWAY) 1SP (PUBLIC ROAD)	TOWNHOMES: 1SP (DRIVEWAY) 1SP (PUBLIC ROAD)

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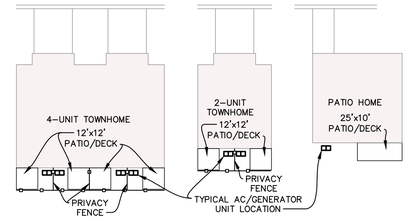
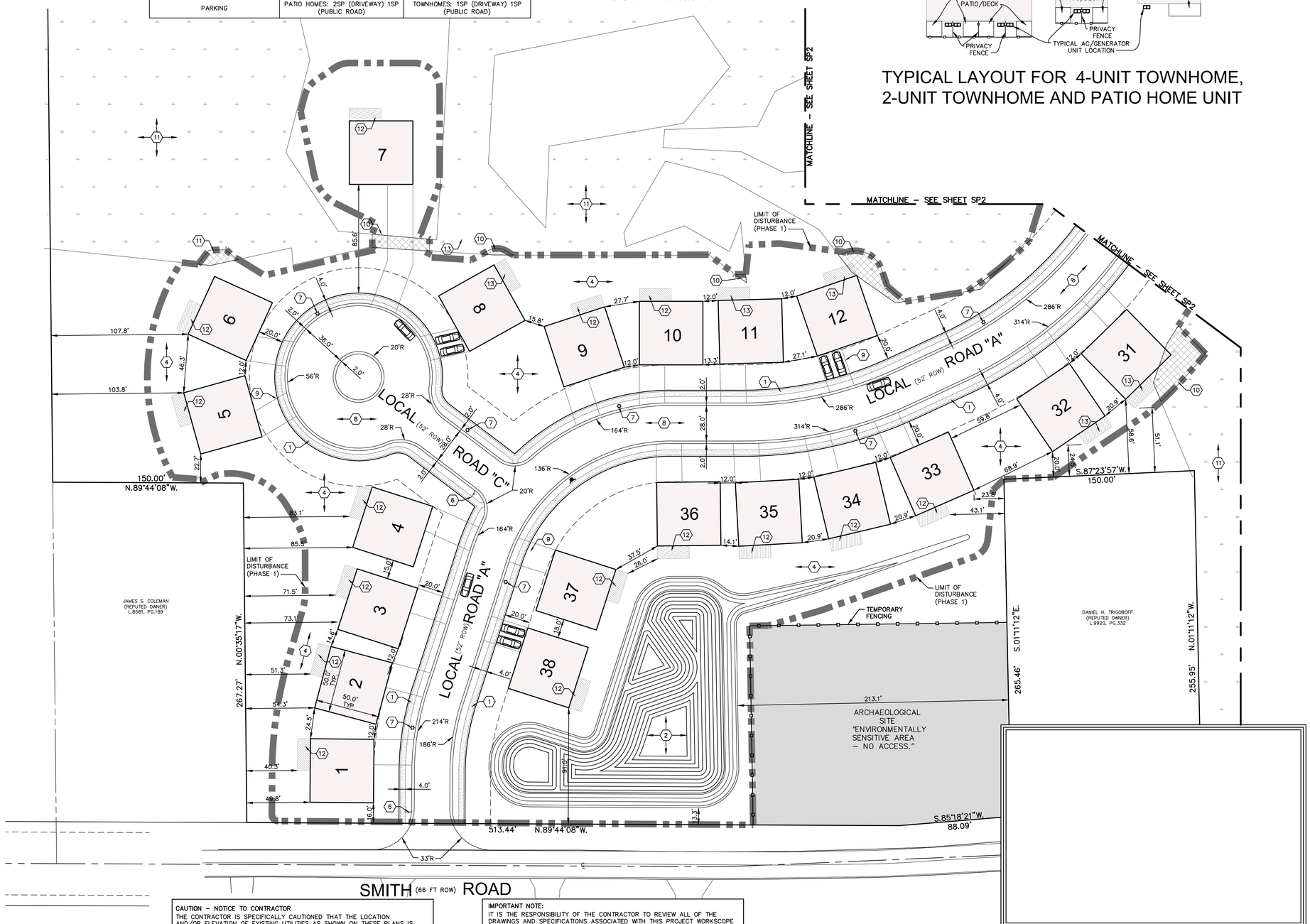
   100 YR BASE FLOOD ELEVATION = 580.0'
   FIRM MAP #36029C0086H
2. SEE SHEET PD10 FOR NOTES,/DETAIL ADDRESSING FIRE LANE "NO PARKING" DESIGNATION.

NORTH



TYPICAL LAYOUT FOR 4-UNIT TOWNHOME, 2-UNIT TOWNHOME AND PATIO HOME UNIT



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DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/18/24	ADDED DIMENSIONS, PATIOS, PARKING, NOTES

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

SITE PLAN

THIS SHEET ISSUED APRIL 18, 2024

SP1

DRAWING SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03 A_drawings. 051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

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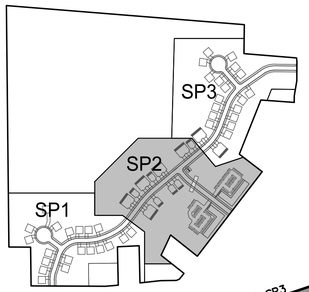
   FIRM MAP #36029C0086H
2. SEE SHEET PD10 FOR NOTES/DETAIL ADDRESSING FIRE LANE "NO PARKING" DESIGNATION.

KEY PLAN



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LEGEND

- RIGHT-OF-WAY
- BUILDING SETBACK
- LIMIT OF DISTURBANCE (PHASE 1)
- (9) NUMBER OF PARKING SPACES
- FUTURE DEVELOPMENT (PHASE 2 & 3)

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100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160
SCALE: 1"=40'
GRAPHIC SCALE IN FEET

DRAWING REVISIONS

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SP2

DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

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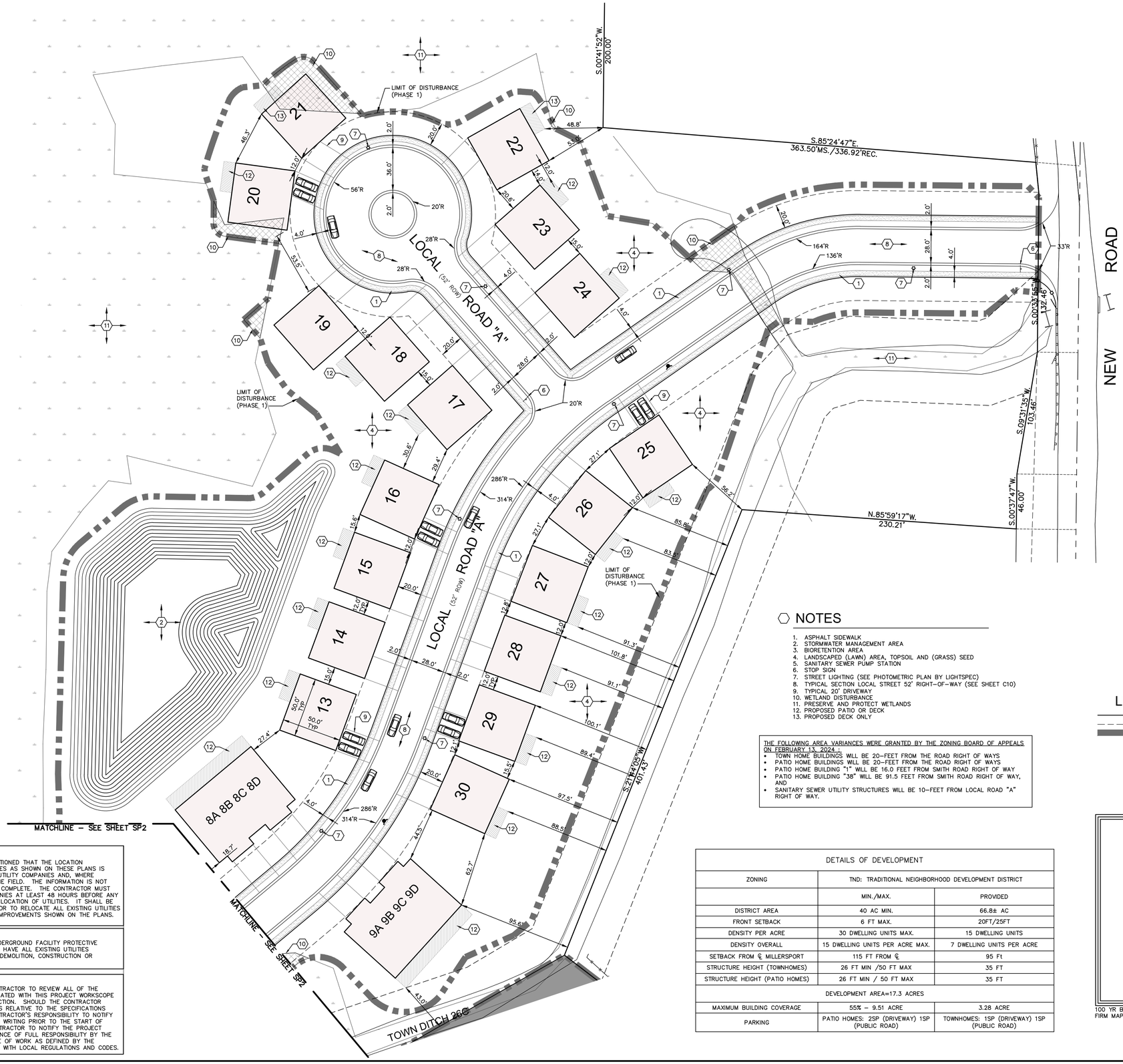

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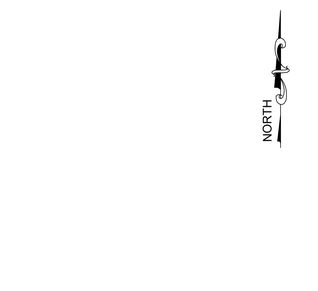

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GRAPHIC SCALE IN FEET

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DATE:

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STATE OF NEW YORK
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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

SITE PLAN

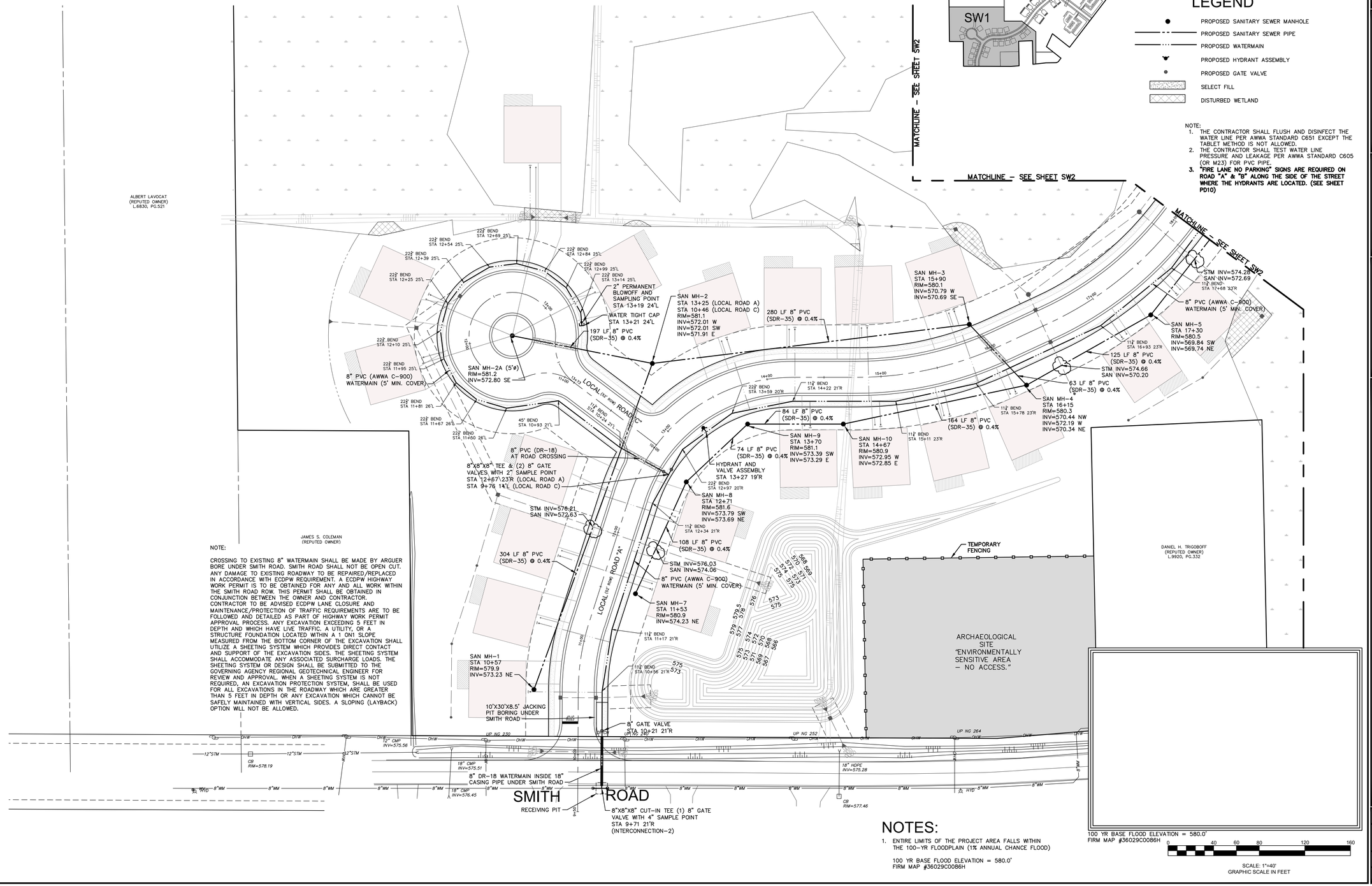
THIS SHEET ISSUED APRIL 18, 2024

SP3

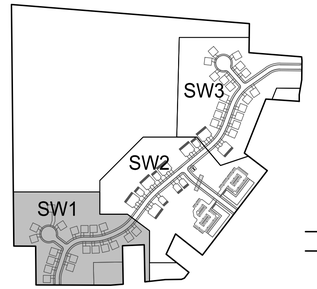
DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A, drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



KEY PLAN



NORTH

CALL 811 or 800-962-7962
IT'S THE LAW
CALL BEFORE YOU DIG
STOP
Know what's below.
Call 811 before you dig.
Dig Safely.
New York

LEGEND

- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER PIPE
- PROPOSED WATERMAIN
- PROPOSED HYDRANT ASSEMBLY
- PROPOSED GATE VALVE
- SELECT FILL
- DISTURBED WETLAND

NOTE:
1. THE CONTRACTOR SHALL FLUSH AND DISINFECT THE WATER LINE PER AWWA STANDARD C651 EXCEPT THE TABLET METHOD IS NOT ALLOWED.
2. THE CONTRACTOR SHALL TEST WATER LINE PRESSURE AND LEAKAGE PER AWWA STANDARD C605 (OR M23) FOR PVC PIPE.
3. **"FIRE LANE NO PARKING" SIGNS ARE REQUIRED ON ROAD "A" & "B" ALONG THE SIDE OF THE STREET WHERE THE HYDRANTS ARE LOCATED. (SEE SHEET PD10)**

NOTES:

1. ENTIRE LIMITS OF THE PROJECT AREA FALLS WITHIN THE 100-YR FLOODPLAIN (1% ANNUAL CHANCE FLOOD)

   100 YR BASE FLOOD ELEVATION = 580.0'
   FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/18/24	ADDED FIRE LANE NOTE

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

SANITARY AND WATERMAIN PLAN

THIS SHEET ISSUED APRIL 18, 2024

SW1

DRAWING SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03 A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOTES:

1. ENTIRE LIMITS OF THE PROJECT AREA FALLS WITHIN THE 100-YR FLOODPLAIN (1% ANNUAL CHANCE FLOOD)

   100 YR BASE FLOOD ELEVATION = 580.0'
   FIRM MAP #36029C0086H

NOTE:
1. THE PERMITTEE IS RESPONSIBLE FOR RESTORATION TO ANY LANDSCAPE DISTURBED AS A RESULT OF THEIR ACTIVITIES. THIS INCLUDES BUT NOT EXCLUSIVE TO REPAIRS TO SIDEWALKS AND GRASS.
2. ALL RESTORATION WORK REQUIREMENTS SHALL COMPLY WITH NYSDOT SPECIFICATIONS FOR MATERIAL AND/OR WORKMANSHIP. RESTORATION WORK SHALL PROGRESS WITHOUT UNDUE DELAY AFTER THE PRIME UTILITY WORK IS INSTALLED.
3. DITCH LINES MUST BE RESTORED TO THEIR ORIGINAL SLOPE (SIDE SLOPES) AND FLOW LINE UNDER THE PERMIT
4. THE BORING AND RECEIVING PITS SHALL BE LOCATED BEHIND THE NORMAL DITCH LINE OR TOE OF SLOPE AND IN NO INSTANCE, SHALL THE EDGE OF THE EXCAVATION, NEAREST THE PAVEMENT, BE LESS THAN 10-FT, MEASURED LATERALLY, FROM THE EDGE OF THE SHOULDER. HYDRAULIC JET BORING WILL NOT BE ALLOWED.
5. THE LINE SHALL BE SLEEVED (CASED) WITHIN THE NEW YORK STATE RIGHT-OF-WAY.

NOTE:

CROSSING TO EXISTING 10" FORCEMAIN SHALL BE MADE BY PUSH METHODS UNDER MILLERSPORT HIGHWAY. MILLERSPORT HIGHWAY SHALL NOT BE OPEN CUT. ANY DAMAGE TO EXISTING ROADWAY TO BE REPAIRED/REPLACED IN ACCORDANCE WITH NYSDOT REQUIREMENT. A NYSDOT HIGHWAY WORK PERMIT IS TO BE OBTAINED FOR ANY AND ALL WORK WITHIN THE MILLERSPORT HIGHWAY ROW. THIS PERMIT SHALL BE OBTAINED IN CONJUNCTION BETWEEN THE OWNER AND CONTRACTOR. CONTRACTOR TO BE ADVISED NYSDOT LANE CLOSURE AND MAINTENANCE/PROTECTION OF TRAFFIC REQUIREMENTS ARE TO BE FOLLOWED AND DETAILED AS PART OF HIGHWAY WORK PERMIT APPROVAL PROCESS. ANY EXCAVATION EXCEEDING 5 FEET IN DEPTH AND WHICH HAVE LIVE TRAFFIC. A UTILITY, OR A STRUCTURE FOUNDATION LOCATED WITHIN A 1 ON 1 SLOPE MEASURED FROM THE BOTTOM CORNER OF THE EXCAVATION SHALL UTILIZE A SHEETING SYSTEM WHICH PROVIDES DIRECT CONTACT AND SUPPORT OF THE EXCAVATION SIDES. THE SHEETING SYSTEM SHALL ACCOMMODATE ANY ASSOCIATED SURCHARGE LOADS. THE SHEETING SYSTEM OR DESIGN SHALL BE SUBMITTED TO THE GOVERNING AGENCY REGIONAL GEOTECHNICAL ENGINEER FOR REVIEW AND APPROVAL. WHEN A SHEETING SYSTEM IS NOT REQUIRED, AN EXCAVATION PROTECTION SYSTEM, AS DESCRIBED IN SECTION 552 OF THE 2022 NYSDOT STANDARD SPECIFICATIONS, SHALL BE USED FOR ALL EXCAVATIONS IN THE ROADWAY WHICH ARE GREATER THAN 5 FEET IN DEPTH OR ANY EXCAVATION WHICH CANNOT BE SAFELY MAINTAINED WITH VERTICAL SIDES. A SLOPING (LAYBACK) OPTION WILL NOT BE ALLOWED.

NORTH

MATCHLINE – SEE SHEET SW3

MATCHLINE – SEE SHEET SW1

MATCHLINE – SEE SHEET SW1

PRIVATE PRECASTE CONCRETE 10' Ø WASTE WATER PUMP STATION
STA 23+48 (LOCAL ROAD A)
STA 14+44 (LOCAL ROAD B)
RIM=582.0
INV=563.29 NE
INV=567.18 SW

SAN MH-13
STA 23+48
RIM=581.7
INV=569.40 NE
INV=569.10 SW
INV=569.00 SE

80 LF 8" PVC (SDR-35) @ 0.4%

15 LF 8" PVC (SDR-35) @ 0.4%

SAN MH-20 (DROP INLET)
STA 23+69
RIM=581.9
INV=568.68 NW
INV=569.73 NE
INV=563.46 SE
INV=563.36 SW

STM INV=574.41
SAN INV=569.26

8" GATE VALVE
STA 23+23 21'R

STM INV=574.23
SAN INV=569.39

8" PVC (DR-18)
AT ROAD CROSSING

8"X8"X8" TEE & (1) 8" GATE VALVES WITH 2" SAMPLE POINT
STA 22+76 21'R (LOCAL ROAD A)
STA 14+64 21'L (LOCAL ROAD B)

PRIVATE PRECAST CONCRETE 6'X6' VALVE PIT

FORCEMAIN MARKER

HYDRANT AND VALVE ASSEMBLY
STA 22+61 19'R

344 LF 8" PVC (SDR-35) @ 0.4%

AIR RELEASE VALVE
STA 14+16
RIM=581.5

11½° BEND
STA 14+00 33'L

8" GATE VALVE
STA 13+64 21'L

8" PVC (AWWA C-900) WATERMAIN (5' MIN. COVER)

45° BEND STA 13+60 21'L

22½° BEND STA 13+55 26'L

45° BEND STA 13+44 64'L

45° BEND STA 13+39 67'L

(SEE 26B CROSSING DETAIL)

345 LF 8" PVC (SDR-35) @ 0.4%

SAN MH-12
STA 20+09
RIM=581.6
INV=570.58 SW
INV=570.48 NE

STM INV=572.28
SAN INV=570.61

11½° BEND
STA 20+61 21'R

151 LF 8" PVC (SDR-35) @ 0.4%

STM INV=572.26
SAN INV=568.52

SAN MH-6
STA 19+93
RIM=581.4
INV=568.66 SW
INV=568.56 NE

11½° BEND
STA 19+56 21'R

SAN MH-11
STA 18+62
RIM=581.4
INV=571.19 NE

ROAD "A"

LOCAL (50')

26B LF 8" PVC (SDR-35) @ 0.4%

8" GATE VALVE
STA 18+37 21'R

HYDRANT AND VALVE ASSEMBLY
STA 18+27 19'R

FORCEMAIN MARKER

AIR RELEASE VALVE
STA 12+86
RIM=581.8

219 LF 8" PVC (SDR-35) @ 0.4%

SAN MH-25
STA 12+10
RIM=581.7
INV=572.18 SW
INV=564.34 NW

102 LF 8" PVC (SDR-35) @ 0.4%

8" GATE VALVE
STA 12+91 21'L

45° BEND STA 13+02 24'L

45° BEND STA 13+05 30'L

45° BEND STA 12+99 52'L

45° BEND STA 13+02 56'L

SAN MH-24
STA 12+10
RIM=581.7
INV=572.59 NE

563 LF PRIVATE 4" PVC (DR-18) FORCEMAIN 4.5' MIN. COVER

LOCAL (50') ROAD "B"

HYDRANT AND VALVE ASSEMBLY
STA 11+96 26'L

8" PVC (AWWA C-900) WATERMAIN (5' MIN. COVER)

8" GATE VALVE
STA 10+16 21'L

10"X10"X8" CUT-IN TEE (1) 10" GATE VALVE WITH 4" SAMPLE POINTS
STA 10+08 21'L
(SEE INTERCONNECTION-1)

TOWN DITCH 26C

PROPOSED BUILDING
1 LOAD 38'
FF=581.5

PROPOSED BUILDING
1 LOAD 38'
FF=583.5

PROPOSED BUILDING
1 LOAD 38'
FF=585.5

PROPOSED BUILDING
1 LOAD 38'
FF=587.5

PROPOSED BUILDING
1 LOAD 38'
FF=589.5

PROPOSED BUILDING
1 LOAD 38'
FF=591.5

10'X10'X8.5' LOCKING PIT

FORCEMAIN MARKER

NOTE:
IF ANY DISTURBANCE TO EXISTING DITCH DURING CONSTRUCTION, ITS THE CONTRACTORS RESPONSIBILITY TO RESTORE THE DITCH TO ITS EXISTING CONDITION.

NOTE:
CONTRACTOR ADVISED TO EXCAVATE SEVERAL TEST PITS PRIOR TO CONSTRUCTION TO CONFIRM EXISTING 10" FORCEMAIN LOCATION AND DEPTH

4"X10" FORCEMAIN CONNECTION

4' DIAMETER DOGHOUSE MANHOLE (1) 4" GATE VAVE & (1) 10" GATE VALVE
(SEE DETAIL ON SHEET SS4)

12'X8'X8.5' RECEIVING PIT

NOTE:
IF ANY DISTURBANCE TO EXISTING DITCH DURING CONSTRUCTION. ITS THE CONTRACTORS RESPONSIBILITY TO RESTORE THE DITCH TO ITS EXISTING CONDITION.

15" CASING PIPE UNDER MILLERSPORT HIGHWAY

LOOP 4350

RIGHT OF WAY 1934

MILLERSPORT HIGHWAY (BUFFALO-MILLERSPORT, PART 2) S.H. NO.1949 (150-FT ROW)

RICHARD A. LILLIS (REPUTED OWNER) L.10131, PG.508

CIMATO BROS INC. (REPUTED OWNER) 4315 MILLERSPORT HWY

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

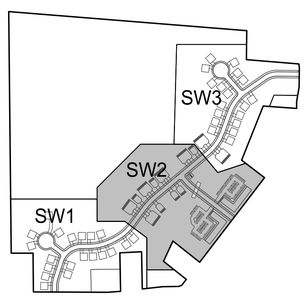
0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

LEGEND

- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER PIPE
- PROPOSED WATERMAIN
- PROPOSED HYDRANT ASSEMBLY
- PROPOSED GATE VALVE
- SELECT FILL
- DISTURBED WETLAND

KEY PLAN



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DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/18/24	REVISED HYDRANT LOCATION, ADDED FIRE LANE NOTE

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
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SANITARY AND WATERMAIN PLAN

THIS SHEET ISSUED APRIL 18, 2024

SW2

DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03 A_drawings_051624 (28829 : SP-2022-03_A_4300 Millersport Hwy)

NOTES:

1. ENTIRE LIMITS OF THE PROJECT AREA FALLS WITHIN THE 100-YR FLOODPLAIN (1% ANNUAL CHANCE FLOOD)

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   FIRM MAP #36029C0086H

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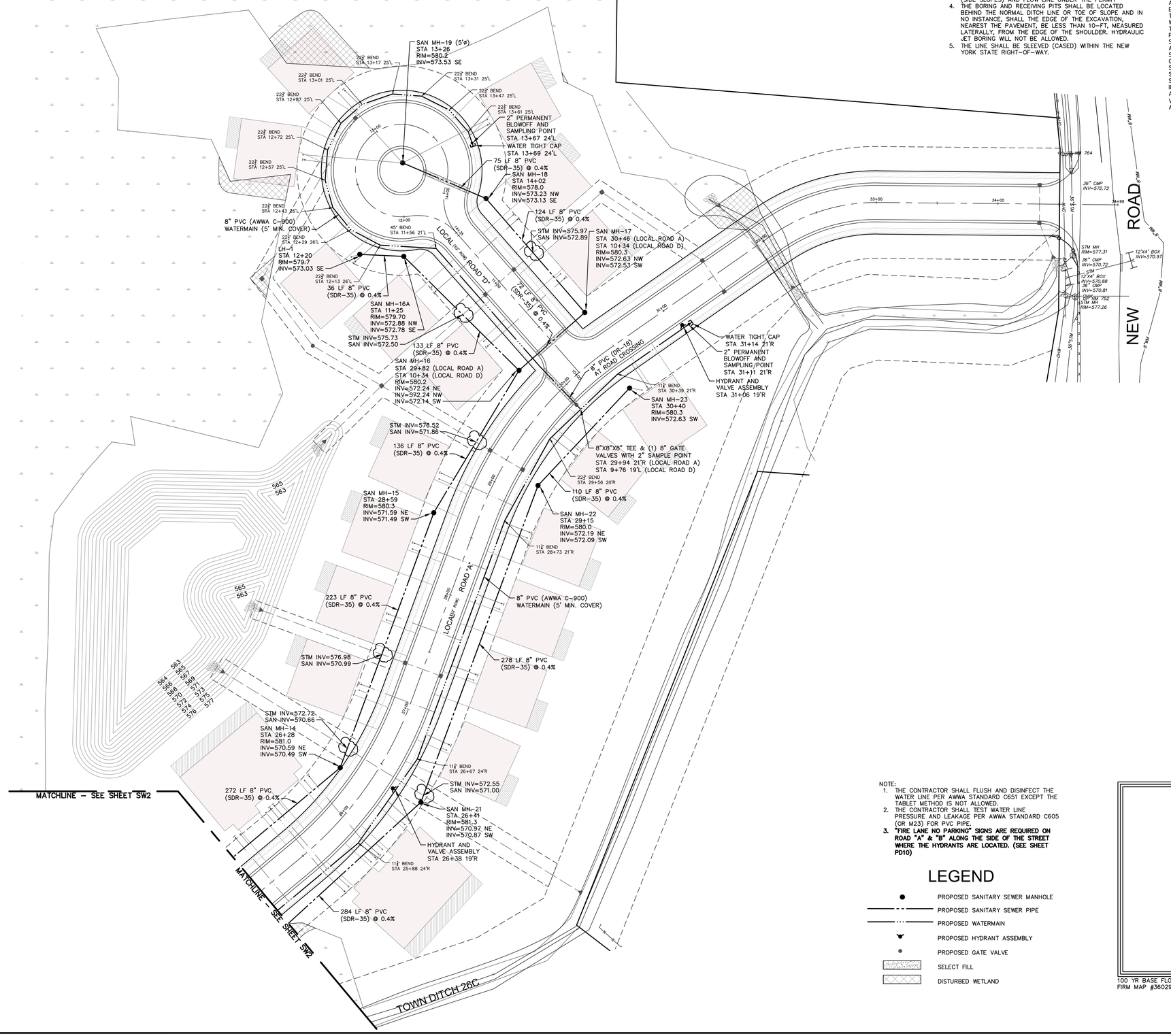
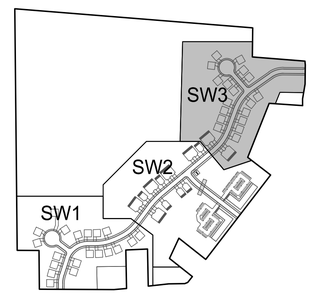


KEY PLAN



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LEGEND

- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER PIPE
- PROPOSED WATERMAIN
- PROPOSED HYDRANT ASSEMBLY
- PROPOSED GATE VALVE
- SELECT FILL
- DISTURBED WETLAND

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

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New York

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/18/24	MOVED HYDRANT AT END OF LINE ADDED FIRE LANE NOTE

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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SANITARY AND WATERMAIN PLAN

THIS SHEET ISSUED APRIL 18, 2024

SW3

DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

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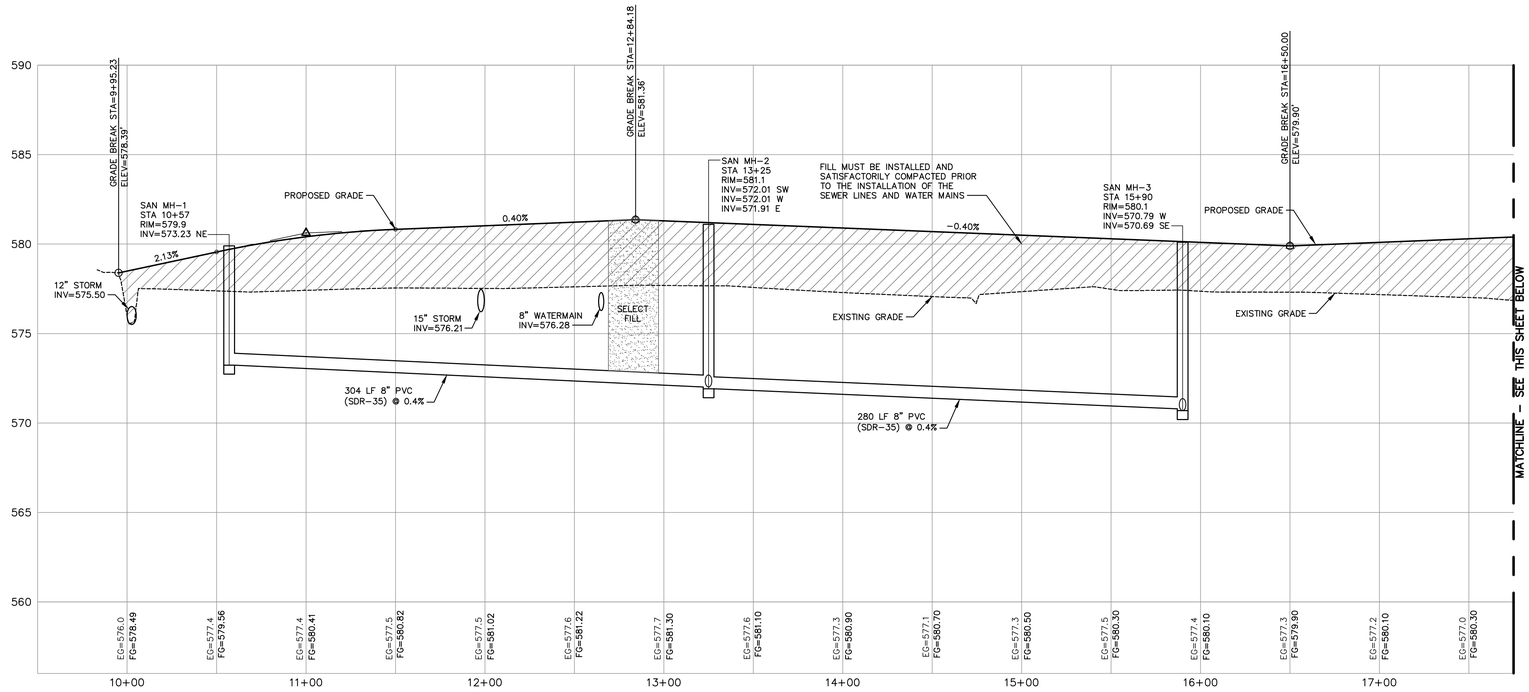
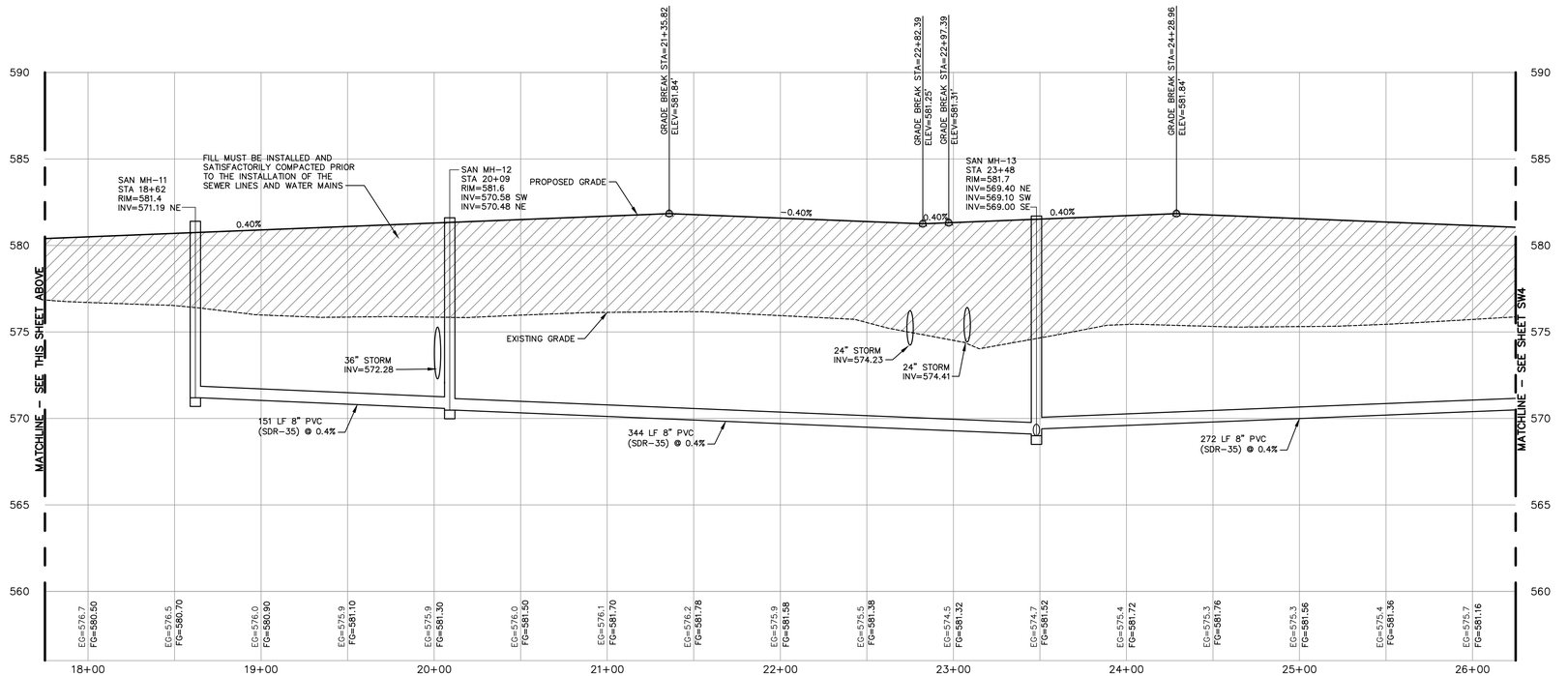


LOCAL ROAD A (LEFT SIDE)

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



LOCAL ROAD A (LEFT SIDE)

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

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SANITARY AND WATERMAIN PROFILE
LOCAL ROAD A (LEFT SIDE)

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SW4

DRAWING SCALE: 1"=40'

WSA PROJECT NO. 13027C

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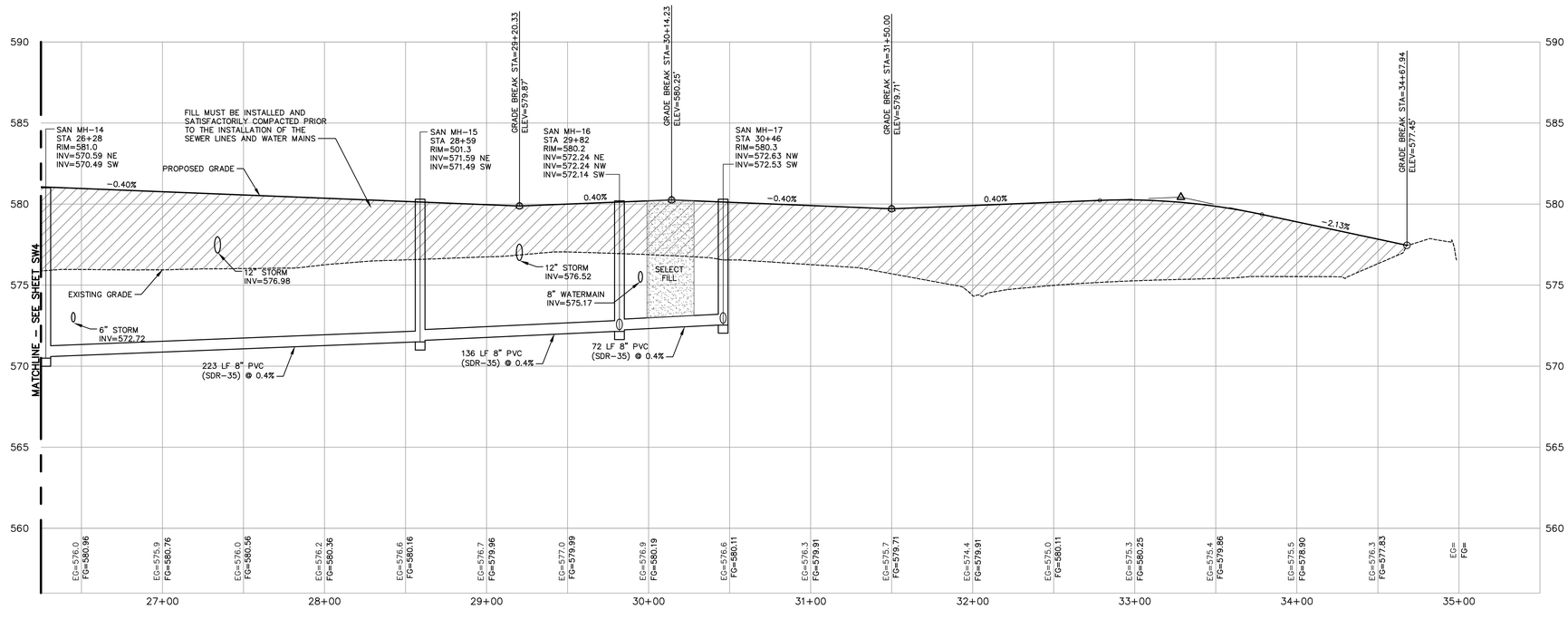
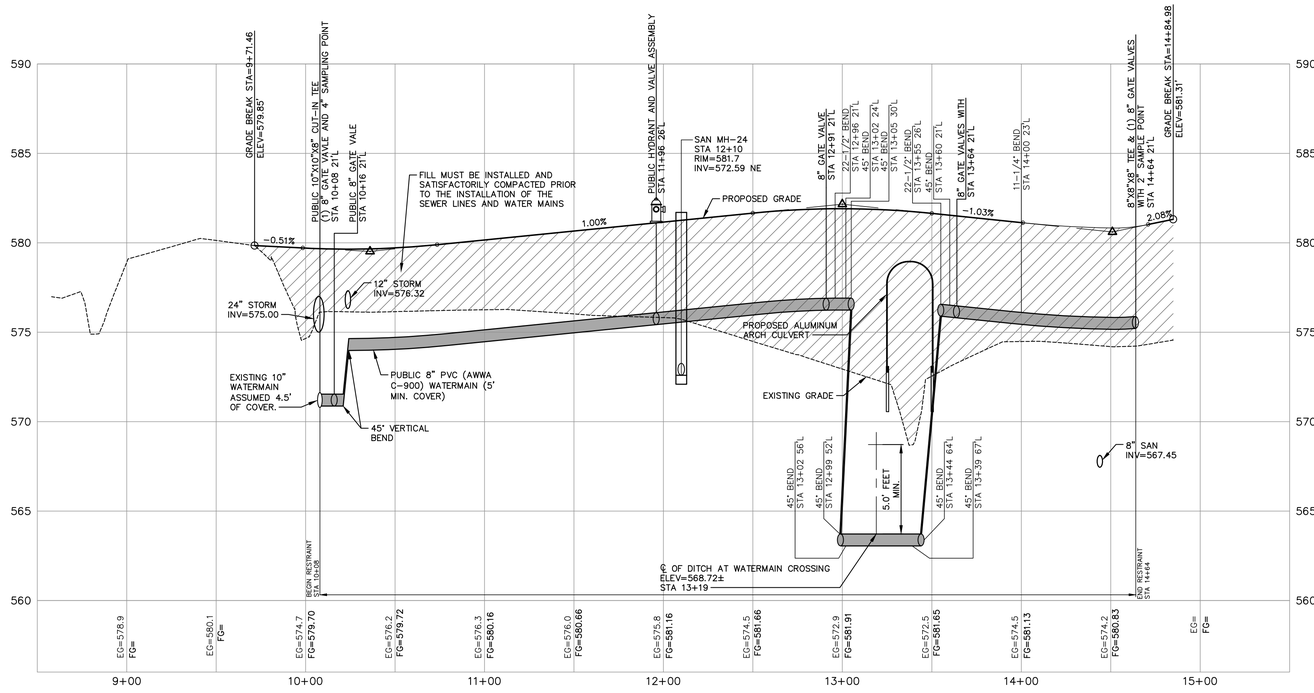


LOCAL ROAD A (LEFT SIDE)

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



LOCAL ROAD B (LEFT SIDE)

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

DRAWING REVISIONS

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SANITARY AND WATERMAIN PROFILE
LOCAL ROAD A AND B (LEFT SIDE)

THIS SHEET ISSUED APRIL 18, 2024

SW5

DRAWING SCALE: 1"=40'

WSA PROJECT NO. 13027C

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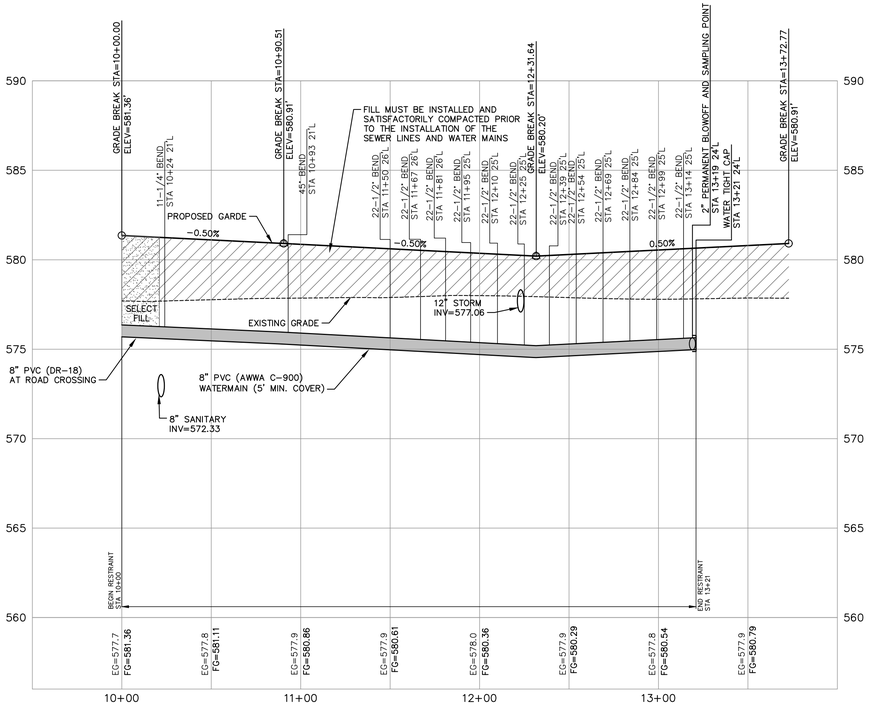
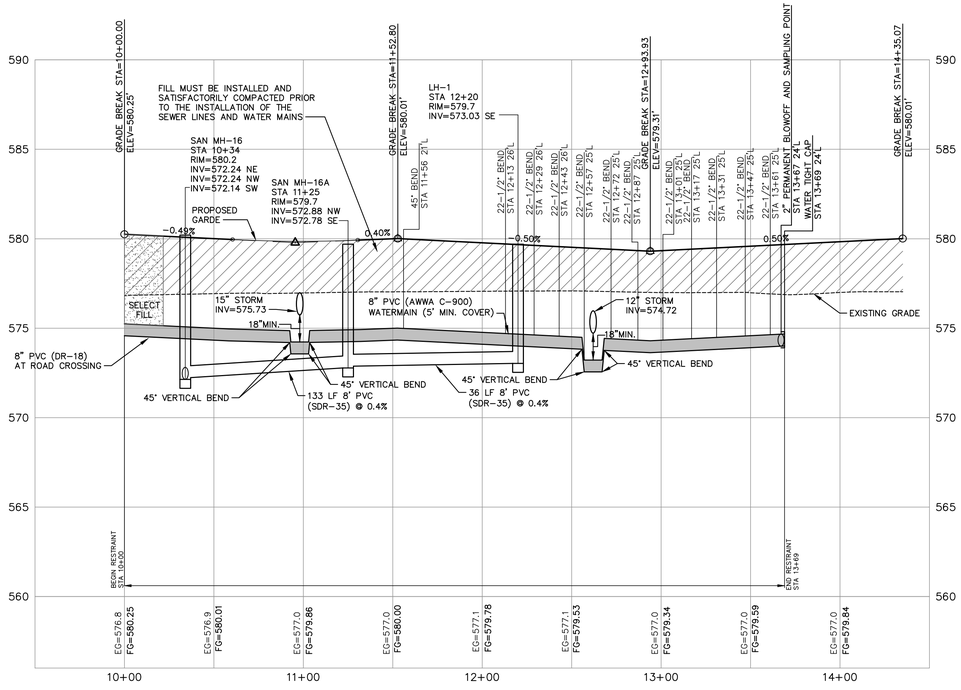


LOCAL ROAD C (LEFT SIDE)

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



LOCAL ROAD D (LEFT SIDE)

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

SANITARY AND WATERMAIN PROFILE
LOCAL ROAD C AND D (LEFT SIDE)

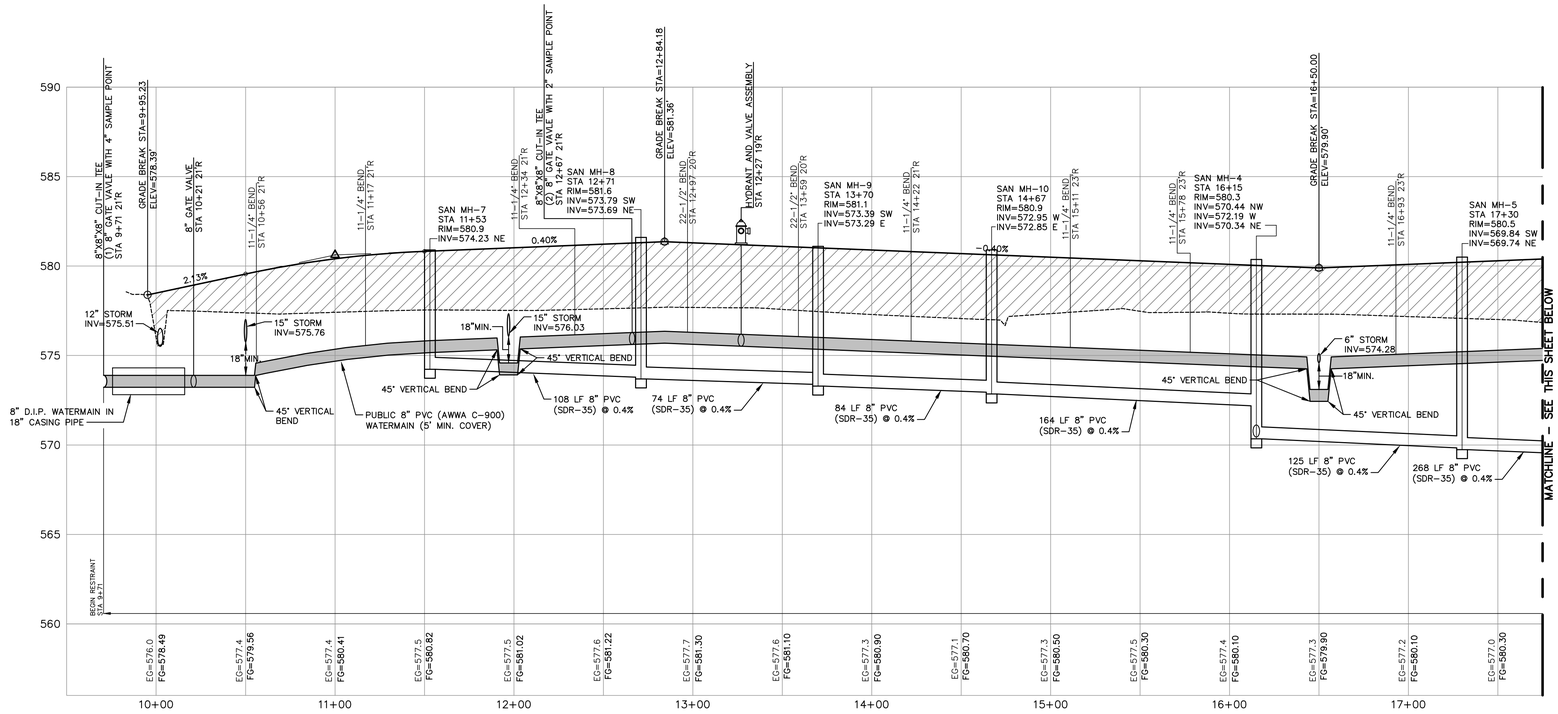
THIS SHEET ISSUED APRIL 18, 2024

SW6

DRAWING SCALE: 1"=40'

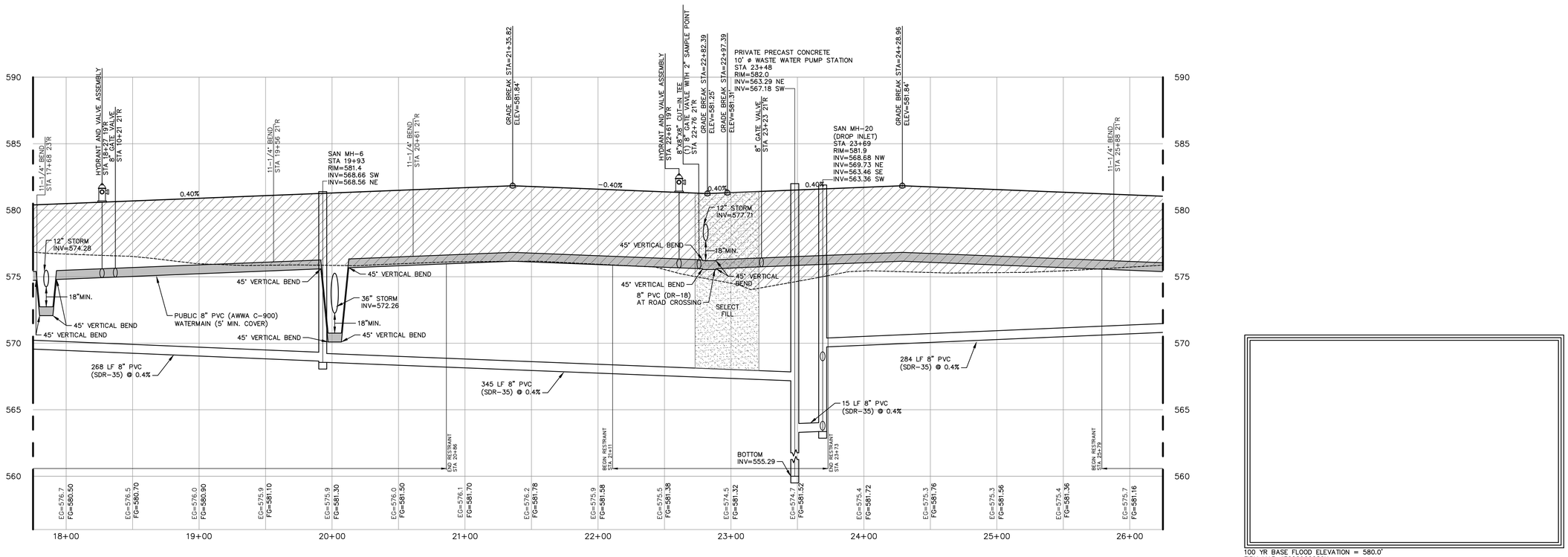
WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



LOCAL ROAD A (RIGHT SIDE)

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



LOCAL ROAD A (RIGHT SIDE)

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

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TOWN OF AMHERST
ERIE COUNTY - NEW YORK

SANITARY AND WATERMAIN PROFILE
LOCAL ROAD A (RIGHT SIDE)

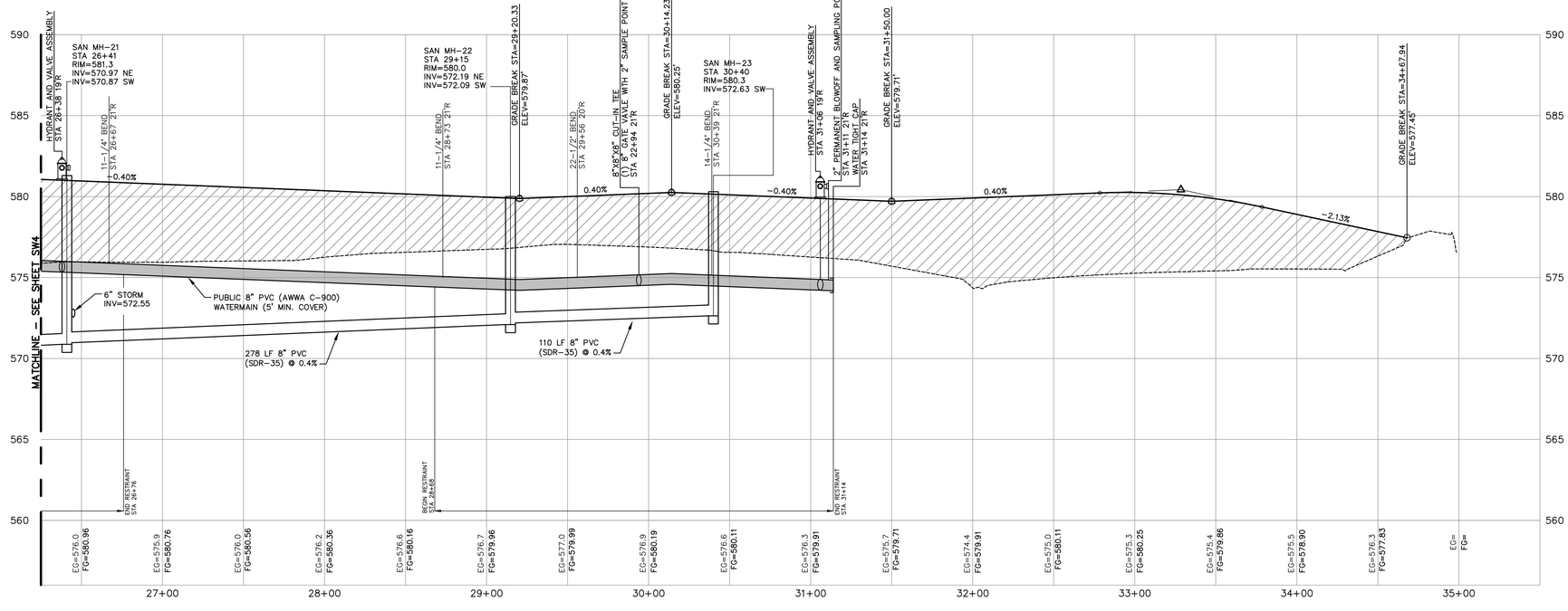
THIS SHEET ISSUED APRIL 18, 2024

SW7

DRAWING SCALE: 1"=40'

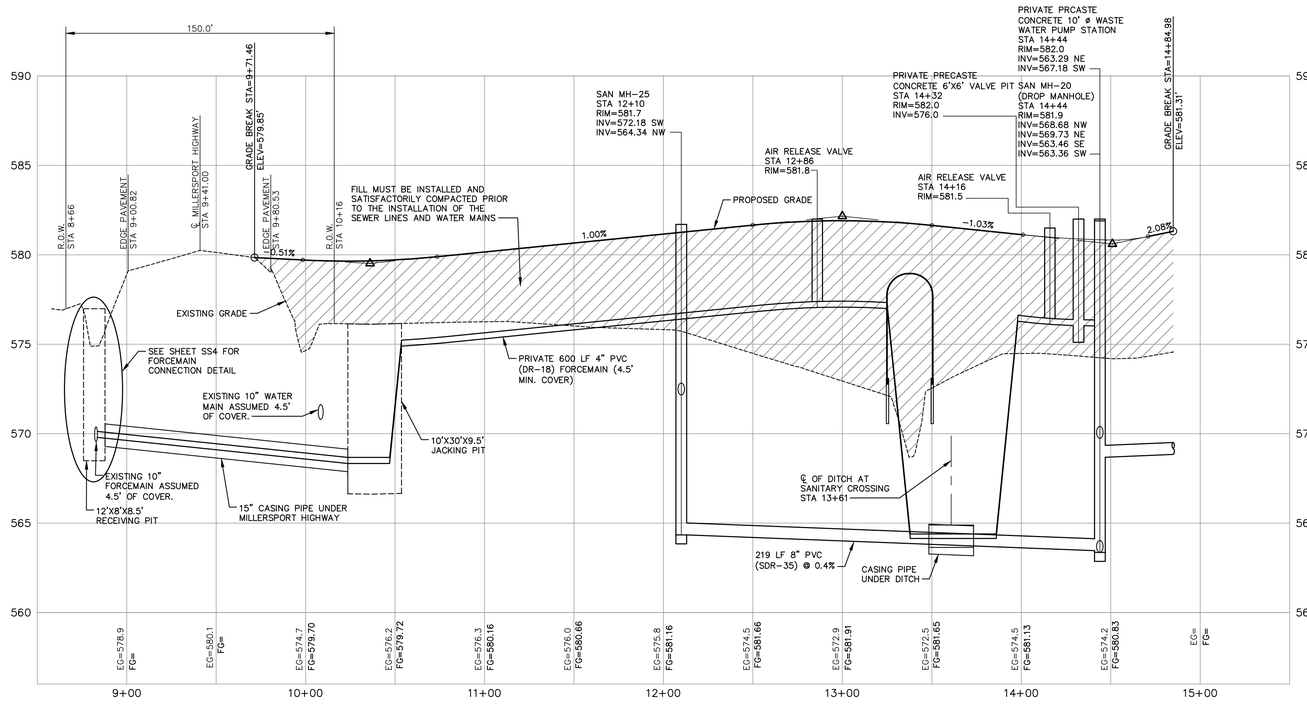
WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



LOCAL ROAD A (RIGHT SIDE)

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



LOCAL ROAD B (RIGHT SIDE)

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

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ERIE COUNTY - NEW YORK

SANITARY AND WATERMAIN PROFILE
LOCAL ROAD A AND B (RIGHT SIDE)

THIS SHEET ISSUED APRIL 18, 2024

SW8

DRAWING SCALE: 1"=40'

WSA PROJECT NO. 13027C

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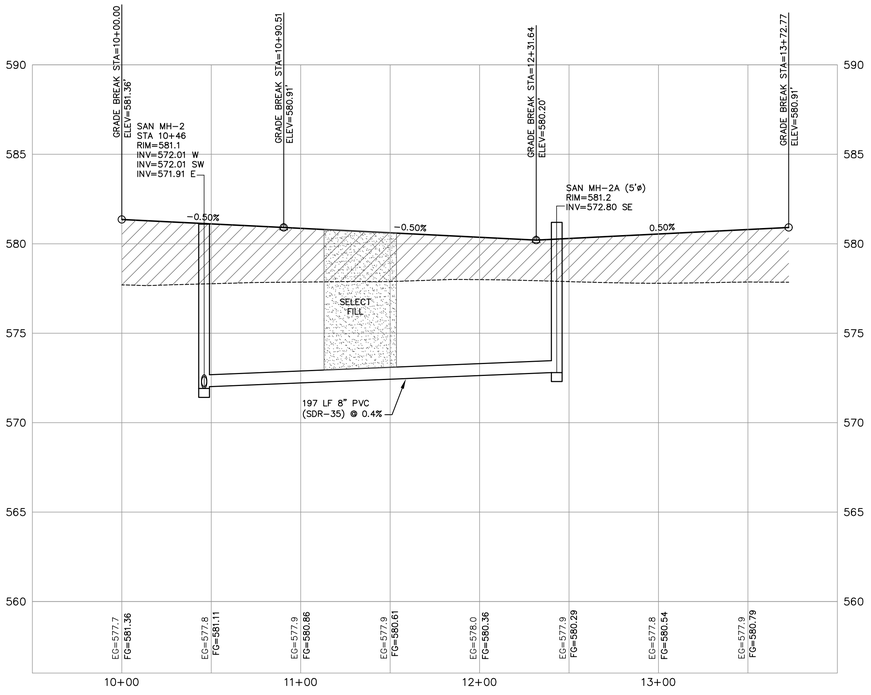
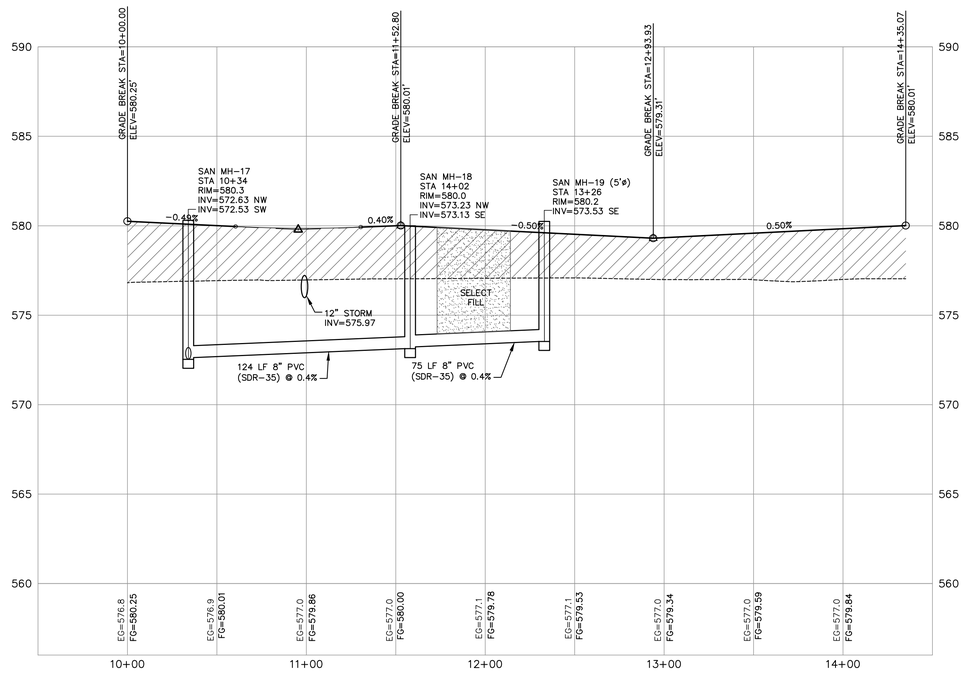


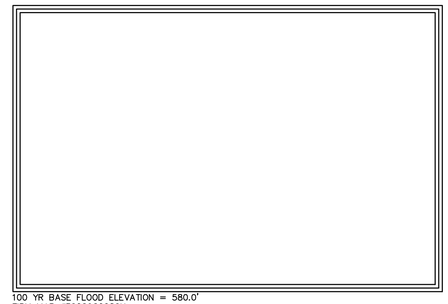
LOCAL ROAD C (RIGHT SIDE)

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



LOCAL ROAD D (RIGHT SIDE)

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
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TOWN OF AMHERST
ERIE COUNTY - NEW YORK

SANITARY AND WATERMAIN PROFILES
LOCAL ROAD C AND D (RIGHT SIDE)

THIS SHEET ISSUED APRIL 18, 2024

SW9

DRAWING SCALE 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

GRAVITY SANITARY SEWER NOTES

A. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF AMHERST SEWER DISTRICT RULES AND REGULATIONS.

B. RELATIONS TO WATER MAINS

1. HORIZONTAL AND VERTICAL SEPARATION

SEWERS SHALL BE LAID AT LEAST 10 FEET (3 M) HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IN CASES WHERE IT IS NOT PRACTICAL TO MAINTAIN A 10–FOOT (3 M) SEPARATION, THE APPROPRIATE REVIEWING AGENCY MAY ALLOW DEVIATION ON A CASE–BY–CASE BASIS, IF SUPPORTED BY DATA FROM THE DESIGN ENGINEER. SUCH DEVIATION MAY ALLOW INSTALLATION OF THE SEWER CLOSER TO A WATER MAIN, PROVIDED THAT THE WATER MAIN IS IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER AND AT AN ELEVATION SO THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES (457 MM) ABOVE THE TOP OF THE SEWER.

IF IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS DESCRIBED ABOVE, BOTH THE WATER MAIN AND SEWER MUST BE CONSTRUCTED OF SLIP–ON OR MECHANICAL JOINT PIPE COMPLYING WITH PUBLIC WATER SUPPLY DESIGN STANDARDS OF THE AGENCY AND BE PRESSURE TESTED TO 150 PSI (1034 kPa) TO ASSURE WATERTIGHTNESS BEFORE BACKFILLING.

2. CROSSINGS

SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES (457 MM) BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE.

WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, ONE OF THE FOLLOWING METHODS MUST BE SPECIFIED:

a. THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO WATER PIPE, AND SHALL BE PRESSURE TESTED AT 150 PSI (1034 kPa) TO ASSURE WATER TIGHTNESS PRIOR TO BACKFILLING.

b. EITHER THE WATER MAIN OR THE SEWER LINE MAY BE ENCASED IN A WATERTIGHT CARRIER PIPE WHICH EXTENDS 10 FEET (3 M) ON BOTH SIDES OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATER MAIN. THE CARRIER PIPE SHALL BE OF MATERIALS APPROVED BY THE REGULATORY AGENCY FOR USE IN WATER MAIN CONSTRUCTION.

C. SANITARY SEWER MANHOLE RIMS SHALL BE SET A MINIMUM OF 4–INCHES ABOVE FINISHED GRADE UNLESS WITHIN PAVEMENT.

D. SANITARY SEWERS SHALL BE CONSTRUCTED USING POLYVINYL CHLORIDE (PVC) PIPE, SDR–35, CONFORMING TO ASTM D3034. UNLESS OTHERWISE NOTED ON PLAN TO USE AWWA C–900.

E. CONTRACTOR SHALL ASSURE THAT ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL MEET THE TOWN OF AMHERST SEWER DISTRICTS STANDARDS (LATEST REVISION).

F. FILL SHALL BE INSTALLED AND SATISFACTORILY COMPACTED PRIOR TO INSTALLATION OF SEWERS.

G. ALL LATERAL ROAD CROSSINGS WITH LESS THAN 4–FEET OF COVER SHALL BE CONCRETE ENCASED.

H. ALIGNMENT OF SANITARY SEWER PIPE SHALL BE LAID STRAIGHT BETWEEN MANHOLES. ALIGNMENT SHALL BE CHECKED BY EITHER USING A LASER BEAM OR BY LAMPING.

I. INSTALLATION AND TESTING OF SANITARY SEWER FACILITIES WILL BE INSPECTED AND CERTIFIED FOR COMPLETION AND COMPLIANCE BY ERIE COUNTY SEWER DISTRICT.

J. AIR TESTS, ALIGNMENT, INSPECTION, INFILTRATION OR EXFILTRATION AND DEFLECTION REQUIREMENTS

1. REQUIREMENTS

a. AFTER BACKFILLING AND PRIOR TO THE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR WILL BE REQUIRED TO PERFORM THE FOLLOWING FOUR (4) TESTS ON ALL SEWERS TO BE BUILT UNDER THIS PROJECT:

1. AIR TESTS
2. ALIGNMENTS
3. INFILTRATION OR EXFILTRATION
4. DEFLECTION TEST (15" DIAMETER OR SMALLER)

b. NO MORE THAN 1,000 LINEAR FEET OF INSTALLED SEWER SHALL BE ALLOWED TO REMAIN UNTESTED.

c. IN VIEW OF THE FACT THAT HOUSE LATERALS AND RISER PIPES OFTEN CONTRIBUTE CONSIDERABLE INFILTRATION, SUCH LATERALS AND RISERS ARE TO BE INSTALLED AND CAPPED, TIED, AND BLOCKED AS THE WORK PROGRESSES, PRIOR TO THE AIR TESTING OF THE LINES.

d. THE CONTRACTOR'S TESTING PROCEDURES SHALL BE COMPLETED IN ACCORDANCE WITH OSHA STANDARDS FOR CONFINED SPACE ENTRY. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE AND OPERATE ALL EQUIPMENT NECESSARY FOR FULL COMPLIANCE FOR HIS OPERATION. EQUIPMENT SUCH AS GAS DETECTORS, SAFETY HARNESSES, VENTILATING BLOWERS, RESPIRATORS, ETC. SHALL BE PROVIDED BY THE CONTRACTOR.

2. AIR TESTS (REQUIRED FOR ALL DIAMETERS UP TO AND INCLUDING 36") 10 STATE STANDARDS SECTION 33.94

a. THIS TEST SHALL BE PERFORMED NO EARLIER THAN FOURTEEN (14) CALENDAR DAYS AFTER THE TRENCHES ARE BACKFILLED.

b. THE PROCEDURE FOR AIR TESTING SHALL BE AS SPECIFIED HEREIN. THE MINIMUM ALLOWABLE TIME FOR THE TEST PRESSURE TO DECREASE FROM 3.5 P.S.I. TO 3.0 P.S.I. SHALL BE NOT LESS THAN AS CALLED FOR IN THE FOLLOWING TABLE:

MINIMUM ACCEPTANCE TIMES* FOR LENGTH SHOWN (MIN:SEC)

PIPE DIAMETER	UP TO 100'	100'–200'	200'–300'	300'–400'
6"	2:50	2:50	2:50	2:51
8"	3:47	3:47	3:48	5:04
10"	4:43	4:43	5:56	7:54
12"	5:40	5:42	8:33	11:24
15"	7:05	8:54	13:21	17:48
18"	8:30	12:49	19:14	25:38
21"	9:55	17:27	26:11	34:54
24"	11:24	22:48	34:11	45:35
27"	14:25	28:51	43:16	57:42
30"	17:48	35:37	53.25	71:13
33"	21:33	43:56	64:38	86:10
36"	25:39	51:17	76:55	102:34

*ERIE COUNTY SEWER DISTRICT INSPECTOR DURING THE TEST WILL EXTEND TIME TO THE NEXT FULL MINUTE.

c. PIPE LINES IN SIZES UP TO 36 INCHES IN DIAMETER CAN BE AIR TESTED FROM MANHOLE TO MANHOLE FOR DISTANCES BOT TO EXCEED 400 FEET.

d. IN WET TRENCHES WHERE PUMPING TO LOWER THE WATER TABLE IS IMPRACTICAL, APPROVED PERFORATED PIPE (WITH APPROVED CAP) SHALL BE PLACED AT EACH MANHOLE TO EXTEND FROM A POINT 6 INCHES BELOW THE LOWEST INVERT TO THE TOP OF THE GROUND. GROUNDWATER ELEVATIONS WILL BE MEASURED AT EACH MANHOLE IN ORDER TO CALCULATE THE GROUNDWATER PRESSURE ACTING ON THE PIPE EXTERIOR. THE INITIAL AIR TEST PRESSURE SHALL BE INCREASED AS NECESSARY TO OVERCOME THE CALCULATED GROUNDWATER PRESSURE.

e. THE TESTING PROCEDURE OUTLINED SHALL BE STRICTLY ADHERED TO DURING CONSTRUCTION.

f. ALL TESTING EQUIPMENT SHALL BE SUPPLIED BY THE CONTRACTOR. FOR THE CONTRACTOR'S INFORMATION, SOME OF THE MAJOR EQUIPMENT REQUIRED FOR AIR TESTS IS THE FOLLOWING:

1. STOP WATCH GRADUATED IN TENTHS OF A SECOND
2. COMPRESSOR OF 50 TO 100 P.S.I. CAPACITY
3. BULKHEADS FOR PIPE
4. APPROXIMATELY 100 FEET OF 3/8" DIAMETER AIR HOSE
5. PRESSURE GAUGE – 0 TO 5 P.S.I. GRADUATED IN 1/16TH OF A POUND INCREMENTS
6. THREE 3/8" DIAMETER CHECK VALVES

3. ALIGNMENT INSPECTION (10 STATE STANDARD, SECTION 33.5)

a. SEWER INSTALLED WITHOUT THE USE OF A LASER SHALL BE LAMPED MANHOLE TO MANHOLE PRIOR TO FINAL ACCEPTANCE. THE LAMP SHALL HAVE AN OUTPUT OF BETWEEN 250 AND 500 CANDLEPOWER. LAMPING SHALL BE PERFORMED AFTER THE SEWER HAS BEEN FLUSHED AND THE INSIDE SURFACE WET TO ALLOW FOR LIGHT REFLECTION. IF FIFTY PERCENT (50%) OF THE LAMP CANNOT BE SEEN FROM THE OTHER MANHOLE, THE CONTRACTOR WILL BE REQUIRED TO TELEVISE THAT SECTION.

b. ALL PIPES 36 INCHES IN DIAMETER AND LARGER SHALL BE ENTERED AND VISUALLY INSPECTED FOOT BY FOOT AND JOINT BY JOINT BOTH BEFORE AND AFTER INSTALLATION. ALL EQUIPMENT REQUIRED FOR THE INSPECTION SHALL BE FURNISHED BY THE CONTRACTOR. SOME ITEMS OF INSPECTION ARE AS FOLLOWS:

1. PIPE FREE FROM OBSTRUCTIONS AND DEBRIS
2. PIPE FREE FROM CRACKS
3. PIPE JOINTS PROPERLY SEALED
4. PIPE INVERT IS SMOOTH AND FREE OF SAGS OR HIGH POINTS
5. HOOKUPS, DIVERSIONS AND CONNECTIONS PROPERLY MADE
6. CONCRETE PIPE WALLS FREE FROM STRUCTURAL DEFECTS
7. PIPES AND JOINTS FREE FROM VISIBLE SIGNS OF LEAKAGE
8. SPECIFIED COATINGS PROPERLY INSTALLED

c. PIPE SECTIONS AND JOINTS NOT MEETING ALL OF THE ABOVE REQUIREMENTS SHALL BE REPLACED OR REPAIRED.

4. INFILTRATION TESTS (APPLICABLE ONLY IF GROUND WATER IS ABOVE PIPE)

a. THIS TEST SHALL BE PERFORMED NO EARLIER THAN FOURTEEN (14) CALENDAR DAYS AFTER THE TRENCHES ARE BACKFILLED.

b. INFILTRATION TESTS FOR ALL SEWERS TO BE CONSTRUCTED UNDER THIS PROJECT SHALL NOT EXCEED 100 GALLONS PER INCH DIAMETER PER MILE OF SEWER PER 24 HOURS. EACH INDIVIDUAL RUN OF SEWER (FROM ONE MANHOLE TO THE NEXT MANHOLE IF GREATER THAN 100 FEET) SHALL COMPLY WITH THE ALLOWABLE RATE OF INFILTRATION. ALL EQUIPMENT FOR THE TESTS SHALL BE FURNISHED BY THE CONTRACTOR.

c. THE ALLOWABLE RATE OF INFILTRATION GIVEN IN GALLONS PER MILE IS NOT TO BE CONSTRUED AS A COMMITMENT ON THE PART OF THE OWNER TO ACCEPT AN ENTIRE LINE, WHERE OVERALL INFILTRATION IS LESS THAN THE ALLOWABLE, WHILE ONE OR MORE RUNS CONTRIBUTE EXCESSIVE INFILTRATION.

d. THE INFILTRATION TEST IS INTENDED TO MEASURE THE WATERTIGHTNESS OF A SEWER, AS RELATED TO THE INFILTRATION OF GROUNDWATER, AND, THEREFORE, IS ONLY APPLICABLE IF THE WATER TABLE LEVEL IS TWO (2) FEET ABOVE THE TOP OF THE PIPE.

1. APPROVED SOLID WALL PIPE (WITH AN APPROVED CAP) SHALL BE PLACED AT EACH MANHOLE TO EXTEND FROM A POINT 6 INCHES BELOW THE LOWEST INVERT TO THE TOP OF THE GROUND. PIPE TO BE EMBEDDED A MINIMUM OF 12" INTO CLEAN #1 STONE. GROUNDWATER ELEVATIONS WILL BE MEASURED AT EACH MANHOLE SO THAT THE GROUNDWATER LEVEL CAN BE CORRELATED WITH THE INFILTRATION MEASUREMENTS.

2. BEFORE CONDUCTING THE TESTS, THE WATER TABLE SHOULD BE ALLOWED TO STABILIZE AT ITS NORMAL LEVEL SUCH THAT THE WATER TABLE LEVEL IS 2 FEET ABOVE THE TOP OF THE PIPE DURING THE TEST PERIOD. THE TEST IS USUALLY CONDUCTED BETWEEN ADJACENT MANHOLES WITH THE UPSTREAM END OF THE SEWER BULKHEAD IN A SUITABLE MANNER TO ISOLATE THE TEST SECTION. ALL SERVICE LATERALS, STUBS, AND FITTINGS SHOULD BE PROPERLY PLUGGED OR CAPPED AT THE CONNECTIONS TO THE TEST PIPE SECTION TO PREVENT THE ENTRANCE OF GROUNDWATER AT THESE LOCATIONS.

3. A V–NOTCH WEIR OR OTHER SUITABLE MEASURING DEVICE SHOULD BE INSTALLED IN THE INLET PIPE TO THE DOWNSTREAM MANHOLE. INFILTRATING WATER IS THEN ALLOWED TO BUILD UP AND LEVEL OFF BEHIND THE WEIR UNTIL STEADY – UNIFORM FLOW IS OBTAINED. WHEN STEADY FLOW OCCURS OVER THE WEIR, LEAKAGE IS DETERMINED BY DIRECT READING CONSECUTIVELY FOR FIVE (5) DAYS FROM GRADUATIONS ON THE WEIR AND CONVERTING THE FLOW QUANTITY TO GALLONS PER UNIT OF PIPE PER UNIT OF TIME.

4. AN IMPORTANT FACTOR IN APPLYING THE TEST CRITERIA IS TO PROPERLY CORRELATE THE VARIABLE WATER HEAD OVER THE LENGTH OF SEWER BEING TESTED TO THE HIGH GROUNDWATER LEVEL. THE DOWNSTREAM END OF THE TEST SECTION WILL ALMOST ALWAYS BE SUBJECTED TO A GRATER EXTERNAL WATER PRESSURE THAN THE UPSTREAM END. TO COMPENSATE FOR THIS VARIABLE EXTERNAL PRESSURE, THE TEST PRESSURE SHOULD BE THAT PRESSURE CORRESPONDING TO THE AVERAGE HEAD OF WATER OVER THE TEST SECTION. A MINIMUM OF 2 FEET OF WATER OVER THE PIPE IS REQUIRED AT THE UPPER MANHOLE BEFORE THE INFILTRATION TEST WILL BE ALLOWED.

e. WHEN A SEWER RUN BETWEEN TWO CONSECUTIVE MANHOLES OR CHAMBERS IS FOUND TO CONTRIBUTE INFILTRATION AT A RATE ABOVE THE ALLOWABLE, INSPECTION BY TELEVISION OR OTHER CAMERAS MAY BE MADE BY THE CONTRACTOR, SO THAT THE DEFECTIVE SECTION OF SEWER CAN BE LOCATED AND REPAIRED. EACH INDIVIDUAL RUN OF SEWER (FROM ONE MANHOLE TO THE NEXT MANHOLE IF GREATER THAN 100 FEET) SHALL COMPLY WITH THE ALLOWABLE RATE OF INFILTRATION OF 100 GALLONS PER INCH DIAMETER PER MILE OF SEWER PER 24 HOURS.

5. EXFILTRATION TESTS

a. THIS TEST SHALL BE PERFORMED NO EARLIER THAN FOURTEEN (14) CALENDAR DAYS AFTER THE TRENCHES ARE BACKFILLED.

b. THE EXFILTRATION TEST FOR ALL DIAMETER SEWERS SHALL BE AS DESCRIBED BELOW. ALTHOUGH ACTUAL INFILTRATION WILL NORMALLY BE LESS THAN INDICATED BY THE WATER EXFILTRATION TEST, THE TEST DOES PROVIDE A POSITIVE MEANS OF SUBJECTING THE COMPLETED SEWER SYSTEM TO AN ACTUAL PRESSURE TEST. SINCE SANITARY SEWERS ARE NOT DESIGNED OR EXPECTED TO OPERATE AS A PRESSURE SYSTEM, CARE MUST BE EXERCISED IN CONDUCTING THE TESTS, AND CORRELATING THE RESULTS WITH THE ALLOWABLE EXFILTRATION LIMITS.

1. THE TEST IS USUALLY CONDUCTED BETWEEN ADJACENT MANHOLES. PRIOR TO THE TEST, ALL SERVICE LATERALS, STUBS AND FILLINGS WITHIN THE TEST SECTION SHOULD BE PLUGGED OR CAPPED AND ADEQUATELY BRACED OR BLOCKED TO WITHSTAND THE WATER PRESSURE RESULTING FROM THE TEST.

2. IF MANHOLES ARE TO BE INCLUDED IN THE TEST, THE INLET PIPE TO EACH MANHOLE SHOULD BE BULKHEADED AND THE TEST SECTION FILLED WITH WATER THROUGH THE UPSTREAM MANHOLE. TO ALLOW AIR TO ESCAPE FROM THE SEWER, THE FLOW SHOULD BE AT A STEADY RATE UNTIL THE WATER LEVEL IN THE UPSTREAM MANHOLE PROVIDES AN AVERAGE PRESSURE OF 5 P.S.I. (11.6' HEAD) AT THE CENTER POINT OF THE TEST SECTION, OR THE UPSTREAM MANHOLE IS FILLED. IF NECESSARY, PROVISIONS SHOULD BE MADE TO BLEED OFF ENTRAPPED AIR DURING THE FILLING OF THE TEST SECTION.

3. ONCE THE TEST SECTION IS FILLED, THE WATER SHOULD BE ALLOWED TO STAND FOR AN ADEQUATE PERIOD OF TIME (ONE DAY MINIMUM) TO ALLOW FOR WATER ABSORPTION BY THE PIPE AND MANHOLE. AFTER WATER ABSORPTION HAS STABILIZED, THE WATER LEVEL IN THE UPSTREAM MANHOLE IS BROUGHT UP TO THE PROPER TEST LEVEL, AND THIS LEVEL ESTABLISHED BY MEASURING DOWN FROM THE MANHOLE COVER OR OTHER CONVENIENT DATUM POINT. AFTER 24 HOURS, THE WATER ELEVATION SHOULD BE MEASURED FROM THE SAME REFERENCE POINT, AND THE LOSS OF WATER DURING THE TEST PERIOD CALCULATED, OR THE WATER CAN BE RESTORED TO THE LEVEL EXISTING AT THE BEGINNING OF THE TEST, AND THE AMOUNT ADDED USED TO DETERMINE THE LEAKAGE.

4. TO EXCLUDE BOTH MANHOLES FROM THE TEST, IT IS NECESSARY TO BULKHEAD THE OUTLET PIPE OF THE UPSTREAM MANHOLE. PROVISION MUST BE MADE IN THE BULKHEAD FOR FILLING THE PIPE AND EXPELLING TRAPPED AIR.

5. THE WATER LEVEL AT THE UPSTREAM MANHOLE SHALL BE COMPUTED AND VARIED ABOVE THE TOP OF THE PIPE. SINCE THE SEWER IS INSTALLED ON A GRADE, THE TEST SECTION DOWNSTREAM WILL MOST LIKELY BE SUBJECTED TO A GREATER PRESSURE. THEREFORE, THE TEST PRESSURE HEAD AT THE UPSTREAM MANHOLE SHOULD BE ADJUSTED SUCH THAT THE MAXIMUM PRESSURE ON THE PIPE BEING TESTED IS NO GREATER THAN 10 P.S.I. (23 FEET OF HEAD).

c. WHEN A SEWER RUN BETWEEN TWO(2) CONSECUTIVE MANHOLES OR CHAMBERS IS FOUND TO EXFILTRATE AT A RATE ABOVE THE ALLOWABLE, INSPECTION BY TELEVISION OR OTHER CAMERAS MAY BE MADE BY THE CONTRACTOR DURING WET WEATHER, SO THAT THE DEFECTIVE SECTION OF SEWER CAN BE LOCATED AND REPAIRED. EACH INDIVIDUAL RUN OF SEWER (FROM ONE MANHOLE TO THE NEXT MANHOLE IF GREATER THAN 100 FEET) SHALL COMPLY WITH THE ALLOWABLE RATE OF INFILTRATION OF 100 GALLONS PER INCH PER DIAMETER PER MILE OF SEWER PER 24 HOURS.

6. DEFLECTION TEST

ALL FLEXIBLE (PVC) SEWERS 8 INCHES IN DIAMETER OR LARGER CONSTRUCTED UNDER THIS PROJECT SHALL BE INTERNALLY CHECKED NO EARLIER THAN THIRTY (30) CALENDAR DAYS AFTER THE TRENCHES ARE BACKFILLED, WITH A FIVE PERCENT (5%) DEFLECTION "GO–NO–GO PIG" OR MANDREL TO DETERMINE IF THE PIPES ARE DEFLECTING EXCESSIVELY. ANY SECTION OF PIPE UNABLE TO PASS THE DEFLECTION TEST "PIG TEST" SHALL BE REMOVED AND REPLACED.

DEFLECTION TESTING MANDRELS OR PIG SHALL BE PULLED THROUGH THE PIPE BY HAND, OR HAND–OPERATED WINCH. POWER WINCHES OR DRIVES ARE NOT PERMITTED.

GENERAL NOTES FOR SANITARY SEWER CONSTRUCTION WITHIN THE TOWN OF AMHERST

1. THE TOWN OF AMHERST SEWER MAINTENANCE DIVISION (SMD), WHO OPERATES AND MAINTAINS THE EXISTING SEWER LINES AND APPURTENANCES WITHIN THE TOWON OF AMHERST, IS TO BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF THE START OF CONSTRUCTION.

2. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE RULES AND REGULATIONS FOR THE TOWN OF AMHERST.

3. ALL PERMITS REQUIRED BY THE FEDERAL, STATE, COUNTY, CITY AND/OR TOWN GOVERNMENTS TO PERFORM WORK MUST BE OBTAINED PRIOR TO THE START OF WORK, AND PAID FOR BY THE CONTRACTOR.

4. IF EASEMENT AND/OR OUT OF DISTRICT AGREEMENTS ARE REQUIRED, THEY MUST BE COMPLETE AND READY TO BE FILED BEFORE THE PROJECT WILL BE APPROVED FOR CONSTRUCTION.

5. THE CONTRACTOR SHALL COMPLY IN ALL RESPECTS TO THE INDUSTRIAL CODE PART RULE NO.) 53 RELATING TO CONSTRUCTION, EXCAVATION, AND DEMOLITION OPERATIONS AT OR NEAR UNDERGROUND FACILITIES, AS ISSUED BY THE STATE OF NEW YORK DEPARTMENT OF LABOR, BOARD OF STANDARD AND APPEALS.

6. THE CONSTRUCTION OF THE SANITARY SEWER FACILITIES SHALL BE UNDER THE SUPERVISION OF A PERSON OR FIRM QUALIFIED TO PRACTICE PROFESSIONAL ENGINEERING IN NEW YORK STATE UNDER THE EDUCATION LAW OF THE STATE, WHENEVER ENGINEERING SERVICES ARE REQUIRED BY SUCH LAW FOR SUCH PURPOSES.

7. WHERE SUCH SANITARY SEWER FACILITIES ARE UNDER THE SUPERVISION OF A PROFESSIONAL ENGINEER, HE SHALL CERTIFY TO THE SMD AND TO THE APPLICANT THAT THE CONSTRUCTED FACILITIES HAVE BEEN UNDER HIS SUPERVISION AND THAT THE WORK HAS BEEN FULLY COMPLETED IN ACCORDANCE WITH THE APPROVED ENGINEERING REPORTS, PLANS, SPECIFICATIONS, AND APPROVALS.

8. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SITE SAFETY. THE CONTRACTOR AND METHODS OF OPERATION SHALL BE IN FULL COMPLIANCE WITH OSHA STANDARDS AND SATISFY ALL FEDERAL, STATE AND LOCAL HEALTH AND SAFETY REGULATIONS.

9. THE CONTRACTOR IS ADVISED A TRENCH SHIELD AND/OR SHORING DESIGNED IN ACCOR–DANCE WITH OSHA STANDARDS SHALL BE USED IN ALL OPEN TRENCH EXCAVATIONS.

10. ANY CONTRACTOR AND/OR PLUMBER PERFORMING WORK IN A CONFINED SPACE (I.E. MANHOLES, WETWELLS, AND CHAMBERS) OWNED BY THE TOWN OF AMHERST SMD, MUST CERTIFY TO THE TOWN THAT THEY HAVE THEIR OWN CONFINED SPACE ENTRY PROGRAM THAT MEETS OR EXCEEDS OSHA REGULATIONS. CERTIFICATION MUST BE NOTARIZED BY A NOTARY REPUBLIC.

11. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AHEAD OF THE PIPE LAYING OPERATION, SO IF, MINOR ADJUSTMENTS MUST BE MADE IN THE PIPE ELEVATION AND/OR ALIGNMENT DUE TO INTERFERENCE FROM THESE UTILITIES, SAID CHANGES CAN BE MADE IN ADVANCE OF THE WORK.

12. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A QUALIFIED TREE EXPERT TO REMOVE, WHERE NECESSARY, BRANCHES WHICH INTERFERE WITH THE CONSTRUCTION OPERATION, OR TO REPAIR TREES HAVNO SUFFERED DAMAGE BY CONSTRUCTION ACTIVITIES. THE COST INVOLVED IS TO BE INCLUDED IN THE VARIOUS ITEMS OF THE CONTRACT.

13. THE SANITARY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) SEWER PIPE CONFORMING TO THE LATEST REVISIONS OF AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) DESIGNATION D–3034, SDR–35, INSTALLED IN ACCORDANCE WITH THE ASTM DESIGNATION D–2321–83A OR THE LATEST REVISION THEREOF, OR APPROVED EQUAL.

14. SEWERS SHALL BE LAID WITH STRAIGHT ALIGNMENT BETWEEN MANHOLES AND SHALL BE CHECHED BY USING A LASER BEAM OR LAMPING.

15. SHOULD A FLUID CONDITION BE ENCOUNTERED AT THE TRENCH BOTTOM, THE CONTRACTOR IS TO UNDERCUT THE TRENCH AND PROVIDE SUITABLE FILL MATERIAL (STONE & FABRIC) TO STABILIZE THE TRENCH BOTTOM.

16. SANITARY SEWER BEDDING MATERIAL SHALL BE NO. 1 CRUSHED STONE WITH A GRADATION CONFORMING TO THE DSM SPECIFICATIONS FOR SUBDIVISIONS AND SANITARY SEWER EXTENSIONS.

17. BACKFILL SHALL BE OF A SUITABLE MATERIAL REMOVED FROM THE EXCAVATION EXCEPT WHERE OTHER MATERIAL IS SPECIFIED. DEBRIS, FROZEN MATERIAL, LARGE CLODS OR STONES, ORGANIC MATTER, OR OTHER UNSTABLE MATERIALS SHALL NOT BE USED FOR BACKFILL WITHIN TWO (2) FEET OF THE TOP OF THE PIPE.

18. ALL PIPES CROSSING UNDER PAVED AREAS ARE TO BE BACKFILLED TO SUB–GRADE WITH COMPACTED SELECT MATERIAL (NO. 2 CRUSHED STONE) TO FIVE (5) FEET OUTSIDE THE PAVEMENT EDGES OR AS REQUIRED BY THE HIGHWAY PERMIT. IF ANY PROPOSED SEWER RUNS UNDER PAVED AREAS AND HAS LESS THAN FOUR (4) FEET OF COVER, THEN CONCRETE ENCASEMENT IS REQUIRED AS SHOWN ON THE DSM TYPICAL CONCRETE ENCASEMENT DETAIL.

19. SEWERS PARALLEL TO WATERMAINS – TEN STATE STANDARDS, LATEST EDITION, CHAPTER 30, SECTION 38.31, PAGE 30–11: SEWERS SHALL BE LAID AT LEAST TEN (10) FEET (THREE (3) METERS) HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IN CASES WHERE IT IS NOT PRACTICAL TO MAINTAIN A TEN (10') FOOT SEPARATION, THE APPROPRIATE REVIEWING AGENCY MAY ALLOW DEVIATION ON A CASE–BY–CASE BASIS, IF SUPPORTED BY DATA FROM THE DESIGN ENGINEER. SUCH DEVIATION MAY ALLOW INSTALLATION OF THE SEWER CLOSER TO A WATER MAIN, PROVIDED THAT THE WATER MAIN IS IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER AND AT AN ELEVATION SO THE BOTTOM OF THE WATER MAIN IS AT LEAST 18–INCHES (460 MM) ABOVE THE TOP OF THE SEWER.

IF IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS DESCRIBED ABOVE, BOTH THE WATER MAIN AND SEWER MUST BE CONSTRUCTED OF SLIP–ON OR MECHANICAL JOINT PIPE COMPLYING WITH PUBLIC WATER SUPPLY DESIGN STANDARDS OF THE REGULATORY AGENCY AND BE PRESSURE TESTED TO 150 POUNDS PER SQUARE INCH (PSI) (1034 KPA) TO ASSURE WATER TIGHTNESS PRIOR TO BACKFILLING.

20. SEWERS CROSSING WATERMAINS – TEN STATE STANDARDS, LATEST EDITION, CHAPTER 30, SECTION 38.32, PAGE 30–11 TO 30–12: SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18–INCHES (460 MM) BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE.

21. WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, ONE OF THE FOLLOWING METHODS MUST BE SPECIFIED:

a. THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO WATER PIPE, AND SHALL BE PRESSURE TESTED AT 150 PSI (1034 KPA) TO ASSURE WATER TIGHTNESS PRIOR TO BACKFILLING.
b. EITHER THE WATER MAIN OR THE SEWER LINE MAY BE ENCASED IN A WATERTIGHT CARRIER PIPE WHICH EXTENDS TEN (10) FEET (THREE (3) METERS) ON BOTH SIDES OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATER MAIN. THE CARRIER PIPE SHALL BE OF MATERIALS APPROVED BY THE REGULATORY AGENCY FOR USE IN WATER MAIN CONSTRUCTION.
c. THE SEWER SHALL BE ENCASED IN CONCRETE PER THE DSM WATERMAIN CROSSING DETAIL TYPICAL FOR ENCASEMENT

22. THE MANHOLE COVERS ARE TO BEAR THE INSCRIPTION 'AMHERST SANITARY' AND COMPLY WITH THE STANDARD FRAME AND COVER DETAIL. FOR PRIVATE PROJECTS THE COVERS SHALL BEAR THE INSCRIPTION 'SANITARY SEWER' AND COMPLY WITH THE STANDARD FRAME AND COVER (PRIVATE SEWER) DETAIL.

23. BUILDING SANITARY SEWER VENTS MUST BE INSTALLED SIX (6) INCHES ABOVE FINISHED GRADE IN A GRASSY AREA WITH A MUSHROOM CAP. IF THE VENT IS IN A SIDEWALK OR PAVED AREA, THEN PROTECT WITH 6" DIAMETER BOLLARDS (2 MINIMUM).

24. CLEANOUTS (C.O.) ARE REQUIRED ON 4" AND 6" BUILDING SEWERS EVERY FIFTY FEET AND ONE HUNDRED FEET RESPECTIVELY, AND AT EVERY CHANGE OF ALIGNMENT.

25. ABANDONED BUILDING SEWER CONNECTIONS FROM THE SITE, IF ANY, REQUIRE PROOF OF A DISTRICT PERMIT FOR DISCONNECTION PRIOR TO THE NEW CONNECTION BEING MADE.

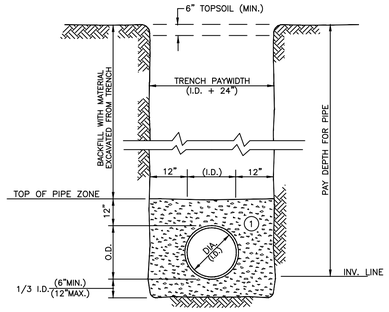
26. THE FOLLOWING PERTAINS ONLY FOR DIRECT REPLACEMENT OF IN SERVICE SANITARY SEWERS:
a. EACH NEW PIPE JOINT SHALL BE ULTRASONIC TESTED AFTER IT IS LAID, BUT BEFORE THE NEXT PIPE IS LAID. ALL TESTS SHALL BE IN ACCORDANCE WITH THE TESTING EQUIPMENT MANUFACTURE RECOMMENDATIONS.
b. THE ULTRASONIC TEST SHALL BE PERFORMED IN LIEU OF THE HYDROSTATIC TEST.
c. A VIDEO INSPECTION OF THE ENTIRE SEWER SHALL BE PERFORMED IN LIEU OF THE AIR TEST. FORWARD THE VIDEO INSPECTION TAPE AND RELATED PAPERWORK TO DSM FOR REVIEW AND APPROVAL.
d. A DEFLECTION TEST IS REQUIRED IN ALL CASES.

27. FOR ALL SANITARY SEWER INSTALLATIONS, A WRITTEN CERTIFICATE OF CONSTRUCTION COMPLETENESS AND COMPLIANCE, INCLUDING THE RESULTS OF THE HYDROSTATIC LEAKAGE TEST, LAMP TEST, DEFLECTION TEST, AIR TEST, ETC. SHALL BE SUBMITTED TO THE ERIE COUNTY HEALTH DEPARTMENT AND SMD WITHIN THIRTY (30) DAYS AFTER COMPLETION OF CONSTRUCTION.

28. FOR ALL PUBLIC AND PRIVATE 8"OR LARGER SANITARY SEWER INSTALLATIONS, THE DEVELOPER/CONTRACTOR MUST PROVIDE ONE (1) SET OF RECORD DRAWINGS ON D SIZE PAPER (24"x36") AND IN AN ELECTRONIC FILE FORMAT (CD) COMPATIBLE WITH AUTOCAD, RELEASE 2007.

29. ALL PUBLIC SEWER EXTENSION PROJECTS THAT CONSIST OF MORE THAN 750 LF OF 8 LARGER, SHALL FURNISH A 2 YEAR MAINTENANCE BOND TO THE SMD.

30.



NOTES:

A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.

C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.

D. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

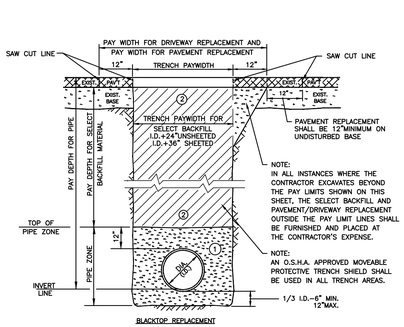
MATERIALS

PIPE BEDDING MATERIAL (NYSDOT LATEST EDITION)

① NO.1 CRUSHED STONE WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE CRUSHED STONE SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN 1" AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

NOTE: SLAG SHALL NOT BE ALLOWED FOR MATERIALS ①

UNSHEETED TRENCH DETAIL



NOTE:
IN ALL INSTANCES WHERE THE CONTRACTOR EXCAVATES BEYOND THE PAY LIMITS SHOWN ON THIS SHEET, THE SELECT BACKFILL AND PAVEMENT/DRIVEWAY REPLACEMENT OUTSIDE THE PAY LIMIT LINES SHALL BE FURNISHED AND PLACED AT THE CONTRACTOR'S EXPENSE.

NOTE:
AN O.S.H.A. APPROVED MOVEABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL TRENCH AREAS.

BLACKTOP REPLACEMENT

ALL ROADS AND DRIVEWAYS SHALL BE RECONSTRUCTED WITH A MIN. 3" COURSE OF BINDER AND A 1-1/2" TOP COURSE. APPLICABLE HIGHWAY PERMIT CONDITIONS SHALL GOVERN.

TEMP. PAVT.
1. IF CONSTRUCTION IS PERFORMED BETWEEN OCTOBER 1 AND APRIL 1, THE CONTRACTOR IS REQUIRED TO PROVIDE 4" OF COLD PATCH FOR ALL PAVEMENT CUTS.
2. ALL OPEN CUTS WITHIN 50' OF AN INTERSECTION SHALL BE TOPPED WITH 4" OF COLD PATCH REGARDLESS OF THE TIME OF YEAR.
3. ALL ROAD CUTS ON HEAVILY TRAVELED ROADWAYS WILL REQUIRE 4" OF COLD PATCH (GENERALLY STATE AND COUNTY HIGHWAYS)
4. ALL TEMPORARY PAVEMENT PATCHES SHALL BE MAINTAINED BY THE CONTRACTOR.

SAW CUTS
1. PAVEMENT/DRIVEWAY CUTS BY THE CONTRACTOR WILL BE MADE WITH A SAW, PNEUMATIC SPADE OR OTHER ACCEPTED MEANS PRIOR TO EXCAVATION.
2. FINAL PAVEMENT/DRIVEWAY RESTORATION: THE CONTRACTOR WILL BE RESPONSIBLE TO SAW CUT AN ADDITIONAL 12" ON EACH SIDE OF THE DISTURBED TRENCH AREA, SO AS TO PROVIDE A UNIFORM STRAIGHT EDGE. THE CUT EDGE WILL THEN BE COATED WITH A BITUMINOUS SEAL COAT AND REPLACED IN THE MANNER DESCRIBED ABOVE.

CONCRETE DRIVEWAY REPLACEMENT

1. THE CONTRACTOR SHALL REMOVE ALL CONCRETE DAMAGE BY HIS OPERATION. THE EXISTING CONCRETE AT THE DAMAGED EDGE SHALL BE SAW CUT TO PROVIDE A STRAIGHT EDGE JOINT BETWEEN OLD AND NEW, WITH EXPANSION JOINT MATERIAL INSTALLED AT THE TRANSITION. THE CONTRACTOR SHALL BE REQUIRED TO RECONSTRUCT THE DRIVEWAY WITH 4000 PSI CONCRETE MATCHING THE DEPTH AND WIDTH OF THE EXISTING DRIVEWAY.

MATERIALS

PIPE BEDDING MATERIAL (NYSDOT LATEST EDITION)

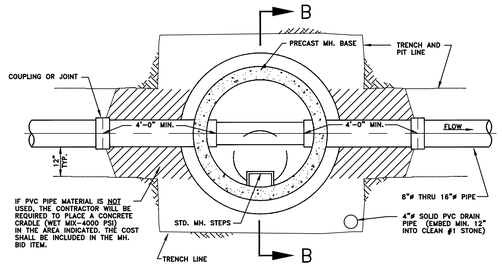
① NO.1 CRUSHED STONE WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE CRUSHED STONE SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN 1" AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

SELECT MATERIAL BACKFILL (NYSDOT LATEST EDITION)

② NO.2 RUN OF CRUSHER STONE OR NO.2 RUN OF CRUSHER GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 304-2.02 TYPE 4 AND NYSDOT SECTION 703-02. (COMPACTED IN 6"LIFTS TO 90% DENSITY)

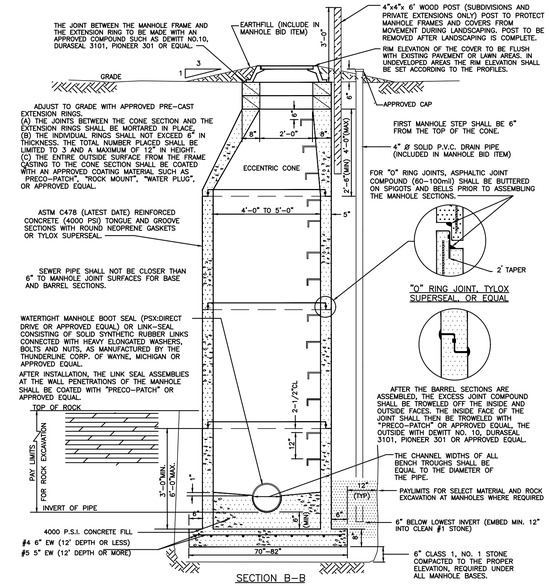
NOTE: SLAG SHALL NOT BE ALLOWED FOR MATERIALS ① AND ②

PAVEMENT AND DRIVEWAY REPLACEMENT DETAIL



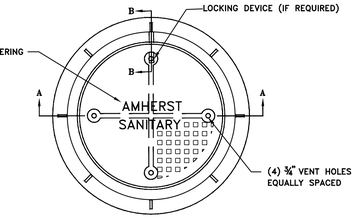
PLAN

MONOLITHIC PRECAST BASE MANHOLES 4'-0" DIA. BASE FOR 15" Ø SEWERS OR LESS



SECTION B-B

MONOLITHIC PRECAST BASE MANHOLES 4'-0"/5'-0" DIA. BASE FOR 15" Ø SEWERS OR LESS,



SECTION A-A

TABLE				
PIPE SIZE	DIMENSION "A"	DIMENSION "B"	DIMENSION "C"	WEIGHT OF COVER
8" THRU 18"	24"	22 1/4"	35"(MAX.)	150 LB. ± 5%
OVER 18"	32"	30"	46"(MAX.)	200 LB. ± 5%

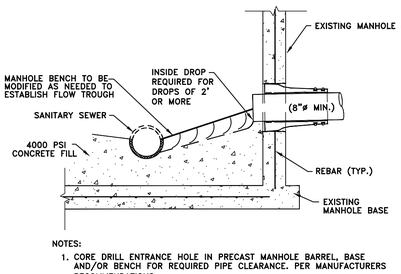
STANDARD FRAME AND COVER NOTES

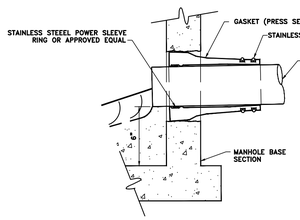
1. MATERIAL ASTM A48 CLASS 30B CAST IRON.
2. UNIT MUST WITHSTAND H-20 WHEEL LOADING.
3. ALL DIMENSIONS ARE TO BE CONSIDERED MINIMUM WITH THE EXCEPTION OF THE COVER, WHICH MUST CONFORM EXACTLY TO MAINTAIN INTERCHANGEABILITY WITHIN THE COUNTY.
4. COATING NOT REQUIRED.
5. FRAMES AND COVERS SHALL HAVE MACHINED BEARING SURFACES.
6. LOCKING DEVICE MUST BE SITUATED TO ALLOW EASY REMOVAL OF COVER.
7. NO LETTERING OTHER THAN ECSD SANITARY WILL BE ALLOWED ON THE EXPOSED SURFACE OF THE COVER.



LOCKING DEVICE IF REQUIRED

STANDARD FRAME AND COVER

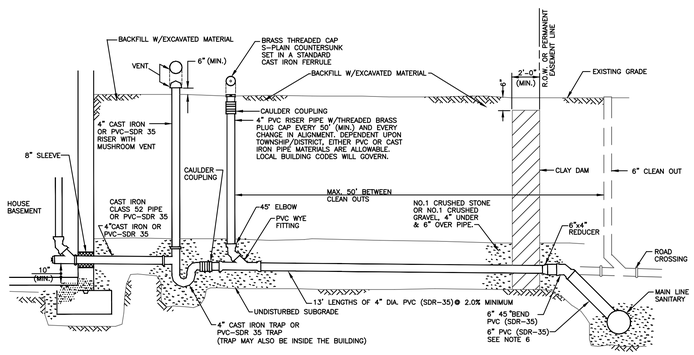




NOTES:

1. CORE DRILL ENTRANCE HOLE IN PRECAST MANHOLE BARREL, BASE AND/OR BENCH FOR REQUIRED PIPE CLEARANCE. PER MANUFACTURERS RECOMMENDATIONS.
2. DOES NOT APPLY TO HOUSE LATERALS.
3. WATERTIGHT PIPE TO MANHOLE BOOT SEAL REQUIRED FOR ALL CORE DRILLED ENTRANCE HOLES IN MANHOLE BARREL AS SHOWN BELOW.

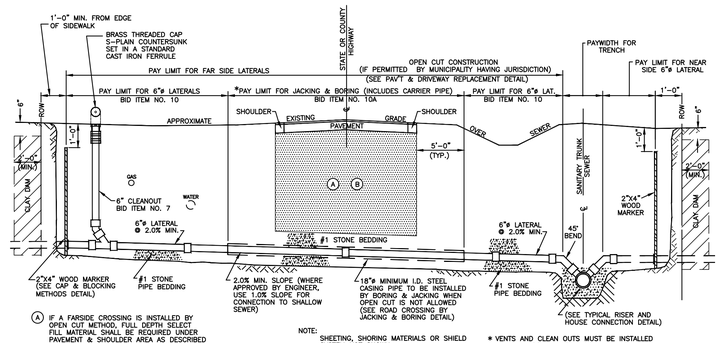
CONNECTION TO EXISTING MANHOLE



NOTES:

1. NO INSPECTION WILL BE PROVIDED WITHOUT A PERMIT. INSPECTIONS REQUIRE 48 HR. ADVANCE NOTICE FOR SCHEDULING.
2. ALL WORK MUST BE INSPECTED BY THE ENGINEER.
3. PVC PIPE MATERIAL SHALL BE MANUFACTURED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST ASTM SPECIFICATION.
4. A MANUAL VALVE SHALL BE INSTALLED ON BASEMENT LAUNDRY DRAIN.
5. MONTHLY AND CLEAN OUTS MUST BE INSTALLED IN LAWN AREAS, NOT IN SIDEWALK OR DRIVEWAY AREAS, PREFERABLY BETWEEN THE CURB OR EDGE OF PAVEMENT, AND THE SIDEWALK.
6. SELECT BACKFILL REQUIRED UNDER PAVED AREAS.
7. CONCRETE ENCASEMENT IF COVER DEPTH IS LESS THAN 4'-0" UNDER PAVED AREAS
8. FOR NEW CONSTRUCTION, ANY 8x6, WYE WITH 6" PVC TO 4" x5" BEND, THEN 6" x 4" REDUCER IS USED.
9. A 6" CLEAN OUT IS REQUIRED AT R.O.W. OR PERMANENT EASEMENT LINE OR UNDER PAVEMENT LIMITS OR AT FAR SIDE OF PAVEMENT.
10. ANY EXCAVATION TO BE LEFT OPEN OVERNIGHT SHALL BE COMPLETELY ENCLOSED IN FENCING, OR WHERE NECESSARY, COVERED WITH STEEL PLATES.
11. DOWN SPOUTS, SUMP PUMPS, AND FOOTING DRAINS ARE NOT PERMITTED TO BE CONNECTED TO THE HOUSE LATERAL.
12. FOR NEW STRUCTURES, NO CONNECTION SHALL BE MADE UNTIL BUILDING ROOF IS ERECTED AND BASEMENT FLOOR IS POURED.

TYPICAL HOUSE SERVICE DETAIL



(A) IF A FARSIDE CROSSING IS INSTALLED BY OPEN CUT METHOD, FULL DEPTH SELECT FILL MATERIAL SHALL BE REQUIRED UNDER PAVEMENT & SHOULDER AREA AS DESCRIBED IN SECTION 01020- ITEM15 DESCRIPTION OF BID ITEMS-ECDEP SPECIFICATIONS.

(B) NO. 2 RUN OF CRUSHER STONE WITH A GRADATION CONFORMING WITH NYSDOT SECTION 304-2.02 TYPE 4 AND NYSDOT SECTION 703-02 (LATEST EDITION) COMPACTED IN 6" LIFTS TO 90% DENSITY.

NOTE:
SHEETING, SHORING MATERIALS OR SHIELD SYSTEM NOT SHOWN.

* LENGTH OF PAY LIMIT FOR JACKING AND BORING VARIES IN ACCORDANCE WITH DIMENSIONS SHOWN ON THE PLAN SHEETS.

* CONCRETE ENCASEMENT IF COVER DEPTH IS LESS THAN 4'-0" UNDER PAVED AREAS (SEE TYP. CONCRETE ENCASEMENT DETAIL)

* VENTS AND CLEAN OUTS MUST BE INSTALLED IN LAWN AREAS, NOT IN SIDEWALK OR DRIVEWAY AREAS, PREFERABLY BETWEEN THE CURB OR EDGE OF PAVEMENT AND THE SIDEWALK.

TYPICAL CROSS SECTION OF HIGHWAY CROSSING FOR HOUSE / COMMERCIAL LATERALS

MANHOLE PLACEMENT AND MAINTENANCE DURING CONSTRUCTION AND DEVELOPMENT

CONTRACTOR AND/OR DEVELOPERS SHALL CONSTRUCT ALL MANHOLE STRUCTURES IN ACCORDANCE WITH THE TOWN OF AMHERST STANDARD SPECIFICATIONS OR THE SPECIFICATIONS OF THE DESIGN ENGINEER WHEN REQUIRED BY THE TOWN.

ALL MANHOLES ARE TO BE DESIGNED AND FURNISHED WITH RIM ELEVATIONS AT FINAL FINISHED GRADES. THE CONTRACTOR, DEVELOPER, OR HOME BUILDER SHALL BE RESPONSIBLE FOR ALL CORRECTIONS, ADJUSTMENTS, AND MODIFICATIONS NEEDED FOR RAISING, LOWERING, OR REPLACING ANY AND ALL MANHOLES AS PROPOSED FOR THE FACILITY.

ALL AS-BUILT STATIONING, LINE AND GRADE IMPROVEMENTS, INVERT AND RIM ELEVATIONS, "Y" LOCATIONS, INSPECTION REPORTS, ROADWAY OR STREET NAMES, RIGHT-OF-WAY WIDTHS, AND EASEMENT LINES SHALL BE FURNISHED TO THE TOWN ON A SET OF MYLAR DRAWINGS PRIOR TO TAP-IN APPROVAL, PIP ACCEPTANCE, AND/OR RELEASE OF FINAL PAYMENT.

ALL MANHOLE STRUCTURES SHALL BE MADE ACCESSIBLE TO THE TOWN OF AMHERST TELEVISION/MAINTENANCE CREWS. THE CONTRACTOR AND/OR DEVELOPER SHALL PROVIDE A DRY, WELL COMPACTED, STABLE SURFACE FREE FROM SHOW AND OBSTRUCTIONS FOR SAFE AND OPEN ACCESS WITH TOWN VEHICLES. SHOULD THE CONTRACTOR AND/OR DEVELOPER WISH TV INSPECTIONS DURING WET WEATHER/WET SOFT SOIL CONDITIONS, HE SHALL PROVIDE ALL NECESSARY GRANULAR BACKFILL, DISTRIBUTED AND COMPACTED TO SUPPLY ACCESS TO EACH MANHOLE. THE CONTRACTOR AND/OR DEVELOPER SHALL BEAR ALL COSTS OF TOWING, DOWN TIME, CREW TIME, AND DAMAGE ALONG WITH RESTORATION, SHOULD SUCH ACCESSWAYS FAIL.

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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TOWN OF AMHERST
ERIE COUNTY - NEW YORK

SANITARY SEWER DETAILS

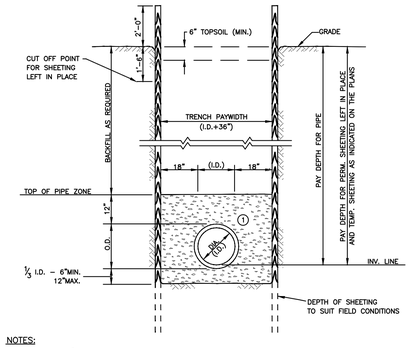
THIS SHEET ISSUED APRIL 18, 2024

SS2

DRAWING SCALE: NONE

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



NOTES:

1. MAINTAIN 18" BETWEEN PIPE AND INSIDE FACE OF TEMPORARY SHEETING. IF SHEETING EXTENDS BELOW PIPE INVERT AS SHOWN, WHEN PVC PIPE MATERIAL IS USED, COMPACT MATERIAL (1) BEFORE PULLING THE SHEETING.
2. SHEETED TRENCH OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING EQUIPMENT.
3. SHEETING DRIVEN BELOW THE INVERT OF THE PIPE FOR BEDDING MATERIAL AND TOE SUPPORT WILL NOT BE CONSIDERED IN THE FORMULA FOR PAYMENT BUT SHOULD BE FIGURED BY THE CONTRACTOR IN DETERMINING HIS UNIT BID PRICE PER SQUARE FOOT OF SHEETING.
4. WHERE INDICATED ON THE PLANS OR AS ORDERED BY THE ENGINEER, TEMPORARY SHEETING WILL BE PAID FOR UNDER THE APPLICABLE BID ITEM. OTHER AREAS WHERE THE CONTRACTOR ELECTS TO USE TEMPORARY SHEETING NOT PREVIOUSLY AUTHORIZED BY THE ENGINEER SHALL BE AT HIS OPTION AND EXPENSE.

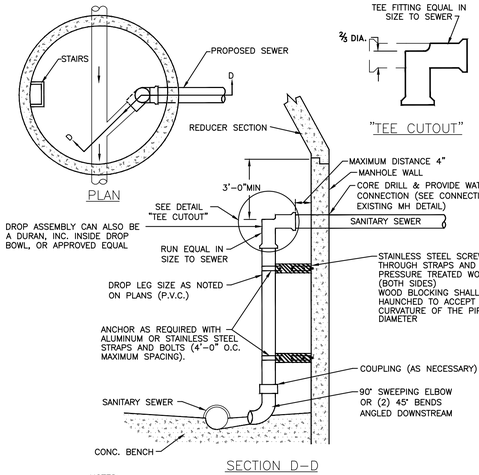
MATERIALS

PIPE BEDDING MATERIAL (NYSDOT LATEST EDITION)

(1) NO.1 CRUSHED STONE WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE CRUSHED STONE SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN 1" AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

NOTE: SLAG SHALL NOT BE ALLOWED FOR MATERIALS (1)

SHEETED TRENCH



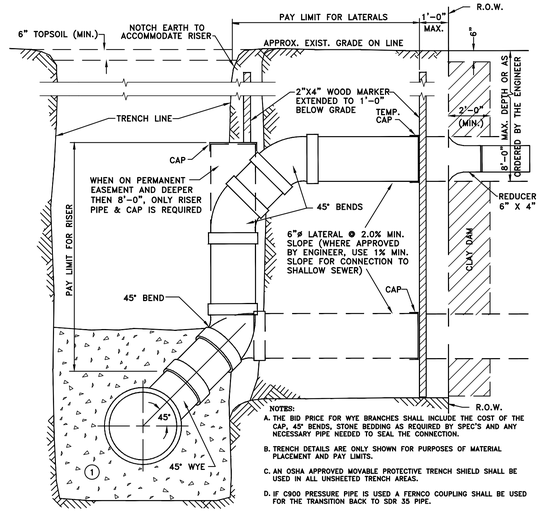
NOTES:

1. A DROP PIPE SHALL BE PROVIDED FOR A SEWER ENTERING A MANHOLE AT AN ELEVATION OF 24 INCHES OR MORE ABOVE THE MANHOLE INVERT. ONLY INSIDE DROP ASSEMBLIES WILL BE ALLOWED.
2. INSIDE DROP LEG SHALL BE INSTALLED ON MANHOLE WALL LOCATED AS SHOWN OR AS APPROVED BY ECDSM
3. ON NEW CONSTRUCTION INSIDE DROP ASSEMBLIES SHALL BE INSTALLED IN MANHOLES NOT LESS THAN 5'-0" IN DIAMETER.

PIPE SIZE	MANHOLE I. D.
18"	5'-0"
21"- 27"	6'-0"
30"- 36"	8'-0"

4/24/93

INSIDE DROP PIPE



NOTES:

A. THE BID PRICE FOR WYE BRANCHES SHALL INCLUDE THE COST OF THE CAP, 45° BENDS, STONE BEDDING AS REQUIRED BY SPEC'S AND ANY NECESSARY PIPE NEEDED TO SEAL THE CONNECTION.

B. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND PAY LIMITS.

C. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

D. IF C900 PRESSURE PIPE IS USED A FERNCO COUPLING SHALL BE USED FOR THE TRANSITION BACK TO SDR 35 PIPE.

MATERIALS

PIPE BEDDING MATERIAL (NYSDOT LATEST EDITION)

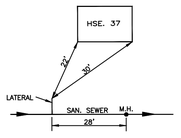
(1) NO. 1 CRUSHED STONE WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE CRUSHED STONE SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN ONE INCH AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER. NO SLAG WILL BE ALLOWED.

RISER DETAIL - SDR35
MAIN LINE LATERAL CONNECTION

1. MATERIAL
   a. THICK WALL PVC - D - 3034, SDR-35
   b. EXTRA HEAVY CAST IRON
   c. DUCTILE IRON
2. FAR SIDE CROSSING
   a. LATERALS INSTALLED ACROSS TOWN ROADS MAY BE BY THE OPEN CUT METHOD WHERE ALLOWED BY THE HIGHWAY PERMIT.
   b. LATERALS INSTALLED ACROSS STATE OR COUNTY ROADS SHALL BE BY THE BORING AND JACKING METHOD (UNLESS OTHERWISE NOTED ON THE PLANS) USING A STEEL CASING PIPE. THE CARRIER PIPE SHALL CONFORM WITH THE MATERIAL SPECIFIED OR APPROVED BY THE ENGINEER.
   c. ALL PAVEMENT CROSSINGS (OPEN CUT METHOD) WITH LESS THAN 4'-0" COVER SHALL BE ENCASED WITH 2000 PSI CONCRETE.
   d. ALL FAR SIDE CROSSINGS SHALL BE INSTALLED UP TO ONE (1) FOOT OF THE R.O.W. LINE.
   e. THE CONTRACTOR SHALL SUPPLY A 2" X 4" WOOD MARKER EXTENDING FROM THE END OF THE CROSSING TO ONE FOOT BELOW GRADE. ALSO, RECORDS SHALL BE KEPT AS TO THE DEPTH OF THE HOUSE SERVICE AND A MINIMUM OF THREE (3) TIES SHALL BE ESTABLISHED FOR THE LOCATION OF THE SERVICE.
   f. LATERALS SHALL BE LAID AT A 2.0% MINIMUM GRADE. IN CASES OF A SHALLOW SEWER, A 1.0% SLOPE MAY BE APPROVED BY THE ENGINEER.
3. NEAR SIDE SERVICES
   a. THE CONTRACTOR SHALL SUPPLY WYE BRANCHES OF THE SAME MATERIAL AND CLASS AS THE SEWER MAIN.
   b. THE LOCATION OF THE WYE BRANCHES WILL BE DETERMINED BY THE CONTRACTOR AND ENGINEER IN THE FIELD AFTER CONFERRING WITH THE HOMEOWNER.
   c. THE LOCATION OF THE BRANCHES SHALL BE MEASURED FROM THE LAST DOWNSTREAM MANHOLE AND AT LEAST THREE (3) TIES FROM AN EXISTING STRUCTURE, NORMALLY THE HOME IT IS TO SERVICE.
   d. NEAR SIDE SERVICES SHALL BE INSTALLED UP TO ONE (1) FOOT OF THE R.O.W. LINE.
   e. THE CONTRACTOR SHALL PROVIDE A 2" X 4" WOOD MARKER EXTENDED FROM THE WYE BRANCH TO ONE (1) FOOT BELOW GRADE.
   f. ON ALL SERVICES WHERE THE MAIN IS GREATER THAN 8' IN DEPTH, THE CONTRACTOR SHALL PROVIDE A RISER PIPE TO AN ELEVATION 8' BELOW EXISTING GRADE.

NOTES:

1. RECORDS OF THE DEPTH OF COVER SHALL BE KEPT FOR ALL HOUSE LATERALS BUILT ACROSS PAVEMENTS. SUCH RECORDS SHALL IDENTIFY THE LATERALS BY THE USE OF HOUSE NUMBERS AND SHALL SHOW LOCATION OF THE END OF THE HOUSE LATERAL WITH A MINIMUM OF THREE(3) TIES AS SHOWN IN EXAMPLE BELOW.
2. THE CONTRACTOR SHALL OBTAIN ALL HIGHWAY/R.O.W. PERMITS PRIOR TO START OF WORK.
3. VENTS AND CLEAN OUTS MUST BE INSTALLED IN LAWN AREAS, NOT IN SIDEWALK OR DRIVEWAY AREAS, PREFERABLY BETWEEN THE CURB OR EDGE OF PAVEMENT AND THE SIDEWALK.



CONSTRUCTION SPECIFICATIONS
FOR HOUSE LATERALS

GENERAL NOTES:

01. THE CONTRACTOR SHALL COMPLY WITH THE TOWN OF AMHERST STANDARD DRAWINGS AND SPECIFICATIONS.
02. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER AND THE TOWN OF AMHERST ENG. DEPT. OF ANY HAZARDOUS SUBSTANCE ENCOUNTERED DURING THE CONSTRUCTION OF THE WORK. HE SHALL AT HIS EXPENSE, CONFORM TO ALL LAWS, RULES, REGULATIONS AND DIRECTIONS AS PROMULGATED BY THE UNITED STATES DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, THE NEW YORK STATE DEPARTMENT OF HEALTH AND ANY SUCH LOCAL RULES, ORDINANCES AND LAWS WHEN ENCOUNTERING OR WORKING WITH ANY SUCH HAZARDOUS SUBSTANCE.
03. THE CONTRACTOR SHALL COMPLY IN ALL RESPECTS TO THE INDUSTRIAL CODE PART (RULE NO.) 53 RELATING TO CONSTRUCTION, EXCAVATION AND DEMOLITION OPERATIONS AT OR NEAR UNDERGROUND FACILITIES, AS ISSUED BY THE STATE OF NEW YORK DEPARTMENT OF LABOR, BOARD OF STANDARD AND APPEALS.
04. SINCE THE ERIE COUNTY WATER AUTHORITY OPERATES AND MAINTAINS THE EXISTING WATER LINES, THEY ARE TO BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF THE START OF CONSTRUCTION. ALL EXISTING VALVES ARE TO BE OPERATED BY THE ERIE COUNTY WATER AUTHORITY PERSONNEL.
05. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AHEAD OF THE PIPE LAYING OPERATION, SO THAT, IF MINOR ADJUSTMENTS MUST BE MADE IN ELEVATION AND/OR ALIGNMENT DUE TO INTERFERENCE FROM THESE UTILITIES, SAID CHANGES CAN BE MADE IN ADVANCE OF THE WORK.
06. WHERE SUCH FACILITIES ARE UNDER THE SUPERVISION OF A PROFESSIONAL ENGINEER, HE SHALL CERTIFY TO THE ENGINEERING DEPARTMENT OF THE TOWN OF AMHERST THAT SAID FACILITIES AS CONSTRUCTED WERE SUPERVISED BY HIMSELF (HERSELF) AND THAT THE WORKS HAVE BEEN FULLY COMPLETED IN ACCORDANCE WITH THE APPROVED ENGINEERING REPORTS, PLANS, SPECIFICATIONS, CONTRACT DOCUMENTS AND ANY AND ALL ADDENDA TO SAME.
07. THE CONSTRUCTION OF THE FACILITIES SHALL BE UNDER THE SUPERVISION OF A PERSON OR FIRM QUALIFIED TO PRACTICE PROFESSIONAL ENGINEERING IN NEW YORK STATE UNDER THE EDUCATION LAW OF THE STATE, WHENEVER ENGINEERING SERVICES ARE REQUIRED BY SUCH LAW FOR SUCH PURPOSES.
08. A WRITTEN CERTIFICATE OF CONSTRUCTION COMPLIANCE, INCLUDING THE RESULTS OF HYDROSTATIC LEAKAGE TESTS, MADE BY THE PROFESSIONAL ENGINEER SUPERVISING THE CONSTRUCTION, SHALL BE SUBMITTED TO THE ERIE COUNTY DEPART. OF ENVIRONMENT PLANNING AND NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION WITHIN THIRTY (30) DAYS AFTER CONSTRUCTION COMPLETION.
09. UNSUITABLE MATERIALS SUCH AS FROZEN ORGANIC AND/OR VEGETABLE MATERIAL, DEBRIS, TREES, LUMBER, LARGE STONES OR CLODS (6.0" OR LARGER), MUCK, PEAT, ORGANIC SILT WILL NOT BE ACCEPTABLE FILL AND CERTAIN MAN-MADE DEPOSITS OF INDUSTRIAL WASTE, SLUDGE OR LANDFILL MAY ALSO BE DETERMINED AS UNSUITABLE HAZARDOUS MATERIAL.
10. THE COMPACTION OF ALL MATERIALS WILL OCCUR AT 6" INCREMENTS.
11. VERIFICATION OF ALL EXISTING EASEMENTS IS THE RESPONSIBILITY OF THE DESIGN ENGINEER AND THEY MUST BE SHOWN ALONG WITH ALL PROPOSED EASEMENTS ON PLAN DRAWINGS.
12. SHOULD A FLUID CONDITION BE ENCOUNTERED AT THE TRENCH BOTTOM, THE CONTRACTOR IS TO INSTALL ADDITIONAL STONE CRADLE AS ORDERED BY THE ENGINEER.
13. ALL PIPE CROSSING UNDER PAVED AREAS ARE TO BE BACKFILLED TO SUBGRADE WITH COMPACTED SELECT MATERIAL TO FIVE (5) FEET OUTSIDE THE PAVEMENT EDGES.
14. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A QUALIFIED TREE EXPERT TO REMOVE, WHERE NECESSARY, BRANCHES WHICH INTERFERE WITH THE CONSTRUCTION OPERATION, OR REPAIR TREES HAVING SUFFERED DAMAGE BY CONSTRUCTION ACTIVITIES. THE COST INVOLVED IN THE ABOVE IS TO BE INCLUDED IN THE VARIOUS ITEMS OF THE CONTRACT.
15. SEWERS SHALL BE LAID AT LEAST TEN (10) FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATERMAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IN CASES WHERE IT IS NOT PRACTICAL TO MAINTAIN A TEN FOOT SEPARATION, THE APPROPRIATE REVIEWING AGENCY MAY ALLOW DEVIATION ON A CASE-BY-CASE BASIS, IF SUPPORTED BY DATA FROM THE DESIGN ENGINEER. SUCH DEVIATION MAY ALLOW INSTALLATION OF THE SEWER CLOSER TO A WATERMAIN, PROVIDED THAT THE WATERMAIN IS IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER AND AT AN ELEVATION SO THE BOTTOM OF THE WATERMAIN IS AT LEAST 18" (46CM) ABOVE THE TOP OF THE SEWER.
16. SEWERS CROSSING WATERMAINS SHALL BE LAID TO PROVIDE MINIMUM VERTICAL DISTANCE OF 18" (46CM) BETWEEN THE OUTSIDE OF A WATERMAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATERMAIN IS EITHER ABOVE OR BELOW THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATERMAIN JOINTS. WHERE A WATERMAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER, TO PREVENT DAMAGE TO THE WATERMAIN.
17. WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO WATER PIPE AND SHALL BE PRESSURE TESTED AS TO ASSURE WATERTIGHTNESS PRIOR TO BACKFILLING.
18. THE PIPE SHALL BE P.V.C. SEWER PIPE CONFORMING TO THE LATEST REVISIONS OF ASTM DESIGNATION D-3034, SDR-35, INSTALLED IN ACCORDANCE WITH ASTM.
19. THE MANHOLE COVERS ARE TO BEAR THE INSCRIPTION "AMHERST SANITARY".

SANITARY SEWER TESTING METHODS

GENERAL NOTES

(A) LEAKAGE TESTS

01. THE TEST PERIOD WHEREIN THE MEASUREMENTS ARE TAKEN SHALL NOT BE LESS THAN 24 HOURS, REGARDLESS OF THE TEST METHOD USED.
02. THE TOTAL LEAKAGE OF ANY SECTION TESTED BY ANY TEST METHOD SHALL NOT EXCEED THE RATE OF 200 GALLONS PER MILE OF PIPE PER 24 HOURS PER INCH OF NOMINAL PIPE DIAMETER.
03. MANHOLES SHALL BE CONSIDERED AS SECTIONS OF 48" DIAMETER PIPE AND THE EQUIVALENT LEAKAGE ALLOWANCE SHALL BE COMPUTED PER NOTE 02 USING THE SUBMERGED HEIGHT OF MANHOLE AS THE LENGTH.
04. WHEN MANHOLES ARE TESTED SEPARATELY, ALL PIPE OPENINGS SHALL BE PLUGGED AND THE TEST PROCEDURES AND CRITERIA SHALL BE APPLIED IN THE SAME MANNER AS FOR TESTS INVOLVING ONLY THE PIPE OR A COMBINATION OF PIPE AND MANHOLES.

(B) INFILTRATION TEST CRITERIA FOR USE

01. THIS TEST METHOD MAY ONLY BE USED WHEN GROUND WATER LEVELS ARE AT LEAST TWO (2) FEET ABOVE THE TOP OF THE PIPE FOR THE ENTIRE LENGTH OF THE SECTION TO BE TESTED DURING THE ENTIRE PERIOD OF THE TESTS.
02. GROUND WATER LEVELS MAY BE MEASURED IN AN OPEN TRENCH OR IN STANDPIPES PREVIOUSLY PLACED IN BACKFILLED TRENCHES DURING BACKFILLING.
03. THE NUMBER OF STANDPIPES REQUIRED AND LOCATION OF THE SAME ARE TO BE AS ORDERED BY THE ENGINEER. STANDPIPES MAY BE OF ANY PIPE MATERIAL BUT MUST BE OF SUCH DIAMETER (2-1/2" MINIMUM) AS TO PERMIT THE INSERTION OF A RULE OR LEVEL ROD. CRUSHED STONE SHALL BE PLACED AROUND THE LOWER OPEN ENDS OF THE STANDPIPES.
04. STANDPIPES ARE TO BE REMOVED AT THE SATISFACTORY COMPLETION OF THE TESTS.
05. IF IN LIEU OF STANDPIPES, THE TRENCH IS TO BE LEFT OPEN FOR GROUND WATER OBSERVATION, THE LENGTH OF UNBACKFILLED TRENCH AT ANY ONE TIME MAY HAVE TO BE LIMITED FOR REASONS OF SAFETY.

(C) EXFILTRATION TEST CRITERIA FOR USE

01. THIS TEST CONSISTS OF FILLING THE PIPE WITH WATER TO PROVIDE A HEAD OF AT LEAST TWO (2) FEET ABOVE THE TOP OF THE PIPE OR ABOVE GROUND WATER WHICHEVER IS HIGHER AT THE HIGHEST POINT OF THE PIPE LINE UNDER TEST, AND THEN MEASURING THE LOSS OF WATER TO MAINTAIN THE ORIGINAL LEVEL.
02. IN THIS TEST THE PIPE LINE MUST BE FILLED WITH WATER AND ALLOWED TO REMAIN SO FILLED FOR AT LEAST 24 HOURS PRIOR TO TAKING MEASUREMENTS.
03. REGARDING GROUND WATER MEASUREMENTS: SEE NOTES 02 THROUGH 05 ABOVE.
04. REGARDING THE TEST STANDPIPE: THERE MUST BE SOME POSITIVE METHOD OF RELEASING ENTRAPPED AIR IN THE SEWER PRIOR TO TAKING MEASUREMENTS.

(D) DEFLECTION TEST FOR PVC SEWER PIPE

01. DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE GRAVITY SEWER PIPE. TESTS SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE FOR AT LEAST 30 DAYS.
02. NO PIPE SHALL EXCEED DEFLECTION OF 5%. DEFLECTION GAGE MAY BE BORROWED FROM THE TOWN ENGINEER FOR 8" AND 10" PIPE. THE DEFLECTION TEST MUST BE EXECUTED AFTER 30 DAYS OF PLACEMENT OF FINAL BACKFILL. THE TEST WILL ALSO BE DONE WITHOUT MECHANICAL PULLING DEVICES.

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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TOWN OF AMHERST
ERIE COUNTY - NEW YORK

SANITARY SEWER DETAILS

THIS SHEET ISSUED APRIL 18, 2024

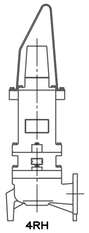
SS3

DRAWING SCALE: NONE

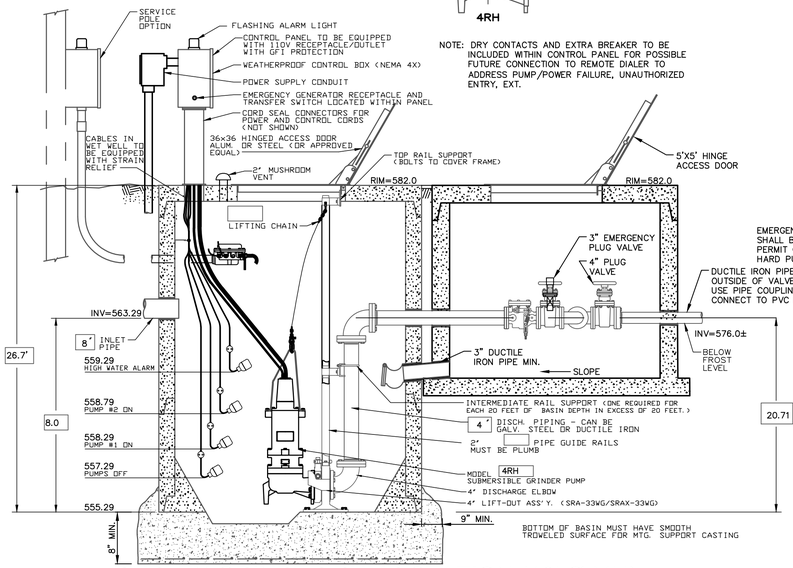
WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A_4300 Millersport Hwy)

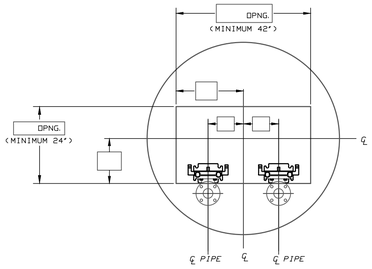
TABLE OF PUMP CHARACTERISTICS		
DESCRIPTION	PUMP STATION	AS BUILT
PUMP MODEL/SPEC.	MYERS 4RH	
PUMPING RATE	200 GPM	
APPROX. PUMP RPM	3500 RPM	
COMPUTED TDH @ SHUTOFF	75	
MOTOR HORSEPOWER MIN.	20 HP	
IMPELLER SIZE	6-IN	
MANUFACTURERS PERFORMANCE CHART NO.		
VELOCITY IN FORECEMAIN	5.1(FPS)	

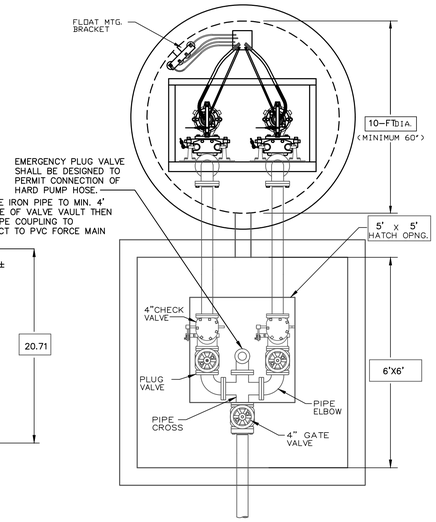


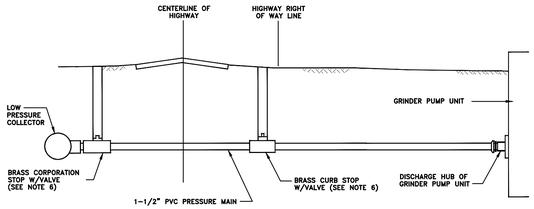
NOTE: DRY CONTACTS AND EXTRA BREAKER TO BE INCLUDED WITHIN CONTROL PANEL FOR POSSIBLE FUTURE CONNECTION TO REMOTE DIALER TO ADDRESS PUMP/POWER FAILURE, UNAUTHORIZED ENTRY, EXT.



DUPLEX GRINDER PUMP STATION (10' Ø MH)

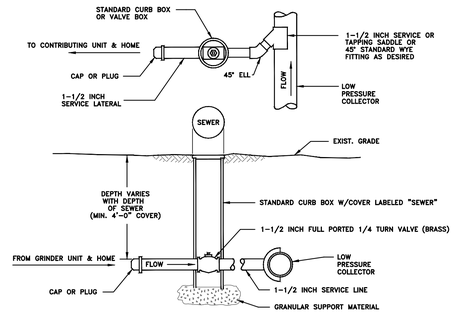




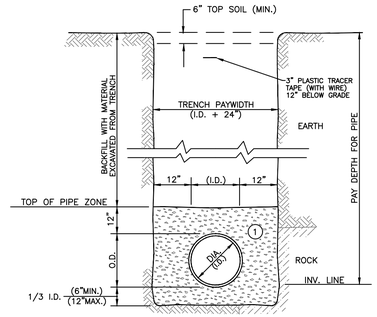


NOTES:

1. SERVICE CONNECTION SHALL HAVE A MINIMUM OF 4.0' OF COVER.
2. ROAD CROSSING SHALL BE JACKED OR BORED UNLESS OTHERWISE SHOWN OR SPECIFIED.
3. CORPORATION STOP TO BE SET IN TAPPED TEE OR TAPPED COUPLING.
4. ALL NECESSARY FITTINGS SHALL BE BRASS
5. A 3" WIDE MAGNETIC DETECTABLE TAPE SHALL BE INSTALLED ONE (1) FOOT ABOVE THE PRESSURE TUBING.
6. CURB BOXES MUST BE INSTALLED IN LAWN AREAS, NOT IN SIDEWALK OR DRIVEWAY AREAS, PREFERABLY BETWEEN THE CURB OR EDGE OF PAVEMENT AND THE SIDEWALK.



TYPICAL FORCE MAIN SERVICE CONNECTION



NOTES:

A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. FORCE MAIN MARKERS SHALL BE INSTALLED AT 500 FOOT INTERVALS AND AT POINTS WHERE THE FORCE MAIN DEFLECTS AND/OR CHANGES DIRECTION.

B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.

C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.

D. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

MATERIALS

PIPE BEDDING MATERIAL (NYSDOT LATEST EDITION)

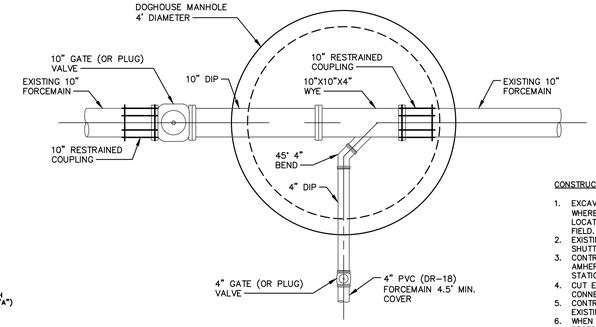
(1) NO.1 CRUSHED STONE WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE CRUSHED STONE SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN 1" AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

FORCE MAIN TRENCH DETAIL

NOTES:

1. ENTIRE LIMITS OF THE PROJECT AREA FALLS WITHIN THE 100-YR FLOODPLAIN (1% ANNUAL CHANCE FLOOD)

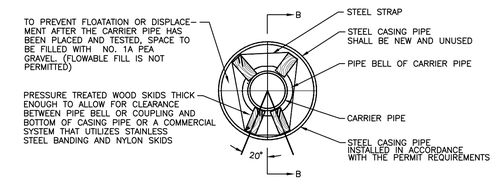
   100 YR BASE FLOOD ELEVATION = 580.0'
   FIRM MAP #36029C0086H

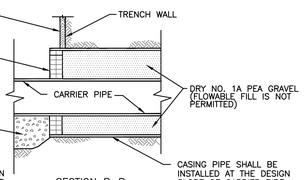


FORCE MAIN TO FORCE MAIN CONNECTION DETAIL

CONSTRUCTION SEQUENCE

1. EXCAVATE EXISTING 10" SANITARY FORCEMAIN PIPE WHERE PROPOSED 4" SANITARY FORCEMAIN PIPE LOCATION CONNECTION IS TO BE DETERMINED IN THE FIELD.
2. EXISTING WET WELL SHALL BE PUMPED DOWN PRIOR TO SHUTTING OFF EXISTING DOCKSIDE PUMP STATION.
3. CONTRACTOR SHALL COORDINATE WITH TOWN OF AMHERST TO SHUT DOWN EXISTING DOCKSIDE PUMP STATION.
4. CUT EXISTING 10" SANITARY FORCEMAIN PIPE AT CONNECTION LOCATION.
5. CONTRACTOR TO MAKE NECESSARY CONNECTIONS TO EXISTING SANITARY FORCEMAIN AND RESTRAIN PIPES.
6. WHEN CONNECTION HAS BEEN COMPLETED AND RESTRAINED, DOCKSIDE PUMP STATION IS TO BE TURNED BACK ON.
7. A PROPOSED DOGHOUSE MANHOLE TO BE INSTALLED AT CONNECTION LOCATION.
8. BACKFILL TO FOLLOW NYSDOT REQUIREMENTS.





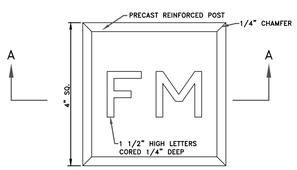
1. CASING PIPE GRADE SHALL BE AS SHOWN ON PLANS OR AS ORDERED BY ENGINEER.
2. MAXIMUM ALLOWABLE ERROR FOR THE CASING PIPE SHALL BE 0.2 OF A FOOT ABOVE OR BELOW THE DESIGN GRADE.
3. THE MAXIMUM ALLOWABLE ERROR ON THE HORIZONTAL ALIGNMENT OF THE CASING PIPE SHALL NOT EXCEED 4" OFF THE DESIGNED CENTERLINE OF IMPROVEMENT.
4. JACKING AND RECEIVING PIT, TEMPORARY SHEETING AND SHORING SHALL BE DESIGNED BY A N.Y.S. LICENSED ENGINEER RETAINED BY THE CONTRACTOR.
5. ANY ERROR IN GRADE AND/OR ALIGNMENT WHICH EXCEED THE NOTED ALLOWABLES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

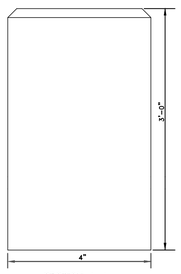
SECTION B-B
CASING PIPE DETAILS

SCHEDULE FOR DIAMETER AND THICKNESS OF CASING PIPE

CARRIER PIPE DIAMETER	CASING PIPE DIAMETER	CASING PIPE THICKNESS
4"	15"	0.375
6"	18"	0.375
8"	20"	0.375
10"	24"	0.375
12"	26"	0.375
15"	30"	0.375
18"	36"	0.500
21"	42"	0.500
24"	48"	0.500

ROAD CROSSING BY JACKING AND BORING METHOD 4" DIA. TO 24" DIA. CARRIER PIPE

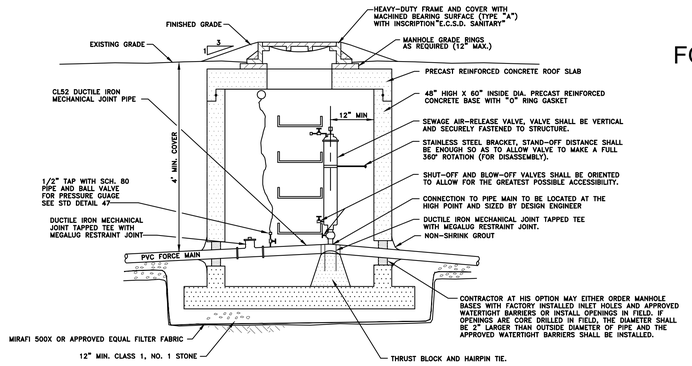




SECTION A-A

NOTES:
1. THE CONTRACTOR SHALL PROVIDE A 4 INCH SQUARE REINFORCED CONCRETE POST, 3 FEET LONG, BURIED IN A VERTICAL POSITION WITH THE LETTERS FM ENGRAVED ON THE TOP, FLUSH WITH THE GROUND SURFACE & MEET THE ENGINEER'S APPROVAL. (TO BE INCLUDED IN THE PIPE BID ITEM)
2. AFTER CONSTRUCTION OF FORCE MAIN, EACH MARKER IS TO BE LOCATED IN THE FIELD BY A LICENSED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE. LOCATIONS AND TIES TO BE INCLUDED ON RECORD PLANS.
3. MARKER IS REQUIRED EVERY 500' AND AT ALL FORCE MAIN CHANGES OF DIRECTION.

FORCE MAIN MARKER



SEWER AIR RELEASE VALVE AND MANHOLE

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

SANITARY SEWER DETAILS

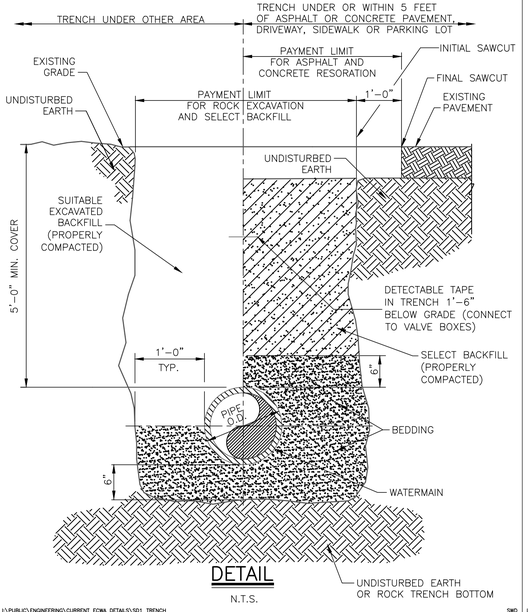
THIS SHEET ISSUED APRIL 18, 2024

SS4

DRAWING SCALE: NONE

WSA PROJECT NO. 13027C

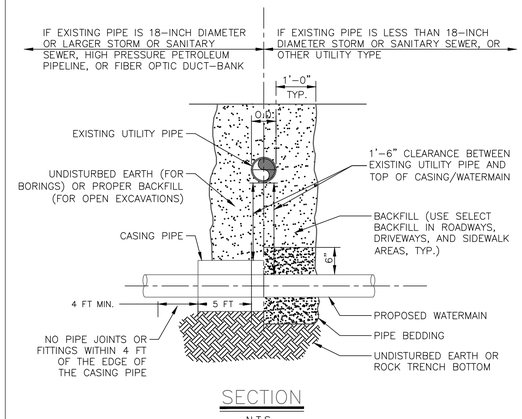
Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A_4300 Millersport Hwy)



DETAIL
N.T.S.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD1_TRENCH SWD

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL TRENCH THROUGH 16–INCH DIAMETER WATERMAIN	DWG. NO. SD1	DATE 4/28/92	REVISED 1/22



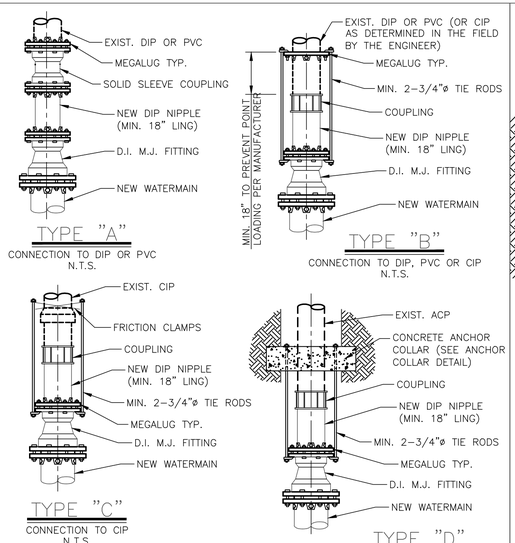
SECTION
N.T.S.

NOTES:

1. ALL EXISTING UTILITIES MUST BE SUPPORTED WITH APPROPRIATE CHAINS/STRAPS DURING CONSTRUCTION OF THE NEW WATERMAIN.
2. WHEN CROSSING A SEWERLINE WITH A NEW WATERMAIN (AND WITHOUT CASING PIPE), ONE FULL PIPE LENGTH (18. FT. MIN.) SHALL BE USED AT THE POINT OF CROSSING. THE WATERMAIN SHALL BE PLACED SO THAT BOTH JOINT ENDS ARE AS FAR AS POSSIBLE FROM THE EXISTING SEWERLINE.
3. IF CASING PIPE IS USED, IT SHALL EXTEND 5 FEET BEYOND THE EXISTING PIPE OUTER WALL EDGE IN EACH DIRECTION, AND NO WATERLINE JOINTS OR FITTINGS SHALL BE LOCATED WITHIN 4 FEET FROM THE CASING PIPE EDGE.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD2_PIPE_CROSSING SWD

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL PIPE CROSSING	DWG. NO. SD2	DATE 4/92	REVISED 8/21

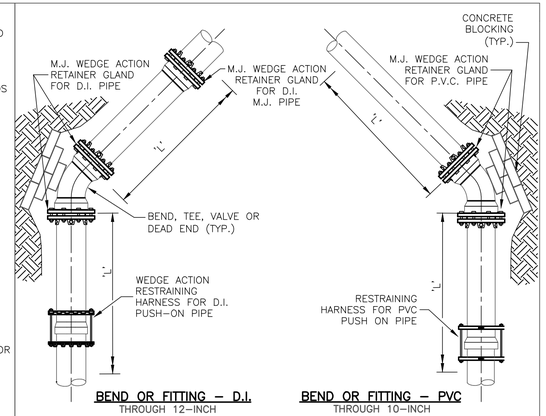


NOTES:

1. VALVES AND TEES MAY BE HARNESSED SIMILARLY.
2. HARNESSING IS FOR RESISTANCE TO INTERNAL PRESSURE–PIPE ITSELF MUST BE SUPPORTED ON FIRM BEDDING AND CAREFULLY BACKFILLED.
3. COAT ALL EXPOSED SURFACES OF HARNESS ASSEMBLY WITH BITUMINOUS COATING.
4. TIE RODS SHALL BE PLACED ON SIDES OF PIPE.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD5_CONN_EXIST_WMAIN

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL TYPICAL CONNECTION TO EXISTING WATERMAIN THROUGH 12–INCH DIAMETER WATERMAIN	DWG. NO. SD5	DATE 3/05	REVISED 7/16



BEND OR FITTING – D.I. THROUGH 12–INCH

BEND OR FITTING – PVC THROUGH 10–INCH

RESTRAINED JOINT SCHEDULE					
PIPE SIZE	PIPE TYPE	11.25° ELBOW	22.5° ELBOW	45° ELBOW	TEE BRANCH, 90° BEND, VALVE OR DEAD END
		'L'	'L'	'L'	'L'
6"	DIP	5'–0"	5'–0"	10'–0"	75'–0"
8"	DIP/PVC	5'–0"	10'–0"	25'–0"	100'–0"
10"	DIP	10'–0"	15'–0"	30'–0"	130'–0"
12"	DIP	10'–0"	15'–0"	30'–0"	130'–0"

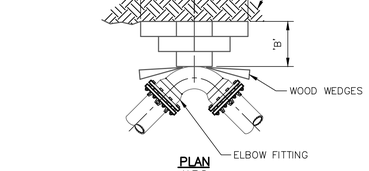
NOTES:

1. DIMENSION 'L' REPRESENTS THE LENGTH OF RESTRAINING PIPE REQUIRED IN FEET EACH SIDE OF THE PIPE FITTING.

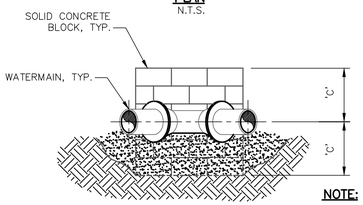
PLAN
N.T.S.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD4_REST_JOINT_SCHED

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL RESTRAINED JOINT SCHEDULE	DWG. NO. SD4	DATE 4/28/92	REVISED 7/16



PLAN
N.T.S.



ELEVATION
N.T.S.

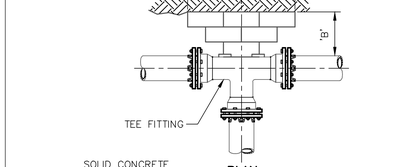
NOTE:

1. FITTING TO BE POLYTHYLENE WRAPPED PRIOR TO BEDDING AND CONCRETE BLOCK PLACEMENT.

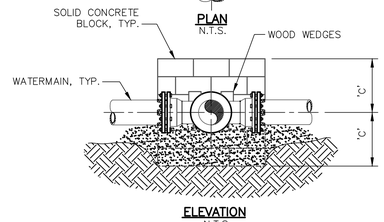
DIMENSION SCHEDULE												
PIPE SIZE	11.25° ELBOW			22.5° ELBOW			45° ELBOW			90° ELBOW		
	'A'	'B'	'C'	'A'	'B'	'C'	'A'	'B'	'C'	'A'	'B'	'C'
6"	6"	1'–0"	6"	6"	1'–0"	6"	9"	1'–0"	6"	1'–6"	1'–0"	6"
8"	6"	1'–0"	6"	9"	1'–0"	6"	1'–6"	1'–0"	6"	1'–6"	1'–0"	9"
10"	1'–0"	1'–0"	6"	1'–3"	1'–0"	9"	1'–9"	1'–0"	1'–0"	2'–0"	1'–0"	1'–0"
12"	1'–0"	1'–0"	6"	1'–3"	1'–0"	9"	1'–9"	1'–0"	1'–0"	2'–0"	1'–0"	1'–0"

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD6_THRUST_BLOCKS_ELBOW

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL THRUST BLOCKS FOR ELBOW FITTING	DWG. NO. SD6	DATE 4/28/92	REVISED 11/20



PLAN
N.T.S.



ELEVATION
N.T.S.

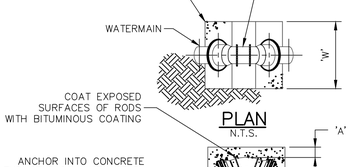
NOTES:

1. THRUST BLOCK REQUIRED FOR TEES, HYDRANT LATERAL TEES AND TAPPING SLEEVE INSTALLATIONS.
2. FITTING TO BE POLYETHYLENE WRAPPED PRIOR TO BEDDING AND CONCRETE BLOCK.

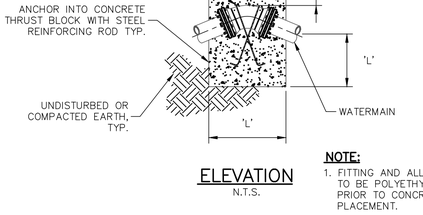
BRANCH TEE SIZE	DIMENSION SCHEDULE		
	'A'	'B'	'C'
6"	1'–0"	1'–0"	6"
8"	1'–6"	1'–0"	6"
10"	2'–0"	1'–0"	1'–0"
12"	2'–0"	1'–0"	1'–0"

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD7_THRUST_BLOCKS_TEE

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL THRUST BLOCKS FOR TEE OR "DEAD END" FITTING	DWG. NO. SD7	DATE 4/28/92	REVISED 11/20



PLAN
N.T.S.



ELEVATION
N.T.S.

NOTE:

1. FITTING AND ALL RESTRAINTS TO BE POLYETHYLENE WRAPPED PRIOR TO CONCRETE PLACEMENT.

DIMENSION SCHEDULE															
PIPE SIZE	PIPE TYPE	11.25° ELBOW				22.5° ELBOW				45° ELBOW					
		'A'	'W'	'L'	ROD ø	'A'	'W'	'L'	ROD ø	'A'	'W'	'L'	ROD ø		
6"	DIP	4"	1'–0"	1'–0"	3/8"	4"	1'–0"	1'–0"	3/8"	4"	1'–6"	1'–6"	3/8"		
8"	PVC	4"	1'–0"	1'–0"	1/2"	4"	1'–0"	1'–9"	1/2"	4"	2'–0"	2'–0"	1/2"		
8"	DIP	4"	1'–0"	1'–0"	1/2"	4"	1'–0"	1'–9"	1/2"	4"	2'–0"	2'–0"	1/2"		
10"	DIP	4"	2'–0"	2'–0"	3/4"	4"	2'–0"	2'–0"	3/4"	4"	2'–0"	3'–0"	3/4"		
12"	DIP	4"	2'–0"	2'–0"	3/4"	4"	2'–0"	2'–0"	3/4"	4"	2'–0"	3'–0"	3/4"		

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD8_THRUST_BLOCKS_VBEND

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL THRUST BLOCKS FOR VERTICAL BEND	DWG. NO. SD8	DATE 4/28/92	REVISED 11/20

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

ECWA DETAILS

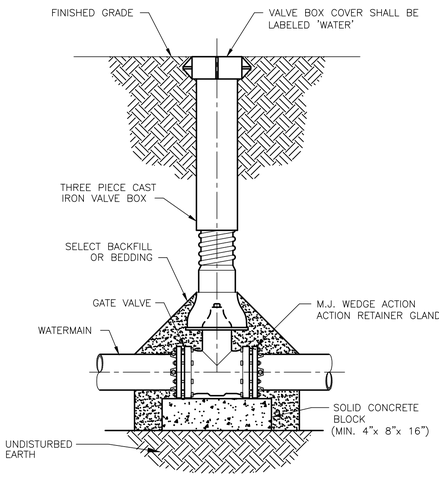
THIS SHEET ISSUED APRIL 18, 2024

WM1

DRAWING SCALE: NONE

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



NOTES:

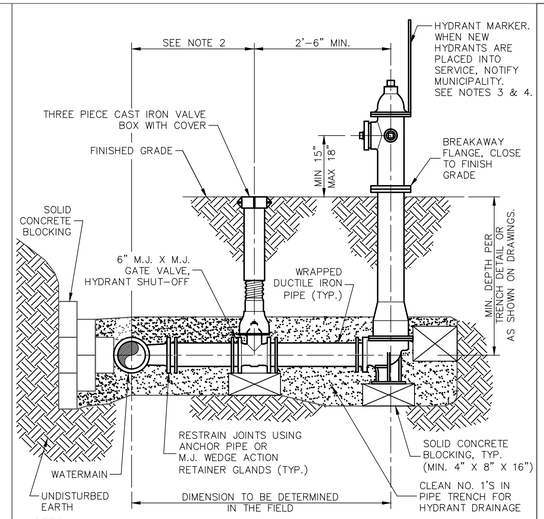
1. VALVE SHALL NOT SUPPORT VALVE BOX.
2. GATE VALVE SHALL BE INSTALLED LEVEL.
3. VALVE BOX SHALL BE PLUMB TO GRADE, WITH OPERATING NUT CENTERED IN BOX.

SECTION

N.T.S.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD11_GATE_VALVE_SET

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL GATE VALVE SETTING	DWG. NO. SD11	
		DATE 4/28/92	REVISED 02/17



NOTES:

1. HYDRANT RISER SHALL BE INSTALLED PLUMB.
2. VALVE BOX SHALL NOT BE PLACED IN PAVEMENT.
3. FOR WATERLINE REPLACEMENT PROJECTS, RELOCATE EXISTING MARKERS TO NEW HYDRANTS.
4. MUNICIPALITY SHALL BE RESPONSIBLE TO PROVIDE ANY NEW HYDRANT MARKERS AS NEEDED. CONTRACTOR TO COORDINATE WITH ALL MUNICIPALITIES AND FIRE DISTRICTS.
5. HYDRANT FACE TO BE A MINIMUM OF 3' FROM THE BACK FACE OF ALL CURBS OR A MINIMUM OF 5' FROM ALL EDGES OF PAVEMENT (IF NO CURB).

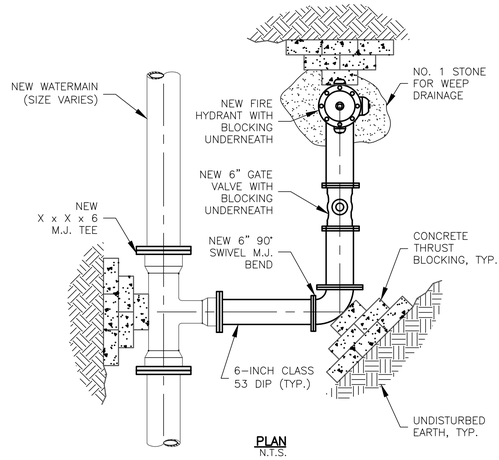
SECTION

N.T.S.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD13_HYD_INST

SWD

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL FIRE HYDRANT INSTALLATION	DWG. NO. SD13	
		DATE 6/00	REVISED 1/22



PLAN

N.T.S.

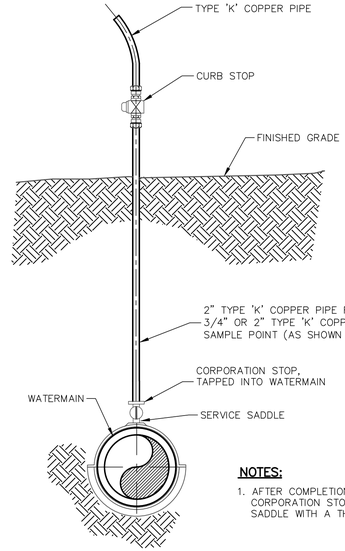
NOTES:

1. THIS DETAIL IS ONLY TO BE USED WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO INSTALL A PERPENDICULAR HYDRANT ASSEMBLY AND WHEN APPROVED BY THE AUTHORITY.
2. USE 6-INCH 90 DEGREE SWIVEL MECHANICAL JOINT (M.J.) BEND AS SHOWN.
3. HYDRANT RISER SHALL BE INSTALLED PLUMB.
4. ALL JOINTS ARE TO BE FULLY RESTRAINED.
5. ALL DUCTILE IRON PIPE AND FITTINGS TO BE POLYWRAPPED.
6. HYDRANT VALVE SHALL NOT BE PLACED IN SIDEWALKS OR DRIVEWAYS.
7. COMPLY WITH ALL REQUIREMENTS DEPICTED ON THE FIRE HYDRANT INSTALLATION DETAIL.
8. PIPE LENGTHS WILL VARY BASED ON FIELD CONDITIONS.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD15_HYDRANT_ASSEMBLY_WITH_BEND

SWD

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL HYDRANT ASSEMBLY WITH BEND	DWG. NO. SD15	
		DATE 11/20	REVISED



NOTES:

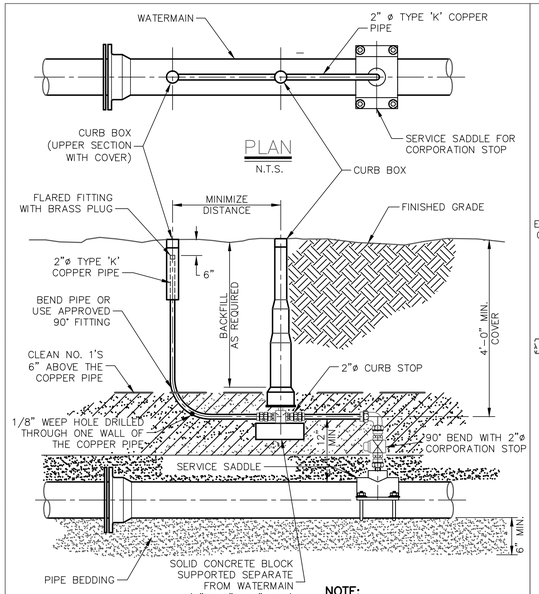
1. AFTER COMPLETION OF TEST, REPLACE CORPORATION STOP IN PIPE OR SERVICE SADDLE WITH A THREADED BRASS PLUG.

ELEVATION

N.T.S.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD17_TEMP_BO_SAMP_PT

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL TEMPORARY BLOW-OFF/SAMPLING POINT	DWG. NO. SD17	
		DATE 4/28/92	REVISED 7/16



PLAN

N.T.S.

SECTION

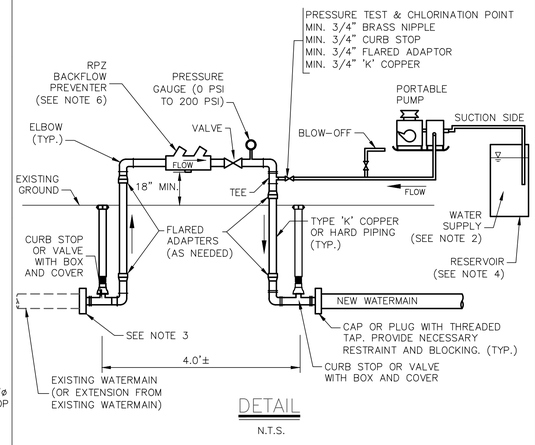
N.T.S.

NOTE:

1. CONTRACTOR TO ADJUST DEPTH OF MAIN TO OBTAIN CLEARANCES AS SHOWN.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD18_BLOWOFF

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL BLOWOFF	DWG. NO. SD18	
		DATE 4/28/92	REVISED 8/21



DETAIL

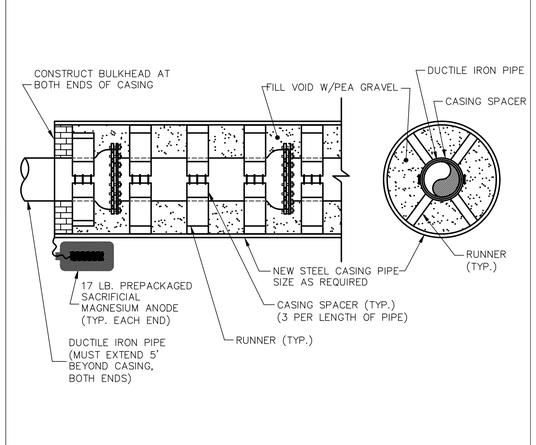
N.T.S.

NOTES:

1. BACTERIOLOGICAL WATER SAMPLES SHALL BE TAKEN AT BEGINNING AND END OF NEW WATERMAIN SECTION AND AT MAXIMUM 1,000 FT. SPACINGS.
2. PROVIDE CLEAN WATER SUPPLY FOR PRESSURE TESTING. PROVIDE CHLORINATED WATER SUPPLY FOR DISINFECTION.
3. CAP OR PLUG WITH THREADED TAP OR APPROPRIATE TAP INTO MAIN. PROVIDE NECESSARY RESTRAINT AND BLOCKING.
4. DIAMETER OF RESERVOIR SHALL BE 15" OR LESS. IF DIAMETER IS GREATER THAN 15", LEAKAGE TEST SHALL BE RUN A MINIMUM OF 4 HOURS.
5. PRESSURE TEST CANNOT EXCEED 2,000 LINEAR FEET PER TEST SECTION.
6. BACKFLOW PREVENTER TO BE SIZED TO ACHIEVE MIN 3 FPS SCOUR VELOCITY DURING FLUSHING OF NEW WATERLINE.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD23_PRESS_TEST_SCHEM

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL PRESSURE TESTING AND DISINFECTION APPARATUS SCHEMATIC	DWG. NO. SD23	
		DATE 6/00	REVISED 11/20



NOTES:

1. ALL PIPE JOINTS WITHIN THE CASING PIPE SHALL BE RESTRAINED JOINTS.
2. THE PROPOSED NUMBER OF CASING SPACERS SHALL BE INSTALLED TO PROVIDE SUFFICIENT SUPPORT AS PER MANUFACTURER'S RECOMMENDATION.
3. SACRIFICIAL ANODE BAG SHALL BE WETTED BEFORE BACKFILLING.
4. WIRE TO BE PLACED LOOSELY ON PIPE SURFACE AND SECURED IN PLACE WITH POLYWRAP TAPE. WIRE SHALL BE PLACED WITHOUT TENSION ONTO BOTTOM OF EXCAVATION AND CAREFULLY BACKFILLED WITH STONE TO PREVENT DAMAGE.

ELEVATION

N.T.S.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD25_CASING_PIPE_CASING_SPACERS

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL CASING PIPE WITH CASING SPACERS	DWG. NO. SD25	
		DATE 6/00	REVISED 8/16

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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STATE OF NEW YORK · WILLIAM E. SCHUTT · 058840 · LICENSED PROFESSIONAL ENGINEER

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

ECWA DETAILS

THIS SHEET ISSUED APRIL 18, 2024

WM2

DRAWING SCALE: NONE

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NOTES

1. All elevations refer to USGS NAVD88 datum.
2. The CONTRACTOR shall obtain necessary permits and furnish copies to the ENGINEER prior to commencing work.
3. The CONTRACTOR work area shall be confined to the limits of the right-of-ways and easements. The CONTRACTOR shall obtain any additional easements or work releases should the CONTRACTOR require additional area to accommodate his operations.
4. The CONTRACTOR shall provide maintenance and protection of traffic in accordance with the Erie County Highway Department standards and the NYSDOT Manual of Uniform Traffic Control Devices.
5. The locations and depths of existing underground utilities as shown on the plans and profiles are approximate. Other underground utilities not shown may be encountered. The CONTRACTOR shall perform test pits to verify the location and elevation of utilities at interconnections and crossings as shown, directed or required. The CONTRACTOR shall excavate in advance of the pipe laying operation and expose all existing underground utilities to prevent damage during construction and to determine required changes in grade necessary to install watermain to avoid conflicts.
6. The CONTRACTOR shall install those measures required to limit erosion of areas disturbed by the work. Clearing shall be performed on an as needed basis, phased to reduce erosion and visual impact.
7. Blasting will not be permitted.
8. No more than one connection may be made to any existing watermain prior to testing, disinfection, and approval of the Waterline Installation Completed Works Approval Report(s) by the Erie County Water Authority and the Erie County Health Department.
9. The Erie County Water Authority only shall operate existing valves and fire hydrants, including newly installed valves and fire hydrants that have been placed into service. The CONTRACTOR is advised that watertight conditions may not exist when existing valves are closed.
10. The CONTRACTOR shall have all equipment, manpower, and materials required on site and ready for use prior to commencing any shut-down or removing any existing facilities from service. The CONTRACTOR shall notify all affected customers of any shut-down at least 48 hours in advance. The CONTRACTOR shall notify the appropriate fire stations 48 hours in advance prior to taking any fire hydrants out of service. Any fire hydrants not in service shall be bagged in burlap or plastic. Any shut-down shall be limited to 4 consecutive hours. It may be necessary to schedule shut-downs at night, weekends, or other off hours so as to not affect schools, businesses or other customers, as determined by the ENGINEER. Shut-down requests shall be submitted to the Erie County Water Authority a minimum of 5 business days in advance of the requested shut-down date.
11. All watermain piping shall be installed with a minimum of 5'-0" of cover.
12. All watermain piping shall be installed with a minimum of 1'-6" of vertical clearance and 10'-0" of horizontal clearance from sanitary and storm piping, measured from the outside of the pipes at the point of crossing.
13. If the material at the design grade is unsuitable as determined by the ENGINEER, the CONTRACTOR, when ordered in writing, shall excavate additional material to the depth necessary and shall backfill to the proposed grade with the select granular material.
14. The installation of the 90 degree bends in the watermain is not allowed, unless approved by the Erie County Water Authority.
15. Thrust restraint for watermain piping through 12-inch diameter shall consist of thrust blocks and pipe joint restraint.
16. The CONTRACTOR shall notify the owner of any utility pole in advance of any excavation work that will take place within 5'-0" of the utility pole. The CONTRACTOR shall include the cost of temporary pole support in the appropriate bid item.Where utility poles are required to be supported during construction, the CONTRACTOR shall make all necessary arrangements with the utility company.
17. If materials are encountered during the construction that are suspected of being contaminated, the CONTRACTOR shall immediately notify the NYSDEC for direction regarding testing, separation, containment and disposal procedures.
18. Existing fire hydrants removed during construction and not reinstalled as part of the work shall be returned to the Erie County Water Authority Service Center, 3030 Union Road, Cheektowaga.
19. The CONTRACTOR shall place temporary pavement (consisting of hot mix asphalt or cold patch) in all trench excavations in traveled areas including roads, driveways, sidewalks, and parking areas.
20. The CONTRACTOR shall not restrict school bus access.
21. The use of existing fire hydrants for any reason is prohibited without prior approval of the Erie County Water Authority. This includes newly installed fire hydrants that have been placed into service.
22. The CONTRACTOR shall submit procedures for testing and disinfection of the watermain to the ENGINEER for approval.
23. The CONTRACTOR shall be present and assist in the Final Walk inspection. The CONTRACTOR shall provide sufficient personnel and equipment to demonstrate to the ENGINEER that all valves, fire hydrants and curb stops operate as required.

i:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD29_GENERAL_NOTES

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL GENERAL NOTES	SD29	
		DATE	REVISED
		3/05	11/21

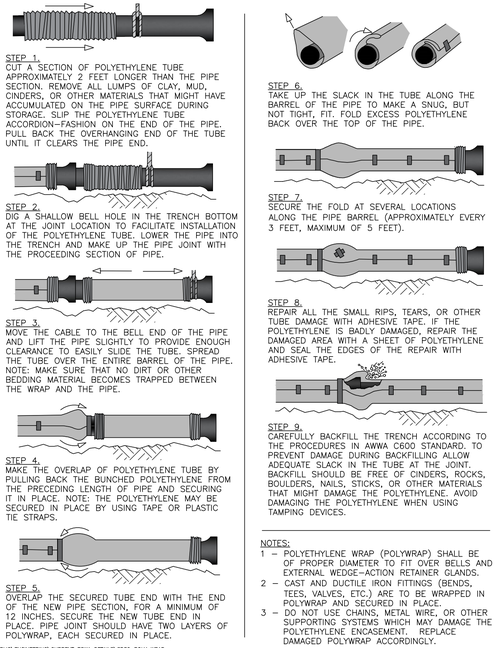
i:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD30_GENERAL_NOTES

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL GENERAL NOTES	DWG. NO. SD30	
		DATE	REVISED
		3/05	10/21

PIPE DIAMETER (in)	PIPE MATERIAL		WORKING PRESSURE (psi)	TEST PRESSURE (psi)
	Type (DIP, PVC, etc.)	Rating (Class/DR)		
8"	DIP/PVC	CLASS 52 / DR18	150	170
10"	DIP	CLASS 52	150	170
12"	DIP	CLASS 52	150	170
6"	DIP	CLASS 52	150	170

i:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD31_PRESS_TEST_SCHED

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	PRESSURE TESTING SCHEDULE	DWG. NO. SD31	
		DATE	REVISED
		10/05	11/20



STEP 1.
CUT A SECTION OF POLYETHYLENE TUBE APPROXIMATELY 2 FEET LONGER THAN THE PIPE SECTION. REMOVE ALL LUMPS OF CLAY, MUD, CINDERS, OR OTHER MATERIALS THAT MIGHT HAVE ACCUMULATED ON THE PIPE SURFACE DURING STORAGE. SLIP THE POLYETHYLENE TUBE ACCORDION-FASHION ON THE END OF THE PIPE. PULL BACK THE OVERHANGING END OF THE TUBE UNTIL IT CLEARS THE PIPE END.

STEP 2.
DIG A SHALLOW BELL HOLE IN THE TRENCH BOTTOM AT THE JOINT LOCATION TO FACILITATE INSTALLATION OF THE POLYETHYLENE TUBE. LOWER THE PIPE INTO THE TRENCH AND MAKE UP THE PIPE JOINT WITH THE PROCEEDING SECTION OF PIPE.

STEP 3.
MOVE THE CABLE TO THE BELL END OF THE PIPE AND LIFT THE PIPE SLIGHTLY TO PROVIDE ENOUGH CLEARANCE TO EASILY SLIDE THE TUBE. SPREAD THE TUBE OVER THE ENTIRE BARREL OF THE PIPE. NOTE: MAKE SURE THAT NO DIRT OR OTHER BEDDING MATERIAL BECOMES TRAPPED BETWEEN THE WRAP AND THE PIPE.

STEP 4.
MAKE THE OVERLAP OF POLYETHYLENE TUBE BY PULLING BACK THE BUNCHED POLYETHYLENE FROM THE PRECEDING LENGTH OF PIPE AND SECURING IT IN PLACE. NOTE: THE POLYETHYLENE MAY BE SECURED IN PLACE BY USING TAPE OR PLASTIC TIE STRAPS.

STEP 5.
OVERLAP THE SECURED TUBE END WITH THE END OF THE NEW PIPE SECTION, FOR A MINIMUM OF 12 INCHES. SECURE THE NEW TUBE END IN PLACE. PIPE JOINT SHOULD HAVE TWO LAYERS OF POLYWRAP, EACH SECURED IN PLACE.

STEP 6.
TAKE UP THE SLACK IN THE TUBE ALONG THE BARREL OF THE PIPE TO MAKE A SNUG, BUT NOT TIGHT, FIT. FOLD EXCESS POLYETHYLENE BACK OVER THE TOP OF THE PIPE.

STEP 7.
SECURE THE FOLD AT SEVERAL LOCATIONS ALONG THE PIPE BARREL (APPROXIMATELY EVERY 3 FEET, MAXIMUM OF 5 FEET).

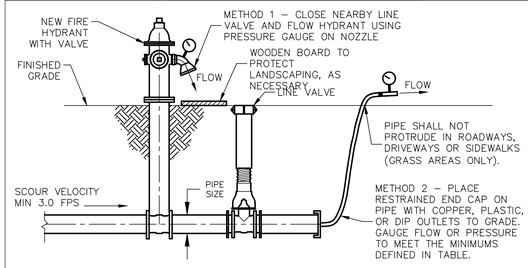
STEP 8.
REPAIR ALL THE SMALL RIPS, TEARS, OR OTHER TUBE DAMAGE WITH ADHESIVE TAPE. IF THE POLYETHYLENE IS BADLY DAMAGED, REPAIR THE DAMAGED AREA WITH A SHEET OF POLYETHYLENE AND SEAL THE EDGES OF THE REPAIR WITH ADHESIVE TAPE.

STEP 9.
CAREFULLY BACKFILL THE TRENCH ACCORDING TO THE PROCEDURES IN AWWA C600 STANDARD. TO PREVENT DAMAGE DURING BACKFILLING ALLOW ADEQUATE SLACK IN THE TUBE AT THE JOINT. BACKFILL SHOULD BE FREE OF CINDERS, ROCKS, BOULDERS, NAILS, STICKS, OR OTHER MATERIALS THAT MIGHT DAMAGE THE POLYETHYLENE. AVOID DAMAGING THE POLYETHYLENE WHEN USING TAMPING DEVICES.

NOTES:
1 – POLYETHYLENE WRAP (POLYWRAP) SHALL BE OF PROPER DIAMETER TO FIT OVER BELLS AND EXTERNAL WEDGE-ACTION RETAINER GLANDS.
2 – CAST AND DUCTILE IRON FITTINGS (BENDS, TEES, VALVES, ETC.) ARE TO BE WRAPPED IN POLYWRAP AND SECURED IN PLACE.
3 – DO NOT USE CHAINS, METAL WIRE, OR OTHER SUPPORTING SYSTEMS WHICH MAY DAMAGE THE POLYETHYLENE ENCASEMENT. REPLACE DAMAGED POLYWRAP ACCORDINGLY.

i:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD32_POLY_WRAP

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL POLYETHYLENE ENCASEMENT OF DUCTILE IRON PIPE	DWG. NO. SD32	
		DATE	REVISED
		06/16	02/19



PIPE SIZE (IN)	REQUIRED FLOW (GPM)	METHOD 1 HYDRANT FLOW		METHOD 2 END CAP FLOW	
		2 1/2" NOZZLE PRESSURE (PSI)	4" NOZZLE PRESSURE (PSI)	2" I.D. PRESSURE (PSI)	3" I.D. PRESSURE (PSI)
6	275	7	1	7	2
8	500	9	2	22	5
10	750	20	4	50	10
12	1100	44	7	–	22
16	1900	–	20	–	62
20	3000	–	50	–	–

I.D. = INNER DIAMETER

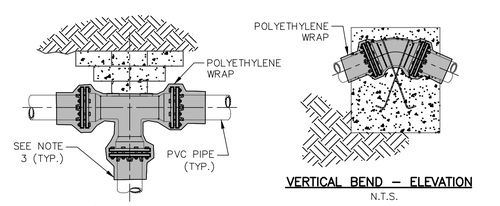
NOTES:

1. TO OBTAIN SCOUR VELOCITY (3.0 FPS) IN THE WATERLINE, CONTRACTOR SHALL ACHIEVE FLOWRATE AT NOZZLE DEFINED IN TABLE. PRESSURE GAUGE USED SHALL SHOW A HIGHER PRESSURE THAN THE MINIMUMS DEFINED IN THE TABLE.
2. OUTLET PRESSURE MEASURED BY PITOT GAUGE.
3. ENGINEER SHALL PROVIDE CALCULATIONS IF CONNECTIONS ARE OTHER THAN THOSE SHOWN, IF MULTIPLE CONNECTIONS ARE USED, OR AS REQUESTED BY ECWA.
4. TO FLUSH THREE PIPE VOLUMES, MINIMUM FLUSHING TIME (IN SECONDS) EQUALS THE LENGTH OF PIPE BEING FLUSHED, IN FEET.

SECTION
N.T.S.

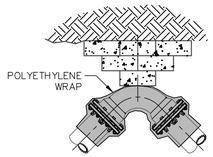
i:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD36_WATERLINE_FLUSHING

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL WATERLINE FLUSHING	DWG. NO. SD36	
		DATE	REVISED
		6/16	8/18

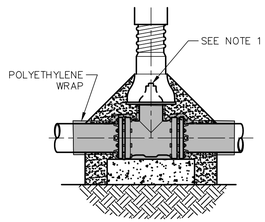


TEE – PLAN
N.T.S.

VERTICAL BEND – ELEVATION
N.T.S.



HORIZONTAL BEND – PLAN
N.T.S.



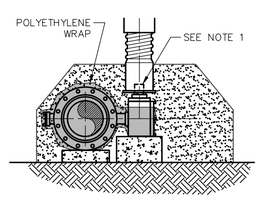
GATE VALVE – ELEVATION
N.T.S.

NOTES:

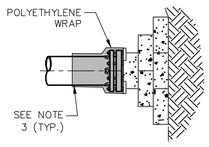
1. POLYETHYLENE WRAP IS TO BE PLACED AROUND THE ENTIRE FITTING, AND SECURED IN PLACE WITH POLYETHYLENE TAPE. PROVIDE SUFFICIENT SLACK SO THAT POLYETHYLENE WRAP IS NOT PUNCTURED DURING BACKFILL AND DOES NOT ENTRAP AIR. POLYETHYLENE WRAP IS NOT TO BE INSTALLED WITHIN 6 INCHES OF VALVE OPERATING NUT ON VALVES.
2. ALL FITTINGS TO BE POLYETHYLENE WRAPPED PRIOR TO BEDDING AND CONCRETE BLOCK PLACEMENT.
3. POLYETHYLENE WRAP IS TO BE EXTENDED A MINIMUM OF 12" PAST THE FITTING ON EACH LEG AND SECURED TO THE PIPE (OR POLYWRAP IF DIP) WITH AT LEAST TWO CIRCUMFERENTIAL WRAPS OF POLYETHYLENE TAPE.

i:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD39_POLYWRAPPING_FITTINGS

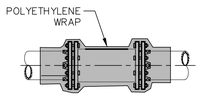
ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL POLYWRAPPING CAST/DUCTILE IRON FITTINGS	DWG. NO. SD39A	
		DATE	REVISED
		3/18	12/18



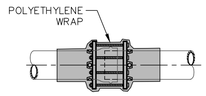
BUTTERFLY VALVE – ELEVATION
N.T.S.



END CAP / PLUG
N.T.S.



SOLID SLEEVE OR RESTRAINED COUPLING
N.T.S.



EXTERNAL JOINT RESTRAINT
N.T.S.

NOTES:

1. POLYETHYLENE WRAP IS TO BE PLACED AROUND THE ENTIRE FITTING, AND SECURED IN PLACE WITH POLYETHYLENE TAPE. PROVIDE SUFFICIENT SLACK SO THAT POLYETHYLENE WRAP IS NOT PUNCTURED DURING BACKFILL AND DOES NOT ENTRAP AIR. POLYETHYLENE WRAP IS NOT TO BE INSTALLED WITHIN 6 INCHES OF VALVE OPERATING NUT ON VALVES.
2. ALL FITTINGS TO BE POLYETHYLENE WRAPPED PRIOR TO BEDDING AND CONCRETE BLOCK PLACEMENT.
3. POLYETHYLENE WRAP IS TO BE EXTENDED A MINIMUM OF 12" PAST THE FITTING ON EACH LEG AND SECURED TO THE PIPE (OR POLYWRAP IF DIP) WITH AT LEAST TWO CIRCUMFERENTIAL WRAPS OF POLYETHYLENE TAPE.

i:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD39_POLYWRAPPING_FITTINGS

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL POLYWRAPPING CAST/DUCTILE IRON FITTINGS	DWG. NO. SD39B	
		DATE	REVISED
		12/18	

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

ECWA DETAILS

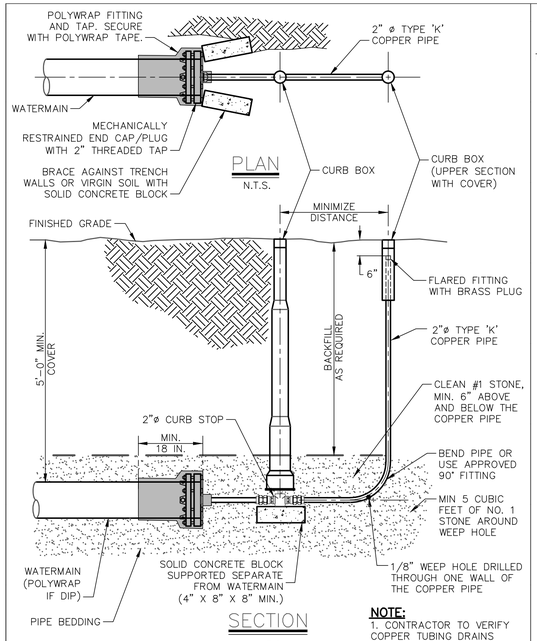
THIS SHEET ISSUED APRIL 18, 2024

WM3

DRAWING SCALE: NONE

WSA PROJECT NO. 13027C

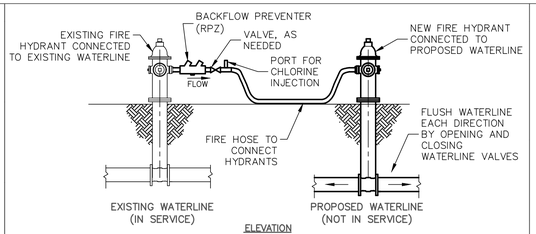
Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



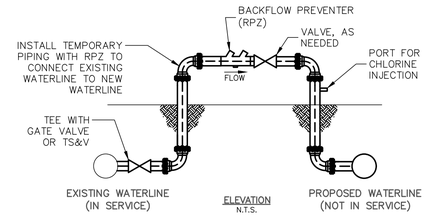
NOTE:
1. CONTRACTOR TO VERIFY COPPER TUBING DRAINS AFTER USE.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD43_END CAP BLOWOFF

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL END CAP BLOWOFF	DWG. NO. SD43	DATE 5/19	REVISED



METHOD 1 – CONNECT EXISTING HYDRANT TO PROPOSED HYDRANT

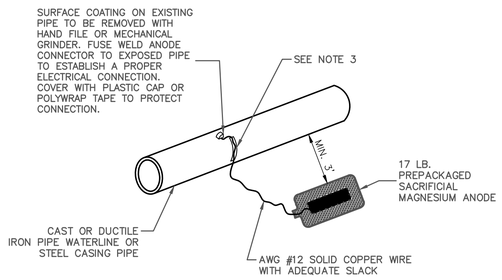


METHOD 2 – SERVICE TAP, TAPPING SLEEVE AND VALVE (TS&V), OR INTERCONNECTION

NOTES:
1. THE PURPOSE OF THIS DETAIL IS TO DEPICT ACCEPTABLE METHODS OF CONNECTING EXISTING WATERLINES TO PROPOSED WATERLINES FOR FILLING, FLUSHING, AND TESTING PROCEDURES IF 2–INCH COPPER OR POLYETHYLENE TUBING IS NOT USED TO BYPASS A VALVE. OTHER METHODS REQUIRE SUBMITTAL AND APPROVAL BY THE AUTHORITY PRIOR TO USE.
2. FIRE HOSES, TEMPORARY PIPING, AND BACKFLOW PREVENTERS SHALL NOT ENCROACH INTO ROADWAYS, DRIVEWAYS, OR SIDEWALK AREAS WITHOUT PROVIDING PROPER MAINTENANCE AND PROTECTION OF TRAFFIC MEASURES.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD44_SOURCE_WATER_CONNECTIONS SWD

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL SOURCE WATER CONNECTIONS	DWG. NO. SD44	DATE 10/20	REVISED

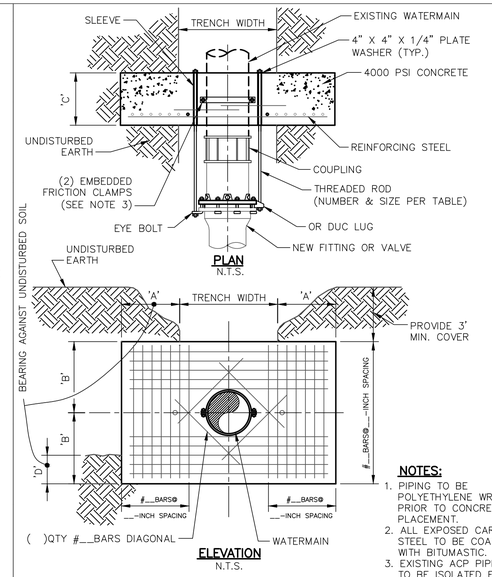


NOTES:
1. INSTALL MAGNESIUM ANODES PER MANUFACTURER'S RECOMMENDATIONS.
2. SACRIFICIAL ANODE BAG SHALL BE WETTED BEFORE BACKFILLING.
3. WIRE TO BE PLACED LOOSELY ON PIPE SURFACE AND SECURED IN PLACE WITH POLYWRAP TAPE. WIRE SHALL BE PLACED WITHOUT TENSION ONTO BOTTOM OF EXCAVATION AND CAREFULLY BACKFILLED WITH STONE TO PREVENT DAMAGE.
4. FOR CAST IRON AND DUCTILE IRON WATERLINE, ANY EXISTING POLYWRAP AROUND PIPE SHALL BE SECURED AROUND CONNECTING WIRES WITH POLYWRAP TAPE TO PROTECT WATERLINE AND WIRING ACCORDINGLY.

DETAIL
N.T.S.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD34_MAG_ANODE SWD

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL MAGNESIUM ANODE INSTALLATION	DWG. NO. SD34	DATE 7/16	REVISED 1/22

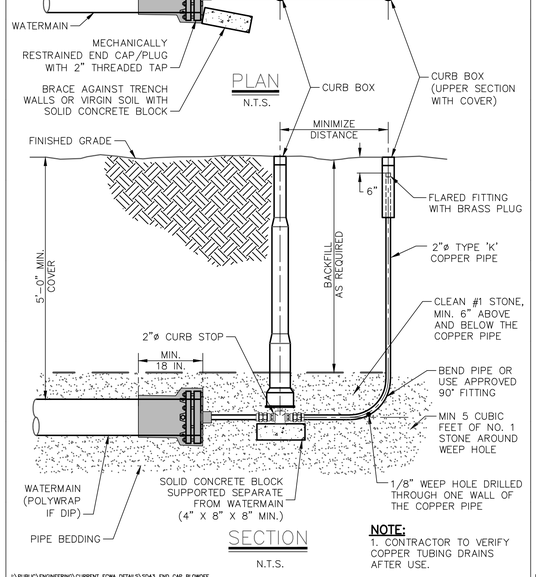


PIPE SIZE	DIMENSION SCHEDULE 'A'	'B'	'C'	'D'	THRD. ROD #	#
6",8"&10"	24"	18"	18"	8"	4	3/4"
12"	30"	24"	24"	12"	6	3/4"

NOTES:
1. PIPING TO BE POLYETHYLENE WRAPPED PRIOR TO CONCRETE PLACEMENT.
2. ALL EXPOSED CARBON STEEL TO BE COATED WITH BITUMASTIC.
3. EXISTING ACP PIPE TO BE ISOLATED FROM CONCRETE.
4. USE HIGH EARLY CEMENT AND ALLOW CONCRETE TO ACHIEVE 90% STRENGTH BEFORE PLACING WATER–MAIN INTO SERVICE

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD9_ANCHOR_COLLAR

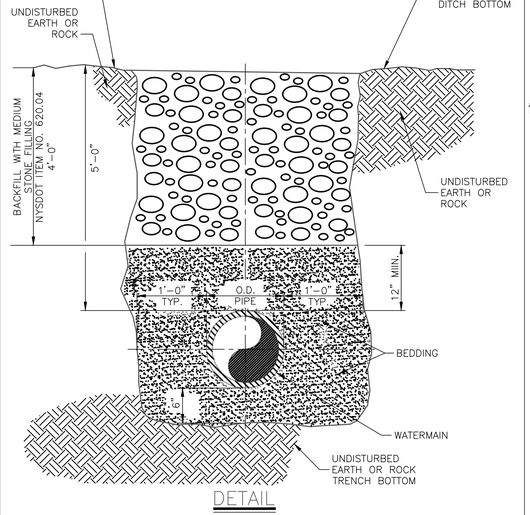
ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL ANCHOR COLLAR	DWG. NO. SD9	DATE 4/28/92	REVISED 7/16



NOTE:
1. CONTRACTOR TO VERIFY COPPER TUBING DRAINS AFTER USE.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD43_END CAP BLOWOFF

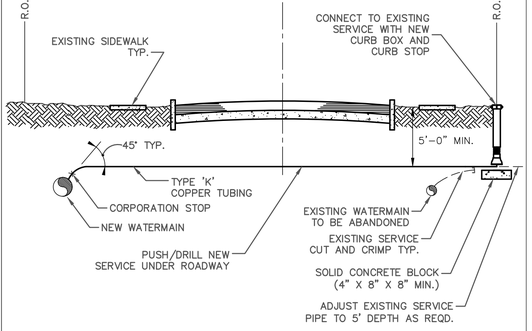
ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL END CAP BLOWOFF	DWG. NO. SD43	DATE 5/19	REVISED



NOTE:
1. PIPELINE MARKERS TO BE INSTALLED ON EACH SIDE OF CROSSING.
2. COMPLY WITH ALL STATE GUIDELINES FOR STREAM CROSSINGS. USE ADEQUATE EROSION CONTROL METHODS DURING CONSTRUCTION.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD3_STREAM_CROSSING

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL TRENCH STREAM CROSSING	DWG. NO. SD3	DATE 6/28/92	REVISED 07/16



NOTES:
1. EXISTING SERVICES SHALL BE CRIMPED AND ABANDONED IN PLACE.
2. SERVICE SADDLES SHALL BE USED UNDER THE FOLLOWING CONDITIONS:
   A. WHEN SERVICES AND PLACED ON 4" OR SMALLER PIPES.
   B. WHEN SERVICES LARGER THAN 1" ARE PLACED ON A 6" PIPE.
   C. WHEN SERVICES LARGER THAN 1 1/2" ARE PLACED ON AN 8" PIPE.
   D. WHEN SERVICES LARGER THAN 1 1/2" ARE PLACED ON DUCTILE IRON PIPE.
   E. WHEN TAPPING ALL PLASTIC (PVC) PIPE.
   F. WHEN TAPPING ALL ASBESTOS–CEMENT PIPE.
3. CURB BOXES SHALL NOT BE PLACED IN SIDEWALKS, DRIVEWAYS, OR CURB RAMPS.
4. USE POLYETHYLENE FOR 3/4" AND 1" SERVICES GREATER THAN 100 FEET IN LENGTH, AND FOR 1–1/2" AND 2" SERVICES GREATER THAN 60 FEET IN LENGTH. ALL POLYETHYLENE SERVICES SHALL INCLUDE A TRACER WIRE FOR DETECTION BY ECWA FORCES.
5. UNIONS ON COPPER TUBING ARE NOT ALLOWED UNLESS APPROVED BY ECWA PRIOR TO INSTALLATION.

I:\PUBLIC\ENGINEERING\CURRENT ECWA DETAILS\SD16_SERVICE_REPLACE SWD

ERIE COUNTY WATER AUTHORITY BUFFALO, NEW YORK	STANDARD DETAIL SERVICE REPLACEMENT/INSTALLATION	DWG. NO. SD16	DATE 4/92	REVISED 10/20

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

ECWA DETAILS

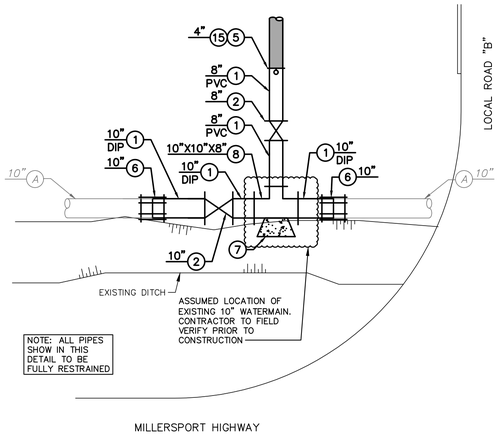
THIS SHEET ISSUED APRIL 18, 2024

WM4

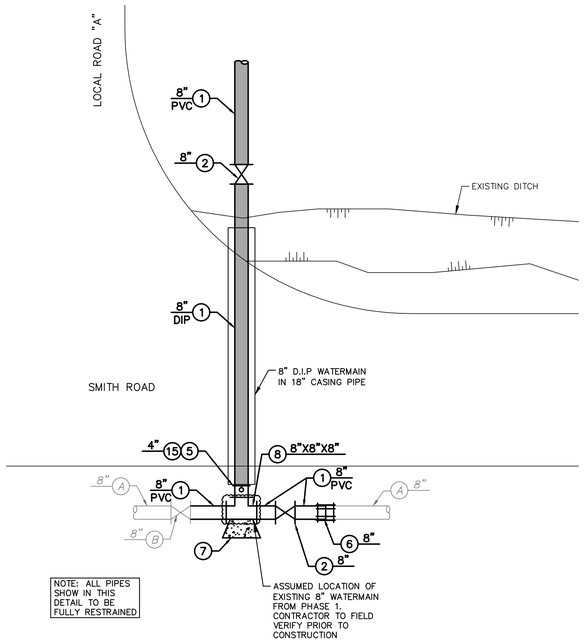
DRAWING SCALE: NONE

WSA PROJECT NO. 13027C

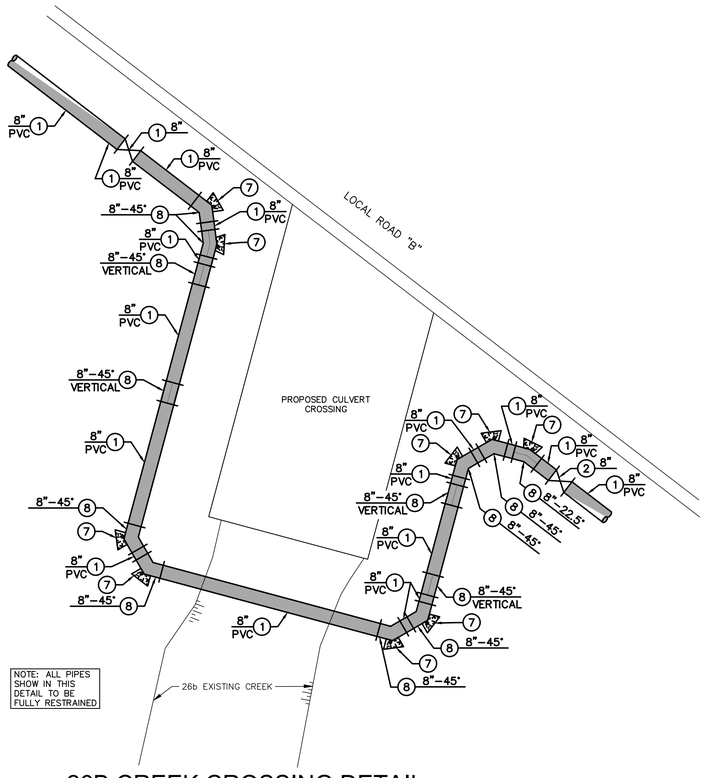
Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



INTERCONNECTION DETAIL - 1



INTERCONNECTION DETAIL - 2



26B CREEK CROSSING DETAIL

ITEMS TO BE INCLUDED IN PRESSURE TEST

NOTE:
CONTRACTOR TO PRESSURE TEST WATER MAIN PIPE TO NO FURTHER THAN 20 FEET FROM THE FINAL CONNECTION POINT.

PROPOSED	
1	WATERMAIN
2	GATE VALVE
3	BUTTERFLY VALVE
4	SPOOL PIECE
5	BLOW-OFF
6	RESTRAINED COUPLING
7	THRUST BLOCK
8	CROSS/TEE/BEND
9	REDUCER
10	CONCRETE ANCHOR COLLAR
11	HYDRANT ASSEMBLY
12	CUT AND CAP EXISTING WATERMAIN
13	DEFLECT NEW WATERMAIN UNDER EXISTING LINE USING NECESSARY FITTINGS
14	TEMPORARY CAP
15	SAMPLE POINT
16	TAPPING SLEEVE AND VALVE

EXISTING			
A	WATERMAIN	F	WATERMAIN TO BE REMOVED
B	VALVE	G	HYDRANT ASSEMBLY
C	REDUCER	H	MANHOLE TO BE REMOVED
D	BLOWOFF TO BE REMOVED	J	CROSS/TEE/BEND
E	WATERMAIN TO BE ABANDONED IN PLACE	K	TEMPORARY CAP

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

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ECWA DETAILS

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WM5

DRAWING SCALE: NONE

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

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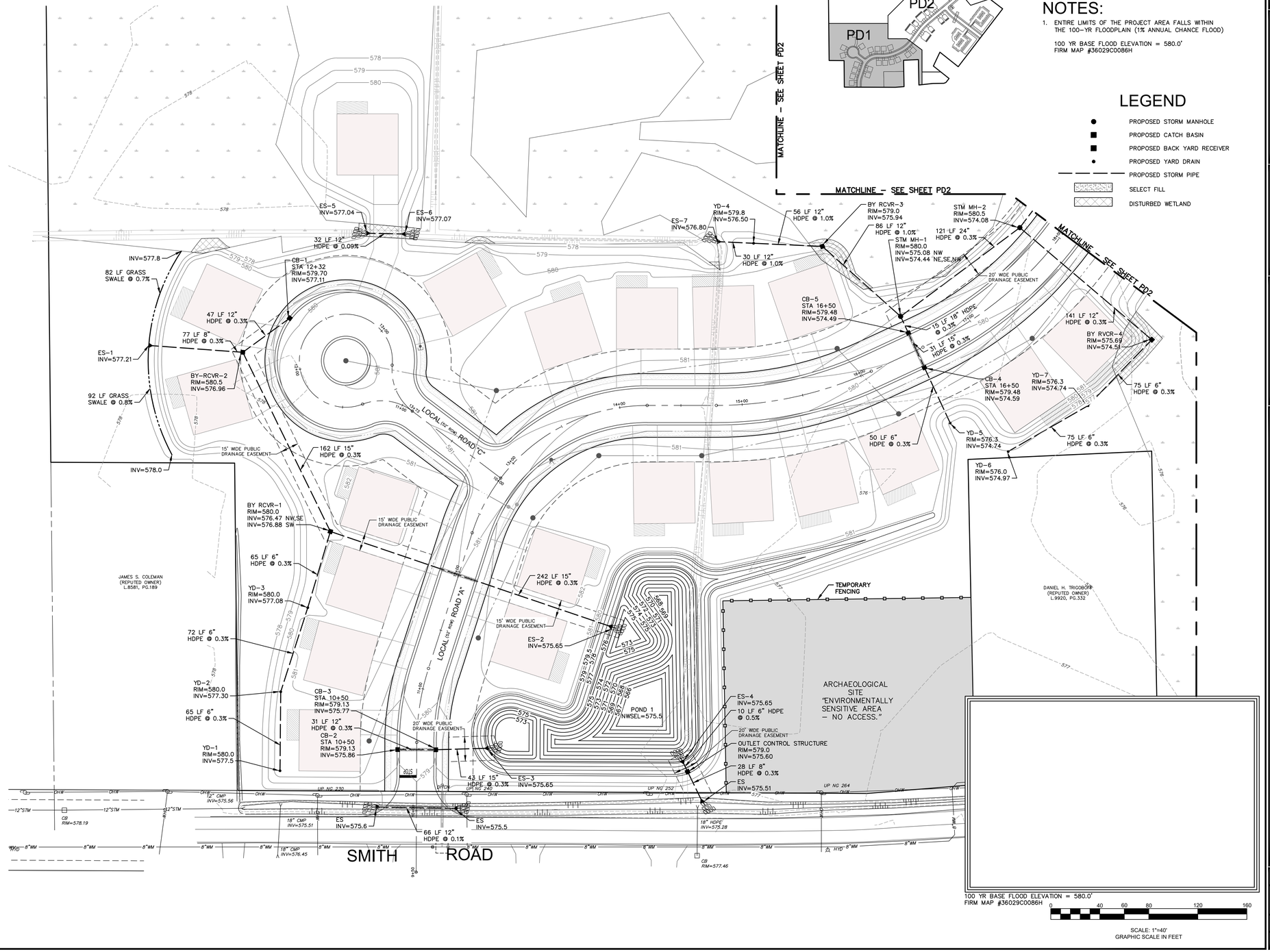
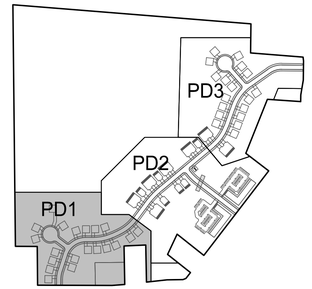


KEY PLAN



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NOTES:

1. ENTIRE LIMITS OF THE PROJECT AREA FALLS WITHIN THE 100-YR FLOODPLAIN (1% ANNUAL CHANCE FLOOD)

   100 YR BASE FLOOD ELEVATION = 580.0'
   FIRM MAP #36029C0086H

LEGEND

- PROPOSED STORM MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED BACK YARD RECEIVER
- PROPOSED YARD DRAIN
- PROPOSED STORM PIPE
- SELECT FILL
- DISTURBED WETLAND

DRAWING REVISIONS			
ITEM	DATE	DESCRIPTION	
1	4/18/24	ADDED PUBLIC EASEMENTS	

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

PAVING AND DRAINAGE PLAN

THIS SHEET ISSUED APRIL 18, 2024

PD1

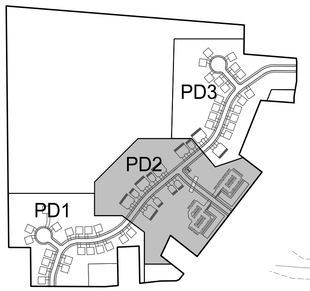
DRAWING SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

GRADING/PAVING/STORM NOTES

KEY PLAN



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NORTH

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100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
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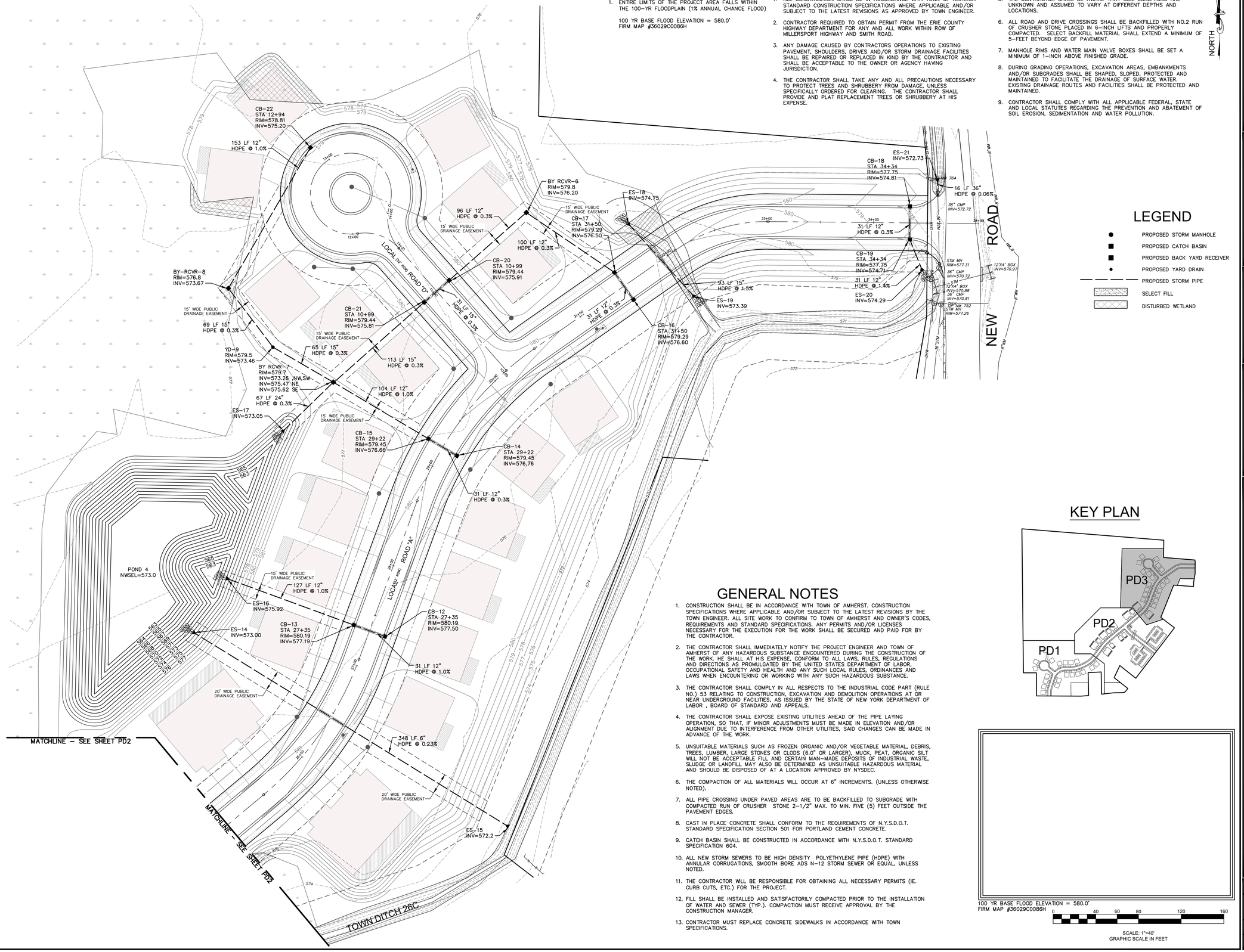

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GENERAL NOTES

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF AMHERST. CONSTRUCTION SPECIFICATIONS WHERE APPLICABLE AND/OR SUBJECT TO THE LATEST REVISIONS BY THE TOWN ENGINEER. ALL SITE WORK TO CONFIRM TO TOWN OF AMHERST AND OWNER'S CODES, REQUIREMENTS AND STANDARD SPECIFICATIONS. ANY PERMITS AND/OR LICENSES NECESSARY FOR THE EXECUTION FOR THE WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER AND TOWN OF AMHERST OF ANY HAZARDOUS SUBSTANCE ENCOUNTERED DURING THE CONSTRUCTION OF THE WORK. HE SHALL AT HIS EXPENSE, CONFORM TO ALL LAWS, RULES, REGULATIONS AND DIRECTIONS AS PROMULGATED BY THE UNITED STATES DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH AND ANY SUCH LOCAL RULES, ORDINANCES AND LAWS WHEN ENCOUNTERING OR WORKING WITH ANY SUCH HAZARDOUS SUBSTANCE.
3. THE CONTRACTOR SHALL COMPLY IN ALL RESPECTS TO THE INDUSTRIAL CODE PART (RULE NO.) 53 RELATING TO CONSTRUCTION, EXCAVATION AND DEMOLITION OPERATIONS AT OR NEAR UNDERGROUND FACILITIES, AS ISSUED BY THE STATE OF NEW YORK DEPARTMENT OF LABOR , BOARD OF STANDARD AND APPEALS.
4. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AHEAD OF THE PIPE LAYING OPERATION, SO THAT, IF MINOR ADJUSTMENTS MUST BE MADE IN ELEVATION AND/OR ALIGNMENT DUE TO INTERFERENCE FROM OTHER UTILITIES, SAID CHANGES CAN BE MADE IN ADVANCE OF THE WORK.
5. UNSUITABLE MATERIALS SUCH AS FROZEN ORGANIC AND/OR VEGETABLE MATERIAL, DEBRIS, TREES, LUMBER, LARGE STONES OR CLODS (6.0" OR LARGER), MUCK, PEAT, ORGANIC SILT WILL NOT BE ACCEPTABLE FILL AND CERTAIN MAN-MADE DEPOSITS OF INDUSTRIAL WASTE, SLUDGE OR LANDFILL MAY ALSO BE DETERMINED AS UNSUITABLE HAZARDOUS MATERIAL AND SHOULD BE DISPOSED OF AT A LOCATION APPROVED BY NYSDEC.
6. THE COMPACTION OF ALL MATERIALS WILL OCCUR AT 6" INCREMENTS. (UNLESS OTHERWISE NOTED).
7. ALL PIPE CROSSING UNDER PAVED AREAS ARE TO BE BACKFILLED TO SUBGRADE WITH COMPACTED RUN OF CRUSHER STONE 2-1/2" MAX. TO MIN. FIVE (5) FEET OUTSIDE THE PAVEMENT EDGES.
8. CAST IN PLACE CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF N.Y.S.D.O.T. STANDARD SPECIFICATION SECTION 501 FOR PORTLAND CEMENT CONCRETE.
9. CATCH BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH N.Y.S.D.O.T. STANDARD SPECIFICATION 604.
10. ALL NEW STORM SEWERS TO BE HIGH DENSITY POLYETHYLENE PIPE (HDPE) WITH ANNULAR CORRUGATIONS, SMOOTH BORE ADS N-12 STORM SEWER OR EQUAL, UNLESS NOTED.
11. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS (IE. CURB CUTS, ETC.) FOR THE PROJECT.
12. FILL SHALL BE INSTALLED AND SATISFACTORILY COMPACTED PRIOR TO THE INSTALLATION OF WATER AND SEWER (TYP.). COMPACTION MUST RECEIVE APPROVAL BY THE CONSTRUCTION MANAGER.
13. CONTRACTOR MUST REPLACE CONCRETE SIDEWALKS IN ACCORDANCE WITH TOWN SPECIFICATIONS.

KEY PLAN

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

CALL 811 or 800-962-7962
IT'S THE LAW
CALL BEFORE YOU DIG
STOP
Know what's below.
Call 811 before you dig.
Dig Safely. New York

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/18/24	ADDED PUBLIC EASEMENTS

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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STATE OF NEW YORK · WILLIAM E. SCHUTT · 058840 · LICENSED PROFESSIONAL ENGINEER

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

PAVING AND DRAINAGE PLAN

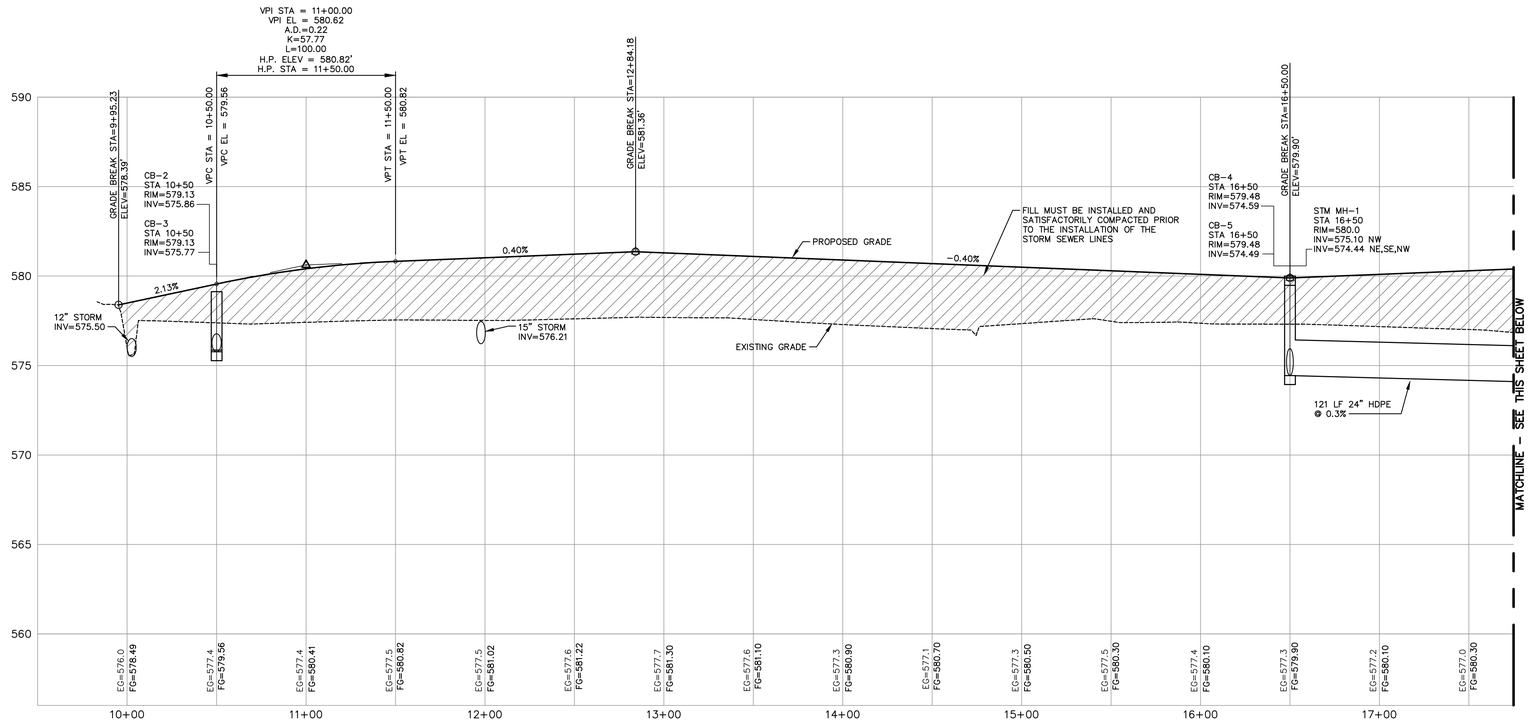
THIS SHEET ISSUED APRIL 18, 2024

PD3

DRAWINGS SCALE: 1"=40'

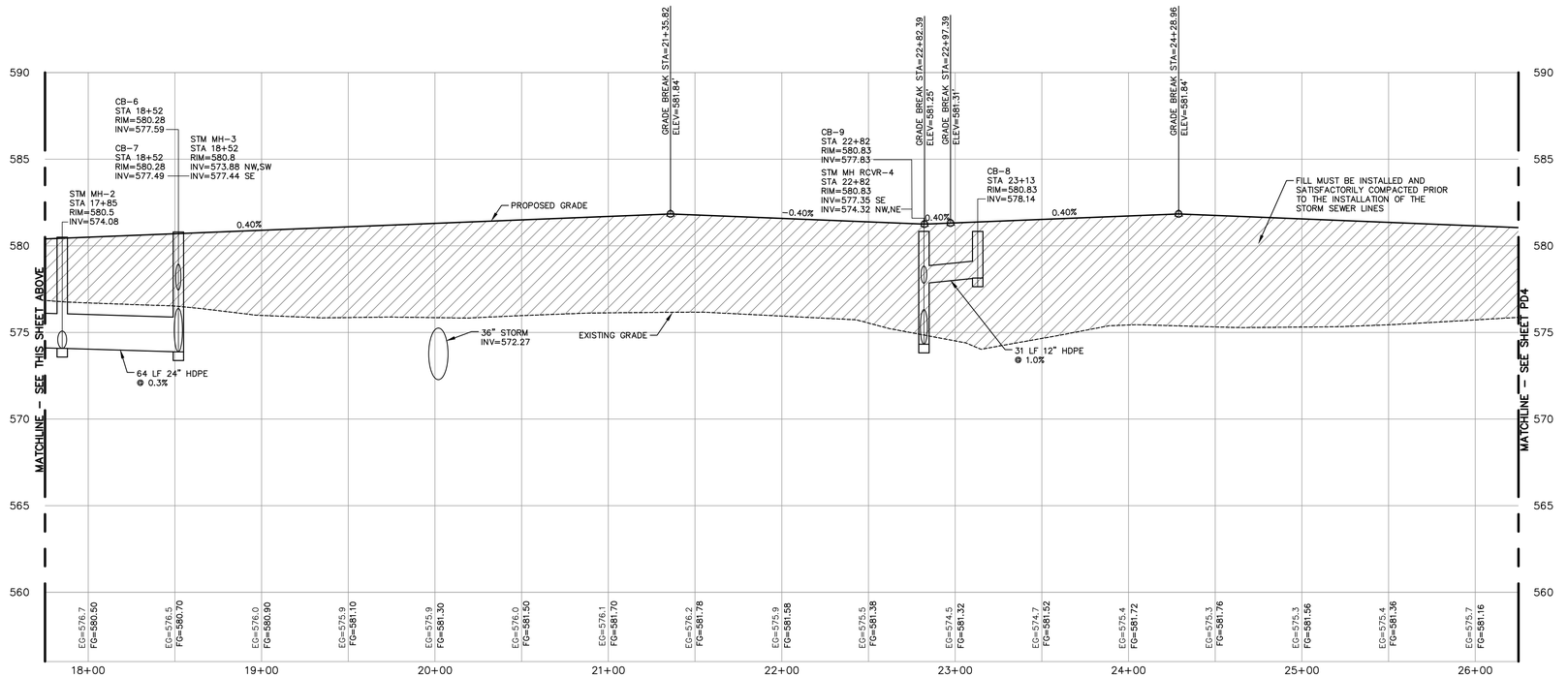
WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



LOCAL ROAD "A"

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



LOCAL ROAD "A"

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
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DATE:

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STATE OF NEW YORK
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4300 MILLERSPORT DEVELOPMENT

TOWN OF AMHERST
ERIE COUNTY - NEW YORK

PAVING AND DRAINAGE PROFILE
LOCAL ROAD A

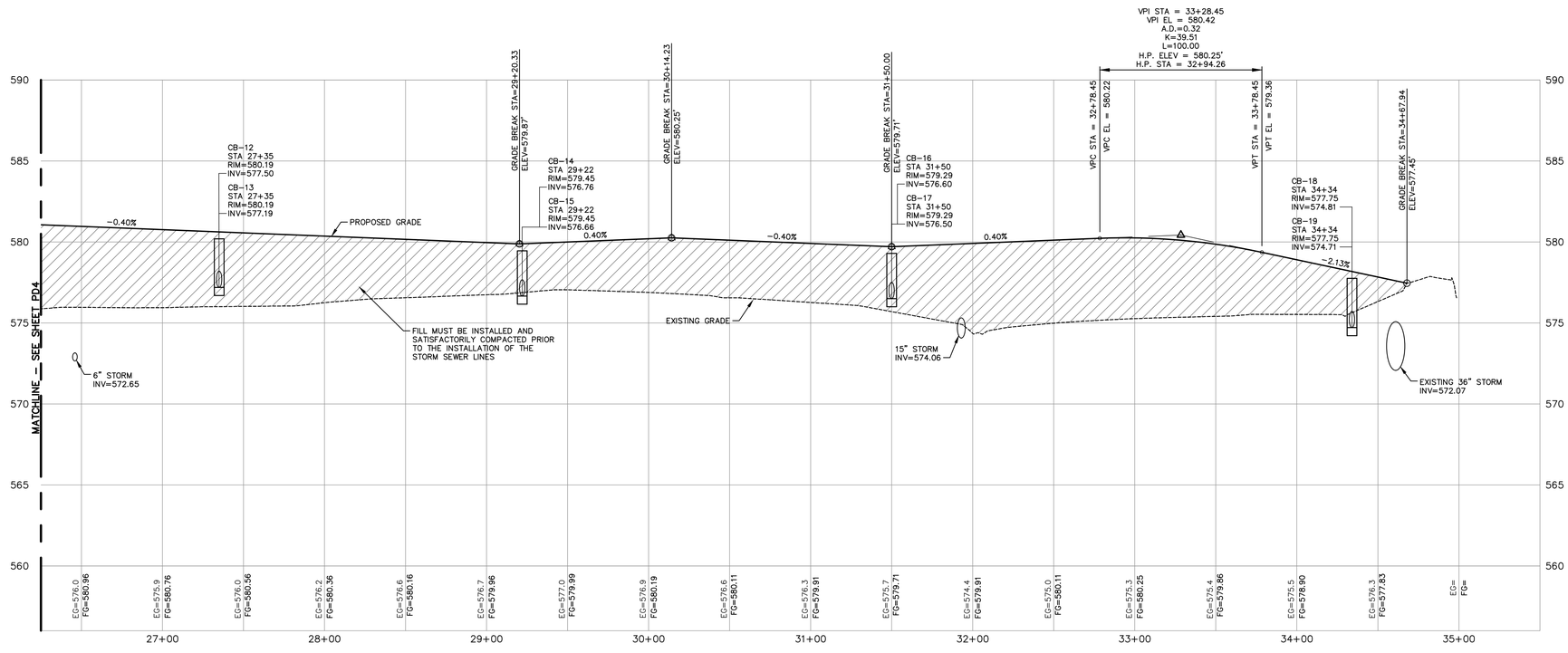
THIS SHEET ISSUED APRIL 18, 2024

PD4

DRAWING SCALE: 1"=40'

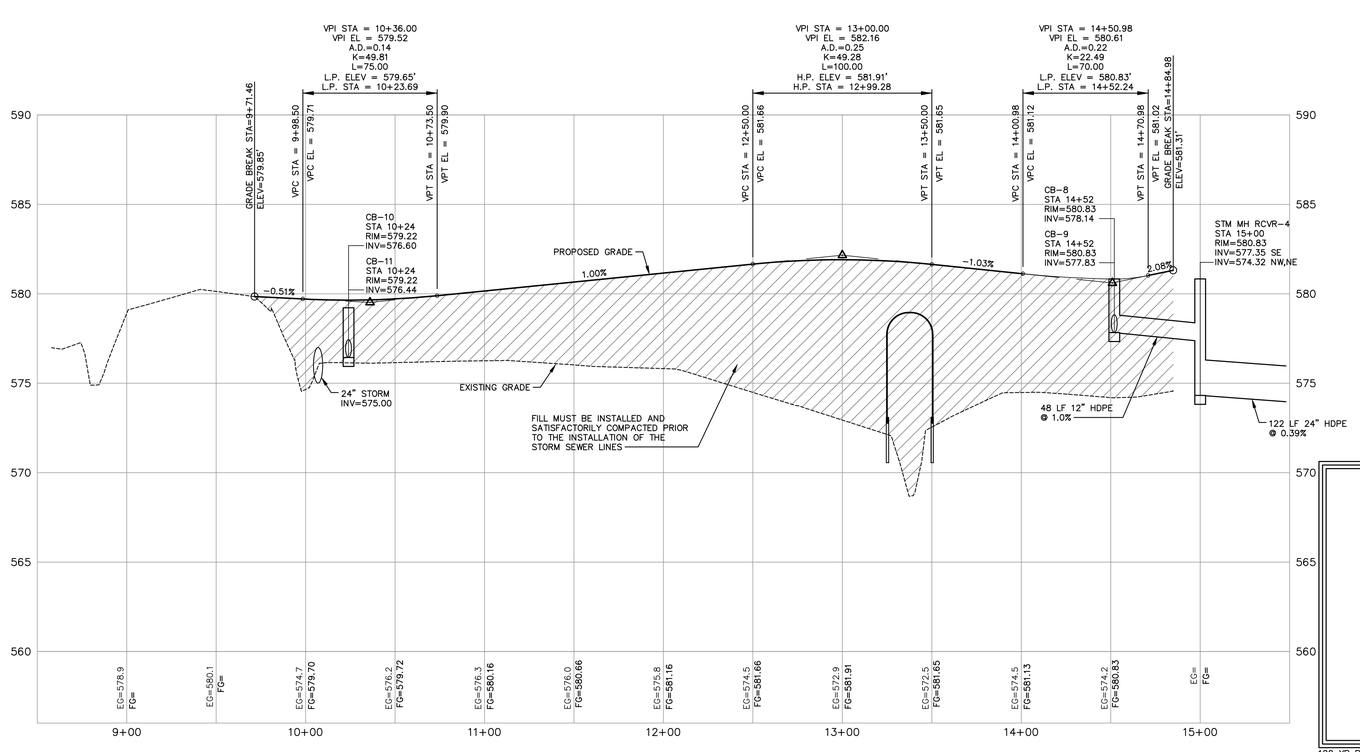
WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



LOCAL ROAD "A"

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



LOCAL ROAD "B"

SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
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4300 MILLERSPORT DEVELOPMENT

TOWN OF AMHERST
ERIE COUNTY - NEW YORK

PAVING AND DRAINAGE PROFILES
LOCAL ROAD A AND B

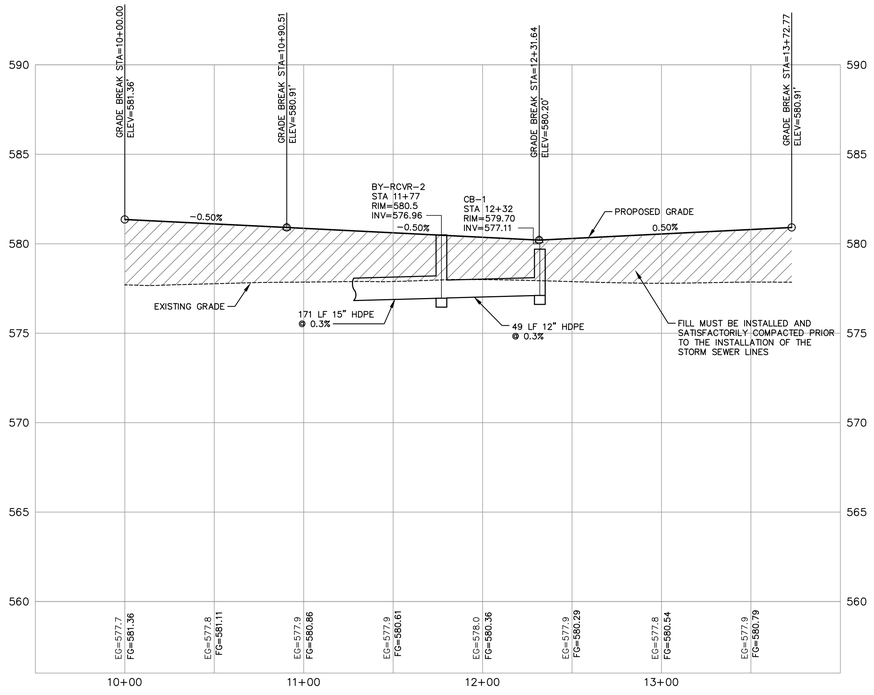
THIS SHEET ISSUED APRIL 18, 2024

PD5

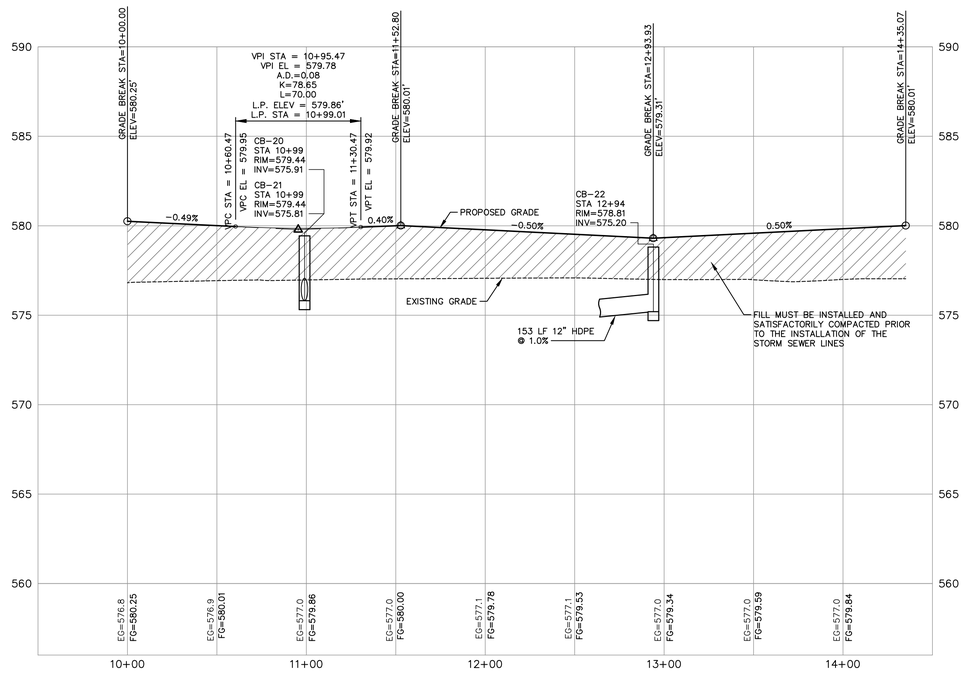
DRAWING SCALE 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



LOCAL ROAD "C"
SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL



LOCAL ROAD "D"
SCALE: 1"=40' HORIZONTAL
1"=4' VERTICAL

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

DRAWING REVISIONS

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

PAVING AND DRAINAGE PROFILE
LOCAL ROAD C AND D

THIS SHEET ISSUED APRIL 18, 2024

PD6

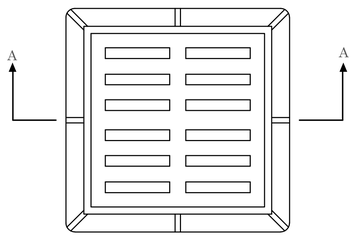
DRAWING SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

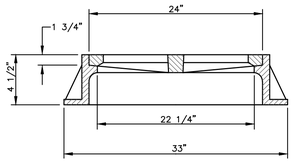
CAST IRON FRAME AND GRATE

B (NEENAH R3433 OR EQUAL)



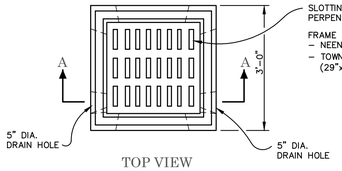
PLAN

NOTE: INSIDE DIMENSIONS OF CONCRETE STRUCTURE ARE TO BE A MIN. OF 24"x 24"



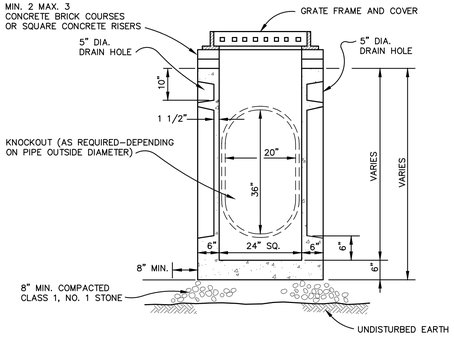
SECTION A-A

STANDARD PRECAST CONCRETE DROP INLET



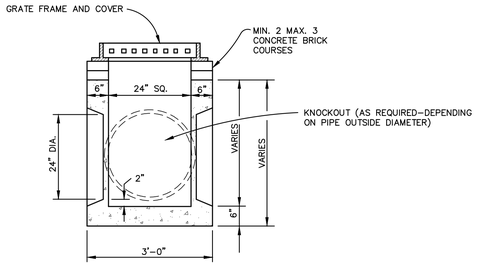
TOP VIEW

NOTE:
ALL CONCRETE BLOCK TO BE TREATED WITH RHEOMIX OR EQUAL. PARGE INSIDE OF BLOCKS.

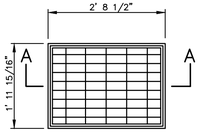


SECTION A-A
STANDARD
316B

NOTE:
USE KISTNER CONCRETE PRODUCTS 24" SQ. DROP INLET WITH FRAME AND GRATE (MODEL 316B) OR EQUAL



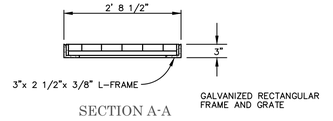
SECTION A-A
SHALLOW
316BS



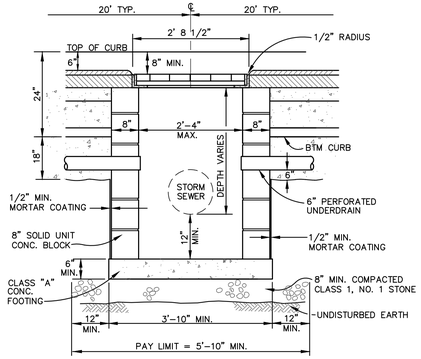
PLAN

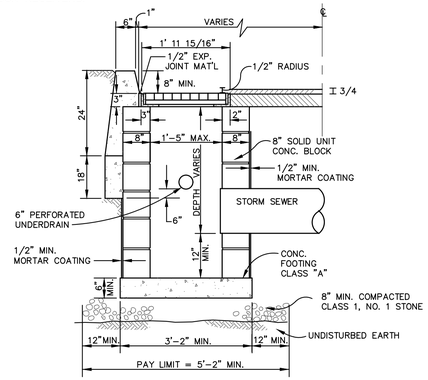
FRAME AND GRATE SHALL MEET NYSDOT SPEC. #655–6RI SIZE #2

NOTE:
ALL CONCRETE BLOCK TO BE TREATED WITH RHEOMIX OR EQUAL. PARGE INSIDE OF BLOCK RECEIVERS.



SECTION A-A

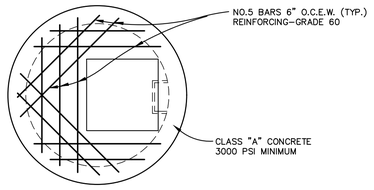




NOTE: ALL INVERTS TO BE FLUSH WITH INSIDE WALLS

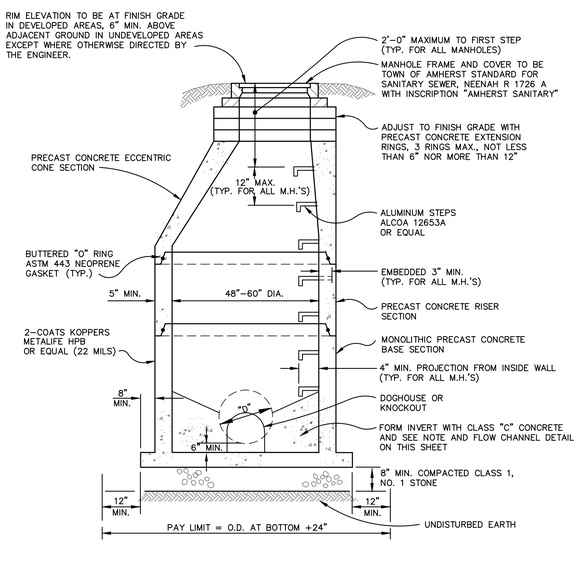
FLAT TOP MANHOLE RECEIVER

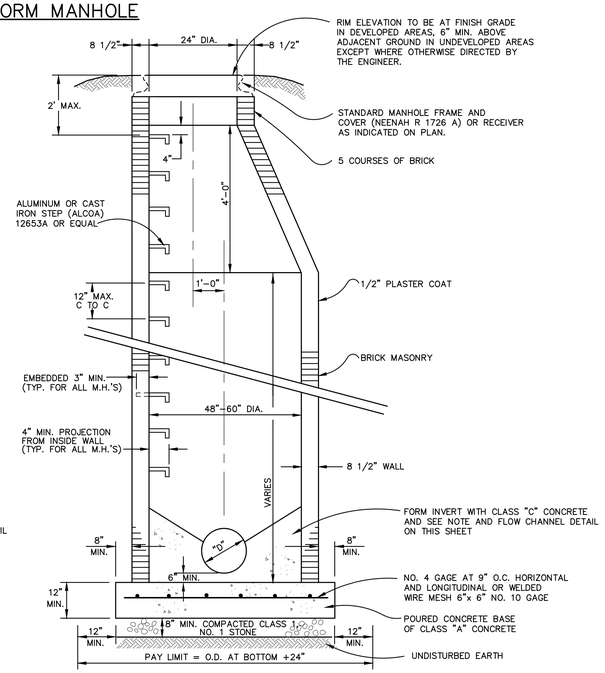
TYPE "C"



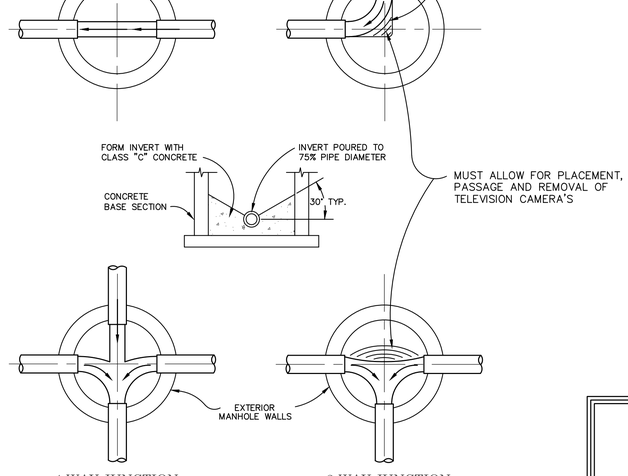
TOP SLAB WITH
SQUARE OPENING

STANDARD STORM MANHOLE





FLOW CHANNEL DETAIL
SANITARY SEWERS



NOTE : FLOW CHANNELS MUST ALLOW PLACEMENT, PASSAGE AND REMOVAL OF T.V. CAMERA'S. THE CAMERA DIMENSIONS ARE APPROXIMATELY 26" LONG X 6 1/2" SQ. A BLOCK OF WOOD OF THESE DIMENSIONS (MIN.) MAY BE USED TO SIMULATE THE SIZE OF THE CAMERA. THIS WILL SIMPLIFY THE FORMATION OF THE FLOW CHANNELS AND INVERTS

NOTE : DEPTH OF ALL CHANNELS TOO BE 75% OF PIPE DIAMETER.

NOTE : FINISH ALL CHANNELS AT PROPER GRADE AS TO ALLOW SMOOTH AND UN–OBSTRUCTED FLOW.

NOTE : ALL INVERTS TO BE FLUSH WITH THE INSIDES.

TOWN OF AMHERST
STANDARD RECEIVER "A"

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
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CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

PAVING AND DRAINAGE DETAILS

THIS SHEET ISSUED APRIL 18, 2024

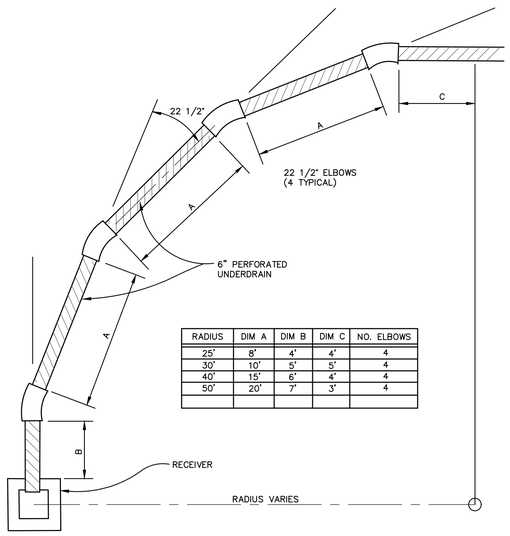
PD7

DRAWING SCALE: NONE

WSA PROJECT NO. 13027C

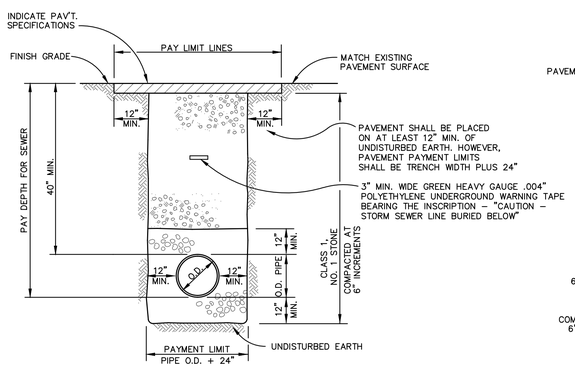
Attachment: SP-2022-03 A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TYPICAL UNDERDRAIN INSTALLED AROUND CURVE



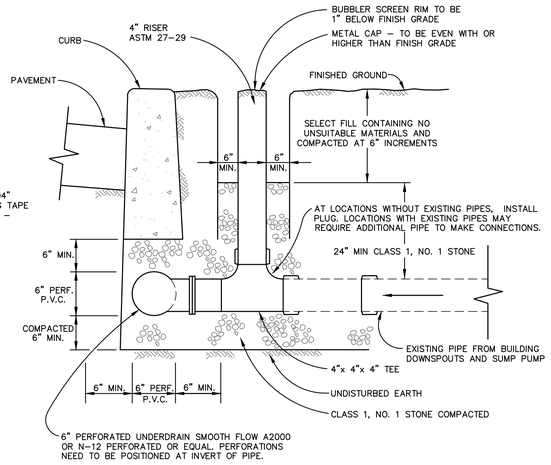
RADIUS	DIM A	DIM B	DIM C	NO. ELBOWS
25'	8'	4'	4'	4
30'	10'	5'	5'	4
40'	15'	6'	4'	4
50'	20'	7'	3'	4

TYPICAL TRENCH DETAIL TOWN ROAD CROSSING

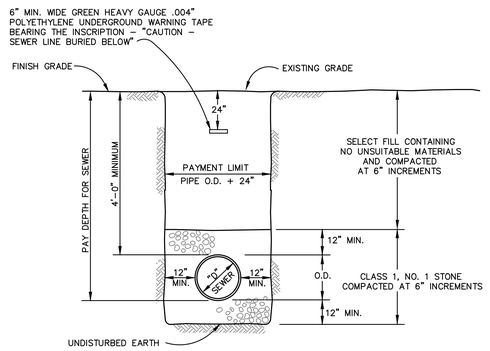


NOTE:
WHERE THE CONTRACTOR EXCAVATES BEYOND THE PAY LIMITS SHOWN : SELECT FILL AND PAVEMENT, SIDEWALK & DRIVEWAY REPLACEMENT OUTSIDE THE PAY LIMITS SHALL BE FURNISHED AND PLACED AT THE CONTRACTOR'S EXPENSE (TYP.)

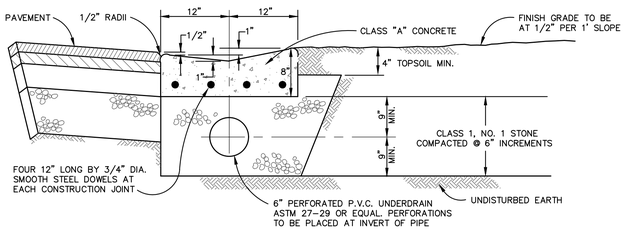
CURB BUBBLER DETAIL



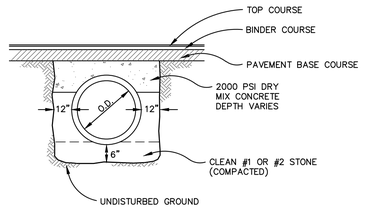
STANDARD TRENCH DETAIL FOR REINFORCED CONCRETE PIPE & CORRUGATED METAL PIPE



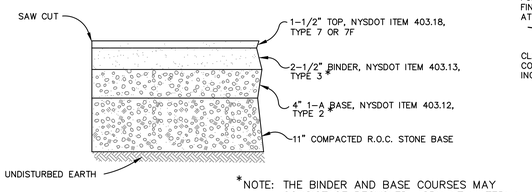
TYPE "C" CURBING POURED IN PLACE



STORM SEWER TRENCH DETAIL UNDER PAVEMENT

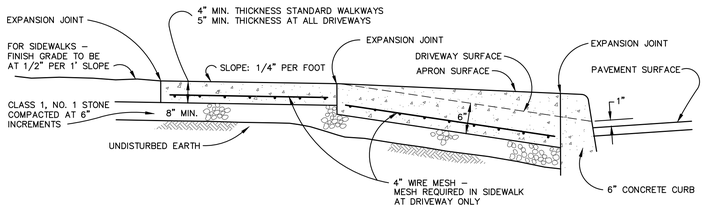


TYPICAL PAVEMENT SECTION



*NOTE: THE BINDER AND BASE COURSES MAY CONSIST OF RECYCLED ASPHALT MATERIAL

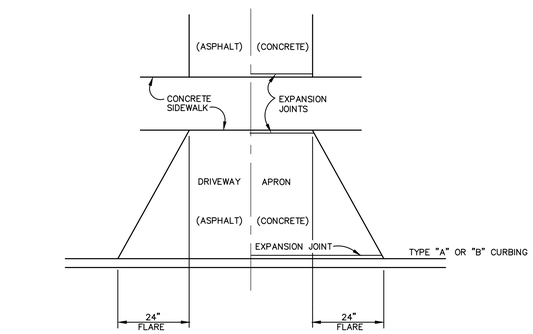
STANDARD SIDEWALK AND DRIVEWAY DETAIL

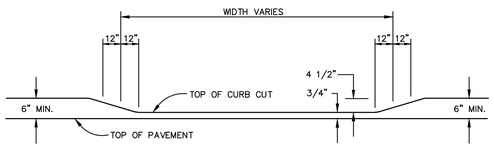


NOTE: MINIMUM WIDTH OF SIDEWALK TO BE 4'-0" UNLESS OTHERWISE DIRECTED BY THE ENGINEER. 4000 PSI CONCRETE REQUIRED

NOTE: WHEN THE SIDEWALK LIES IN THE NYSDOT'S R.O.W. THE SIDEWALK WILL BE 5' MINIMUM IN WIDTH.

DRIVEWAY CURB CUTS





100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

PAVING AND DRAINAGE DETAILS

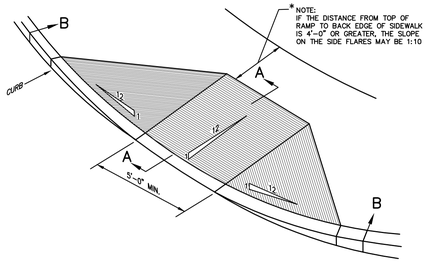
THIS SHEET ISSUED APRIL 18, 2024

PD8

DRAWING SCALE: NONE

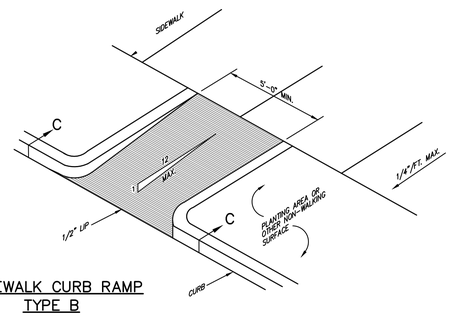
WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

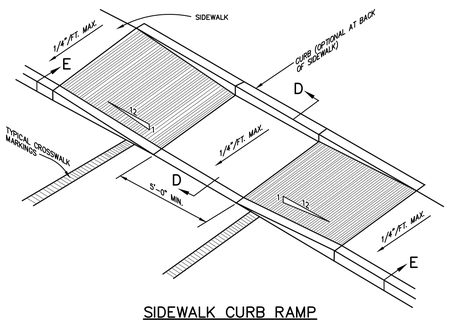


SIDEWALK CURB RAMP
TYPE A

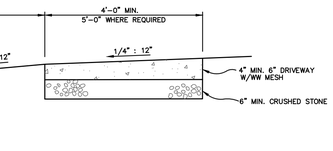
NOTE:
-ADD 1/2" EXPANSION JOINTS AT CURBS
-SEAL ALL SAW-CUTS



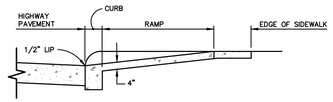
SIDEWALK CURB RAMP
TYPE B



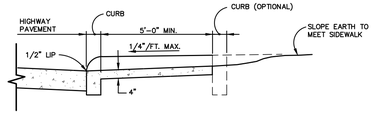
SIDEWALK CURB RAMP
TYPE C



CROSS SECTION OF SIDEWALK

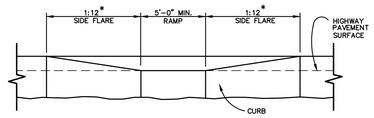


SECTION A-A

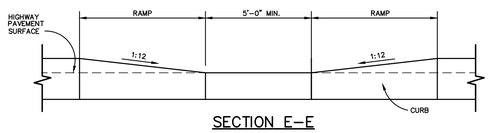


SECTION D-D

* - UNLESS OTHERWISE DIRECTED BY THE TOWN ENGINEER



SECTION B-B



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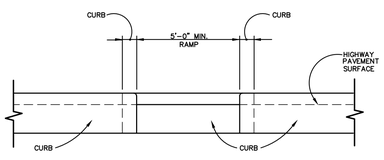

SECTION C-C

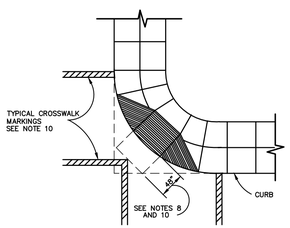

FIGURE 1

NOTES

GENERAL

1. SIDEWALK CURB RAMP TYPE AND LOCATION ARE AS SHOWN ON THE PLANS OR AS DIRECTED.
2. ALL SIDEWALK CURB RAMP TYPES MAY BE USED IN STRAIGHT OR CURVED CURBED SECTIONS.
3. SIDEWALK CURB RAMP TYPES MAY BE DIFFERENT AT EACH LOCATION WITHIN AN INTERSECTION.

SIDEWALK CURB RAMP CRITERIA

4. THE MAXIMUM SLOPE OF A SIDEWALK CURB RAMP IN NEW CONSTRUCTION SHALL BE 1:12.IF SPACE LIMITATIONS ON EXISTING SITES PROHIBIT THE USE OF 1:12, THE FOLLOWING SLOPES AND RISES MAY BE USED:
   A) STEEPER THAN 1:12 (8.33%) BUT NO STEEPER THAN 1:10 (10%) 6" MAXIMUM RISE, 5 FT. MAXIMUM RUN
   B) STEEPER THAN 1:10 (10%) BUT NO STEEPER THAN 1:8 (12.5%) 3" MAXIMUM RISE, 2 FT. MAXIMUM RUN
   C) A SLOPE STEEPER THAN 1:8 (12.5%) NOT ALLOWED.
5. THE MINIMUM WIDTH OF A SIDEWALK CURB RAMP SHALL BE FIVE FEET, EXCLUSIVE OF FLARED SIDES.
6. ALL SIDEWALK CURB RAMPS SHALL HAVE FLUSH, SMOOTH TRANSITIONS TO THE ADJACENT STREET OR HIGHWAY SURFACE.

SURFACE FINISH

7. THE SURFACE OF ALL SIDEWALK CURB RAMPS SHALL BE STABLE, FIRM, AND SLIP RESISTANT. (E.G., A COARSE BROOM FINISH PERPENDICULAR TO THE RAMP SLOPE IS ACCEPTABLE ON CEMENT CONCRETE CURB RAMPS.)

SIDEWALK CURB RAMP PLACEMENT

8. AT A CORNER, WHERE THE CURB RADIUS IS 25' OR LESS, A SINGLE RAMP (EITHER TYPE A, B, OR C) LOCATED DIAGONALLY CAN OFTEN SERVE CROSSWALKS IN TWO DIRECTIONS. HOWEVER, A SINGLE RAMP SHALL ONLY BE USED WHERE THERE IS A MINIMUM CLEAR SPACE OF 48" FALLING ENTIRELY WITHIN THE PROJECTION OF THE INTERSECTING CURBS (SEE FIGURE 1). WHERE THE RADIUS EXCEEDS 25' OR THE MINIMUM 48" CLEAR SPACE IS UNACHIEVABLE, THEN SEPARATE RAMPS SHOULD BE PROVIDED FOR EACH CROSSWALK.

PAVEMENT MARKINGS AT CROSSWALKS

9. SIDEWALK CURB RAMPS AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES.
10. AT A CORNER, WHERE A SINGLE RAMP (EITHER TYPE A, B, OR C) LOCATED DIAGONALLY SERVES TWO CROSSWALKS, THERE SHALL BE A 48" MINIMUM CLEAR SPACE AT THE RAMP BOTTOM WHOLLY CONTAINED WITHIN THE INTERSECTING CROSSWALK MARKINGS (SEE FIGURE 1).
11. WHERE STOP LINES ARE NECESSARY, THEY SHALL BE LOCATED IN ADVANCE OF SIDEWALK CURB RAMPS.

UTILITIES AND DRAINAGE INLETS OR GRATES

12. WHERE FEASIBLE PROVIDE FOR DRAINAGE INLETS OR GRATES IMMEDIATELY UPSTREAM FROM THE CURB RAMPS. RETICULINE OR RECTANGULAR DRAINAGE GRATES ARE TO BE USED IN THE AREA OF CURB RAMPS.
13. DO NOT PLACE SIGNAL POLES, SIGN POSTS, UTILITY POLES, FIRE HYDRANTS, ETC., WITHIN THE RAMP OR SIDE FLARE AREAS.

PEDESTRIAN ACTIVATED SIGNALS

14. PUSHBUTTONS SHALL BE LOCATED NEAR CURB RAMPS AND WHERE A PERSON IN A WHEELCHAIR CAN ACTIVATE THE SIGNAL WITHOUT STOPPING ON THE CURB RAMP.
15. PUSH BUTTON HEIGHT SHALL BE 42" TO 48" ABOVE THE SIDEWALK SURFACE.
16. PUSH BUTTONS SHALL BE LOCATED SO THAT THE PEDESTRIAN CAN SEE THE APPROPRIATE SIGNAL HEAD WHILE ACTIVATING THE SIGNAL.

ISLANDS

17. ANY RAISED ISLANDS IN CROSSINGS SHALL BE CUT THROUGH LEVEL WITH THE STREET OR HAVE CURB RAMPS AT BOTH SIDES AND A LEVEL AREA AT LEAST 48 INCHES LONG IN THE PART OF THE ISLAND INTERSECTED BY THE CROSSINGS.

GENERAL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH THE TOWN OF AMHERST STANDARD DRAWINGS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER AND THE TOWN OF AMHERST ENG. DEPT. OF ANY HAZARDOUS SUBSTANCE ENCOUN-TERED DURING THE CONSTRUCTION OF THE WORK. HE SHALL AT HIS EXPENSE, CONFORM TO ALL LAWS, RULES, REGULATIONS AND DIRECTIONS AS PROMULGATED BY THE UNITED STATES DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, THE NEW YORK STATE DEPARTMENT OF HEALTH AND ANY SUCH LOCAL RULES, ORDINANCES AND LAWS WHEN ENCOUNTERING OR WORKING WITH ANY SUCH HAZARDOUS SUBSTANCE.
3. THE CONTRACTOR SHALL COMPLY IN ALL RESPECTS TO THE INDUSTRIAL CODE PART (RULE NO.) 53 RELATING TO CONSTRUCTION, EXCAVATION AND DEMOLITION OPERATIONS AT OR NEAR UNDERGROUND FACILITIES, AS ISSUED BY THE STATE OF NEW YORK DEPARTMENT OF LABOR, BOARD OF STANDARD AND APPEALS.
4. SINCE THE ERIE COUNTY WATER AUTHORITY OPERATES AND MAINTAINS THE EXISTING WATER LINES, THEY ARE TO BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF THE START OF CONSTRUCTION. ALL EXISTING VALVES ARE TO BE OPERATED BY THE ERIE COUNTY WATER AUTHORITY PERSONNEL.
5. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AHEAD OF THE PIPE LAYING OPERATION, SO THAT, IF MINOR ADJUSTMENTS MUST BE MADE IN ELEVATION AND/OR ALIGNMENT DUE TO INTERFERENCE FROM THESE UTILITIES, SAID CHANGES CAN BE MADE IN ADVANCE OF THE WORK.
6. WHERE SUCH FACILITIES ARE UNDER THE SUPERVISION OF A PROFESSIONAL ENGINEER, HE SHALL CERTIFY TO THE ENGINEERING DEPARTMENT OF THE TOWN OF AMHERST THAT SAID FACILITIES AS CONSTRUCTED WERE SUPERVISED BY HIMSELF (HERSELF) AND THAT THE WORKS HAVE BEEN FULLY COMPLETED IN ACCORDANCE WITH THE APPROVED ENGINEERING REPORTS, PLANS, SPECIFICATIONS, CONTRACT DOCUMENTS AND ANY AND ALL ADDENDA TO SAME.
7. THE CONSTRUCTION OF THE FACILITIES SHALL BE UNDER THE SUPERVISION OF A PERSON OR FIRM QUALIFIED TO PRACTICE PROFESSIONAL ENGINEERING IN NEW YORK STATE UNDER THE EDUCATION LAW OF THE STATE, WHENEVER ENGINEERING SERVICES ARE REQUIRED BY SUCH LAW FOR SUCH PURPOSES.
8. A WRITTEN CERTIFICATE OF CONSTRUCTION COMPLIANCE, INCLUDING THE RESULTS OF HYDROSTATIC LEAKAGE TESTS, MADE BY THE PROFESSIONAL ENGINEER SUPERVISING THE CONSTRUCTION, SHALL BE SUBMITTED TO THE ERIE COUNTY DEPART. OF ENVIRONMENT PLANNING AND NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION WITHIN THIRTY (30) DAYS AFTER CONSTRUCTION COMPLETION.
9. UNSUITABLE MATERIALS SUCH AS FROZEN ORGANIC AND/OR VEGETABLE MATERIAL, DEBRIS, TREES, LUMBER, LARGE STONES OR CLODS (6.0" OR LARGER), MUCK, PEAT, ORGANIC SILT WILL NOT BE ACCEPTABLE FILL AND CERTAIN MAN-MADE DEPOSITS OF INDUSTRIAL WASTE, SLUDGE OR LANDFILL MAY ALSO BE DETERMINED AS UNSUITABLE HAZARDOUS MATERIAL.
10. THE COMPACTION OF ALL MATERIALS WILL OCCUR AT 6" INCREMENTS.
11. VERIFICATION OF ALL EXISTING EASEMENTS IS THE RESPONSIBILITY OF THE DESIGN ENGINEER AND THEY MUST BE SHOWN ALONG WITH ALL PROPOSED EASEMENTS ON PLAN DRAWINGS.
12. SHOULD A FLUID CONDITION BE ENCOUNTERED AT THE TRENCH BOTTOM, THE CONTRACTOR IS TO INSTALL ADDITIONAL STONE CRADLE AS ORDERED BY THE ENGINEER.
13. ALL PIPE CROSSING UNDER PAVED AREAS ARE TO BE BACKFILLED TO SUBGRADE WITH COMPACTED SELECT MATERIAL TO FIVE (5) FEET OUTSIDE THE PAVEMENT EDGES.
14. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A QUALIFIED TREE EXPERT TO REMOVE, WHERE NECESSARY, BRANCHES WHICH INTERFERE WITH THE CONSTRUCTION OPERATION, OR REPAIR TREES HAVING SUFFERED DAMAGE BY CONSTRUCTION ACTIVITIES. THE COST INVOLVED IN THE ABOVE IS TO BE INCLUDED IN THE VARIOUS ITEMS OF THE CONTRACT.
15. CAST IN PLACE CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF N.Y.S.D.O.T. STANDARD SPECIFICATION SECTION 501 FOR PORTLAND CEMENT CONCRETE.
16. CORRUGATED STEEL PIPE STORM SEWERS SHALL BE 16 GAGE, GALVANIZED, HELICALLY CORRUGATED STEEL, COMPLETELY ASPHALT COATED CONFORMING TO N.Y.S.D.O.T. STANDARD SPECIFICATION 603.
17. MANHOLES AND RECEIVERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH N.Y.S.D.O.T. STANDARD SPECIFICATION 604.
18. REINFORCED CONCRETE PIPE SHALL CONFORM TO N.Y.S.D.O.T. STANDARD SPECIFICATION SECTION 706.02.
19. FOR ALL MANHOLE RECEIVERS IN PAVEMENT, USE PRECAST FLAT TOP TYPE "C" MANHOLE COVER.

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

PAVING AND DRAINAGE DETAILS

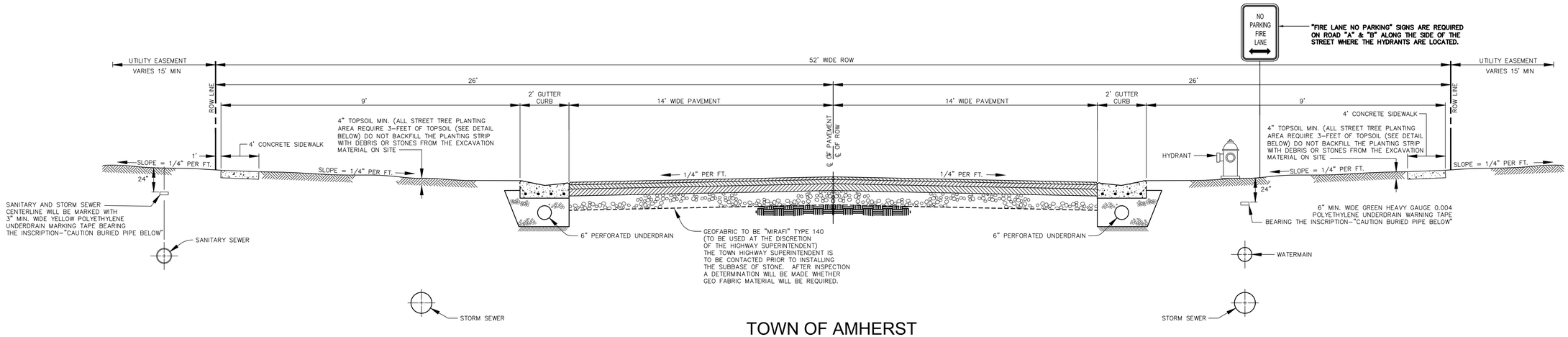
THIS SHEET ISSUED APRIL 18, 2024

PD9

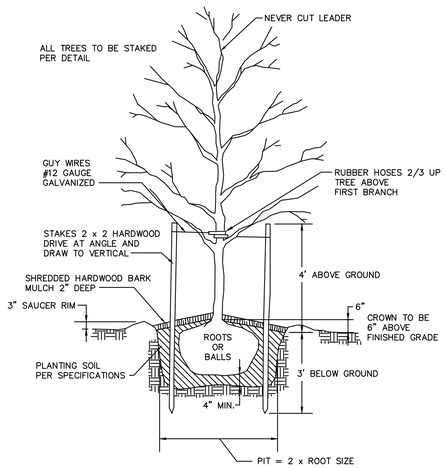
DRAWING SCALE: NONE

WSA PROJECT NO. 13027C

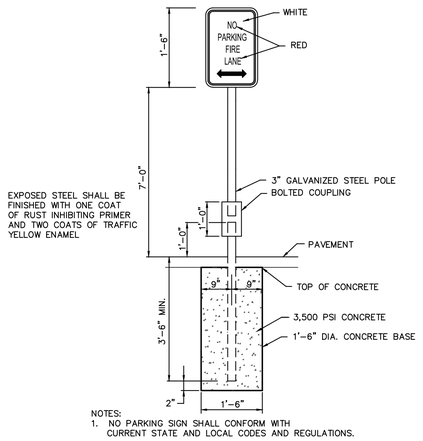
Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



TOWN OF AMHERST
TYPICAL SECTION LOCAL STREET 52' RIGHT-OF-WAY



TREE PLANTING DETAIL
N.T.S.



NOTES:
1. NO PARKING SIGN SHALL CONFORM WITH CURRENT STATE AND LOCAL CODES AND REGULATIONS.

NO PARKING FIRE LANE SIGN
N.T.S.

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/18/24	ADDED NO PARKING FIRE LANE DETAIL AND NOTES

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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ERIE COUNTY - NEW YORK

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DRAWING SCALE: NONE

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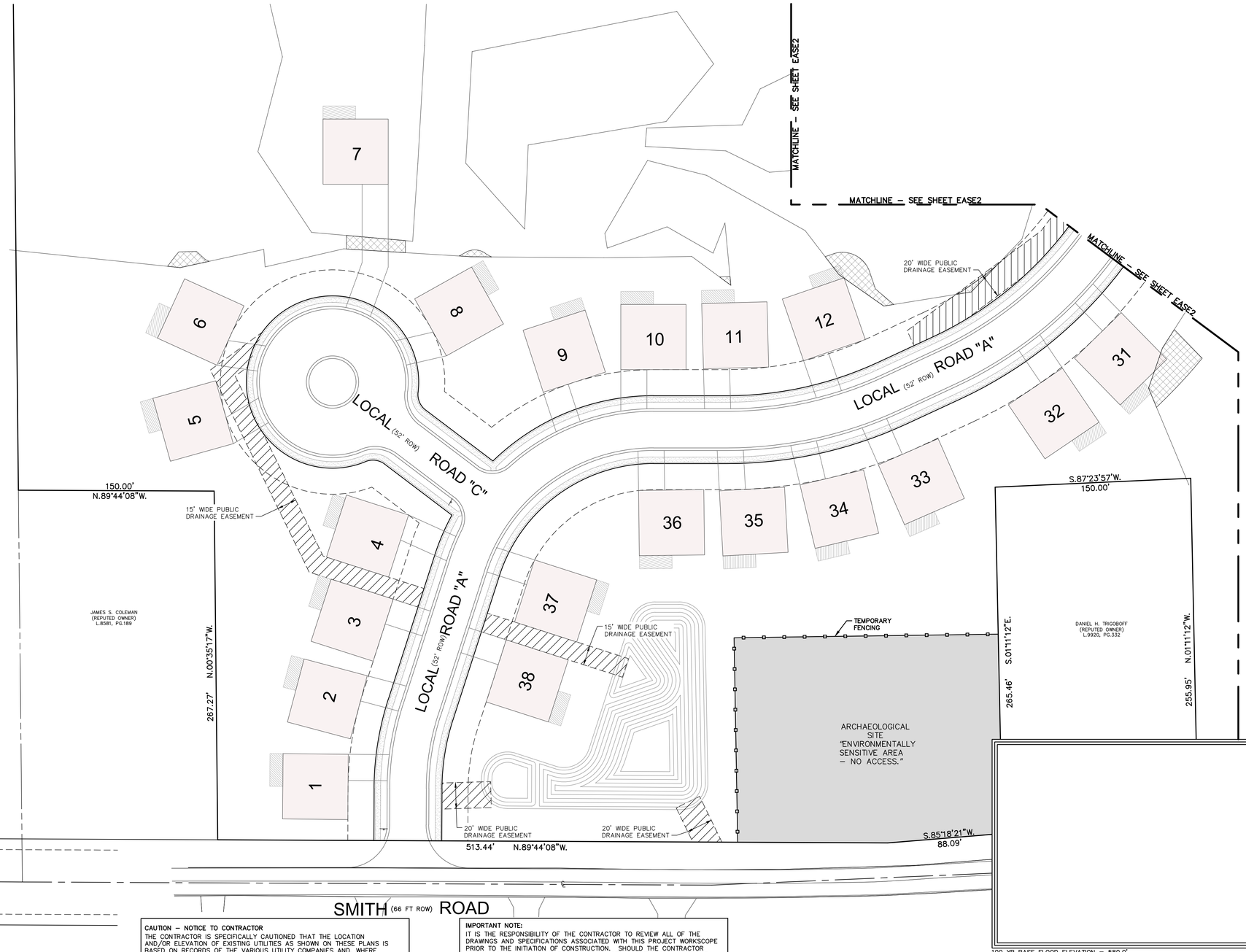
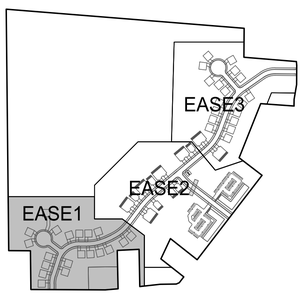
Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

NORTH



KEY PLAN



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LEGEND

- RIGHT–OF–WAY
- BUILDING SETBACK
- DRAINAGE EASEMENT

CAUTION – NOTICE TO CONTRACTOR
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

IMPORTANT NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORKSCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

IMPORTANT NOTE:
CONTRACTOR IS TO CONTACT THE "UNDERGROUND FACILITY PROTECTIVE ORGANIZATION" (1–800–962–7962) TO HAVE ALL EXISTING UTILITIES LOCATED AND MARKED PRIOR TO ANY DEMOLITION, CONSTRUCTION OR EXCAVATION ON THE SITE.

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

EASEMENT MAP

THIS SHEET ISSUED APRIL 18, 2024

EASE1

DRAWING SCALE: 1"=40'

WSA PROJECT NO. 13027C

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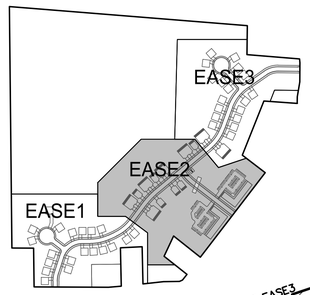
KEY PLAN



NORTH

6A 6B 6C 6D
7A 7B
5A 5B 5C 5D
4A 4B
3A 3B3C 3D
2A 2B
1A 1B 1C 1D
11A 11B
10A 10B
12A 12B
13A 13B 13C 13D

MATCHLINE – SEE SHEET EASE3

MATCHLINE – SEE SHEET EASE3

S.52°29'17"E.
199.03'

20' WIDE PUBLIC DRAINAGE EASEMENT

20' WIDE PUBLIC DRAINAGE EASEMENT

20' WIDE PUBLIC DRAINAGE EASEMENT

70' WIDE PUBLIC DRAINAGE EASEMENT

20' WIDE PUBLIC DRAINAGE EASEMENT

20' WIDE PUBLIC DRAINAGE EASEMENT

20' WIDE PUBLIC DRAINAGE EASEMENT

PARCEL LINE

PARCEL LINE

LOCAL (52' ROW) ROAD "A"

LOCAL (52' ROW) ROAD "B"

TOWN DITCH 26C

PROPOSED BUILDING
1 LOAD SF
FF=581.5

PROPOSED BUILDING
1 LOAD SF
FF=581.5

MATCHLINE – SEE SHEET EASE1

MATCHLINE – SEE SHEET EASE1

MATCHLINE – SEE SHEET EASE1

MATCHLINE – SEE SHEET EASE1

S.29°05'35"W.
154.10'

235.27'

N.51°38'37"W.

S.37°30'44"W.
710.52'

S.37°54'01"W.
23.73'

RICHARD A. LILLIS
(REPUTED OWNER)
L.10131, PG.508

CIMATO BROS INC.
(REPUTED OWNER)
4315 MILLERSPORT HWY

MILLERSPORT (BUFFALO-MILLERSPORT, PART 2) HIGHWAY
S.H. NO.1949
(150'-FT ROW)

℄ SIGN

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

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IMPORTANT NOTE:
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IMPORTANT NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORKSCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

LEGEND

- RIGHT-OF-WAY
- BUILDING SETBACK
- DRAINAGE EASEMENT

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

EASEMENT MAP

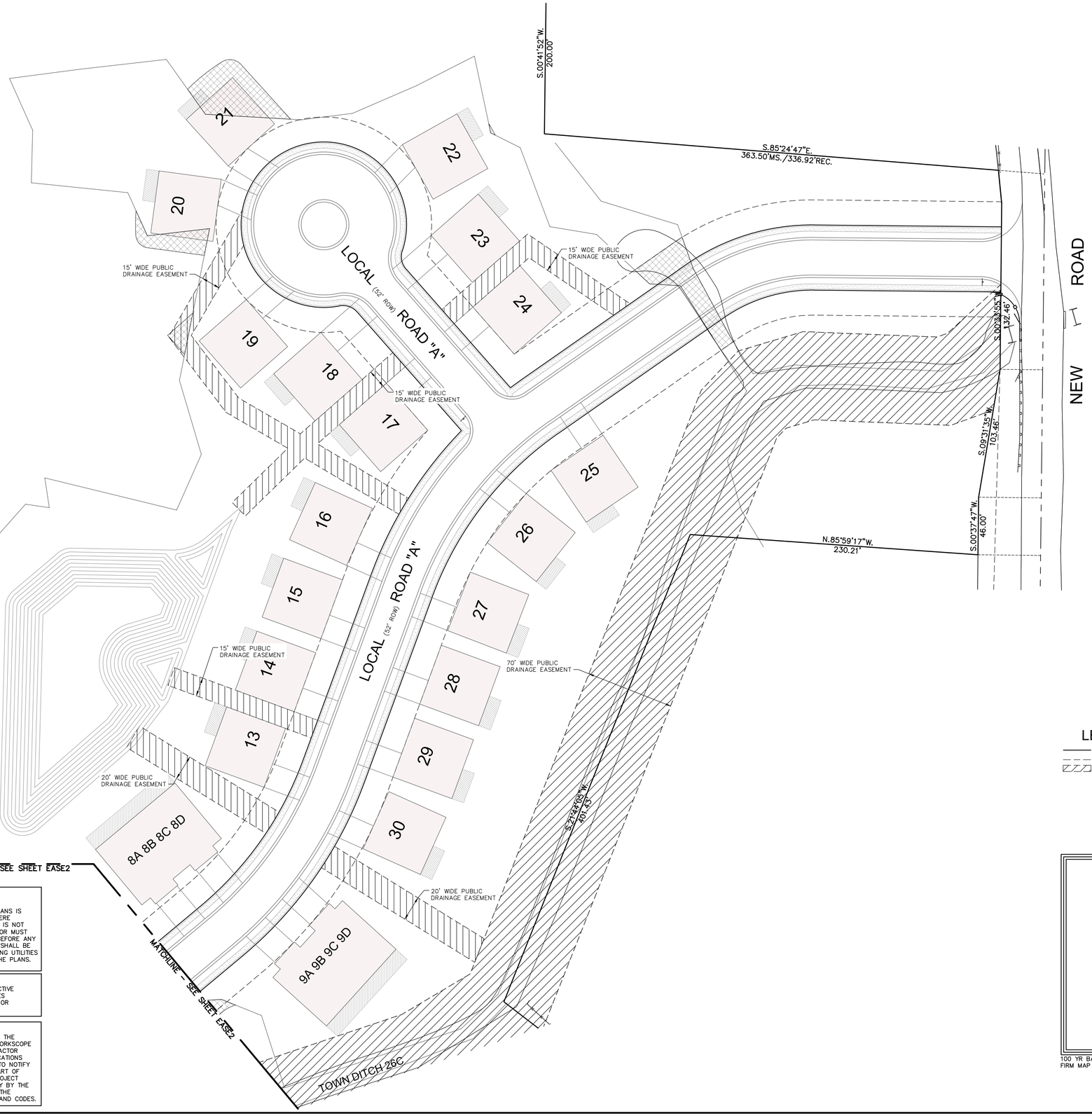
THIS SHEET ISSUED APRIL 18, 2024

EASE2

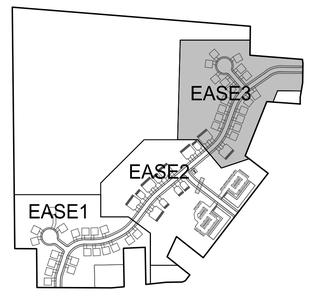
DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



KEY PLAN



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CAUTION – NOTICE TO CONTRACTOR
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

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100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160
SCALE: 1"=40'
GRAPHIC SCALE IN FEET

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TOWN OF AMHERST
ERIE COUNTY - NEW YORK

EASEMENT MAP

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EASE3

DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

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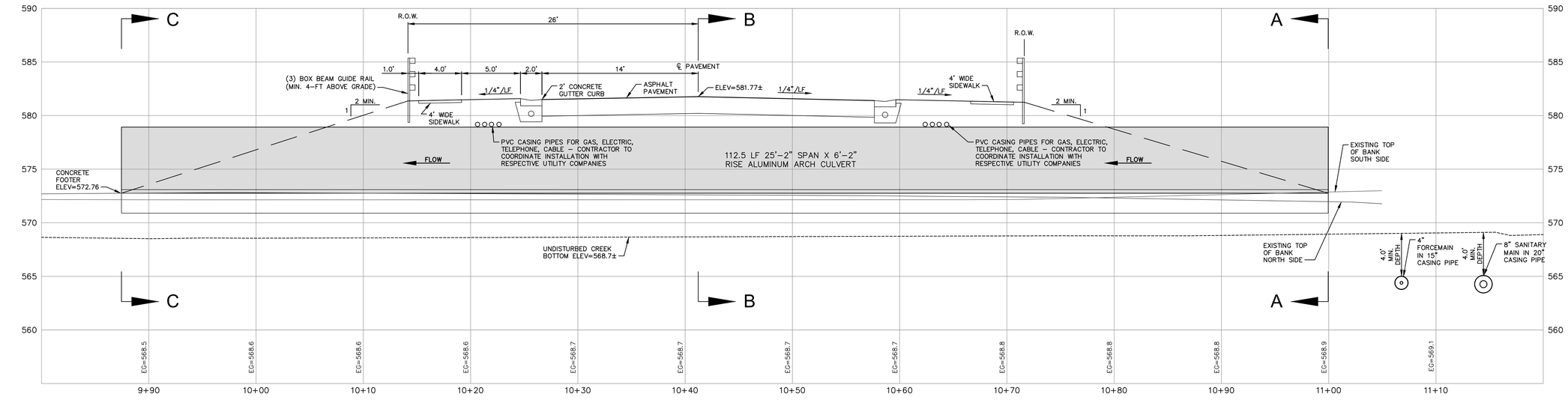
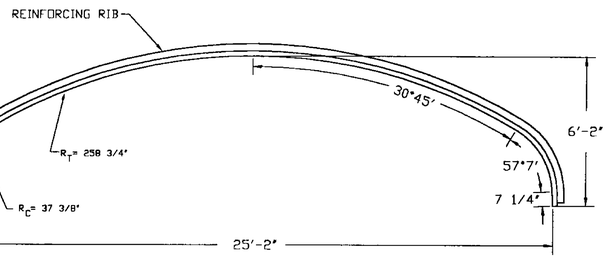


26B CENTERLINE

SCALE: 1"=5'



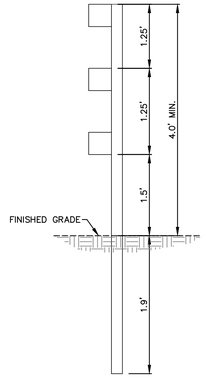
APPROX. AREA = 122.0 SQ. FT.

STRUCTURE DETAILS
- STRUCTURE #82
- STRUCTURE SPAN = 25'-2"
- STRUCTURE RISE = 6'-2"
- LOAD = HS-25
- SHELL TYPE = D6
- MIN COVER = 2.7 (ft)
- MAX COVER = 4.3 (ft)

ALUMINUM BOX CULVERT STRUCTURE
25'-2" SPAN X 6'-2" RISE
LIVE LOAD = HS-25

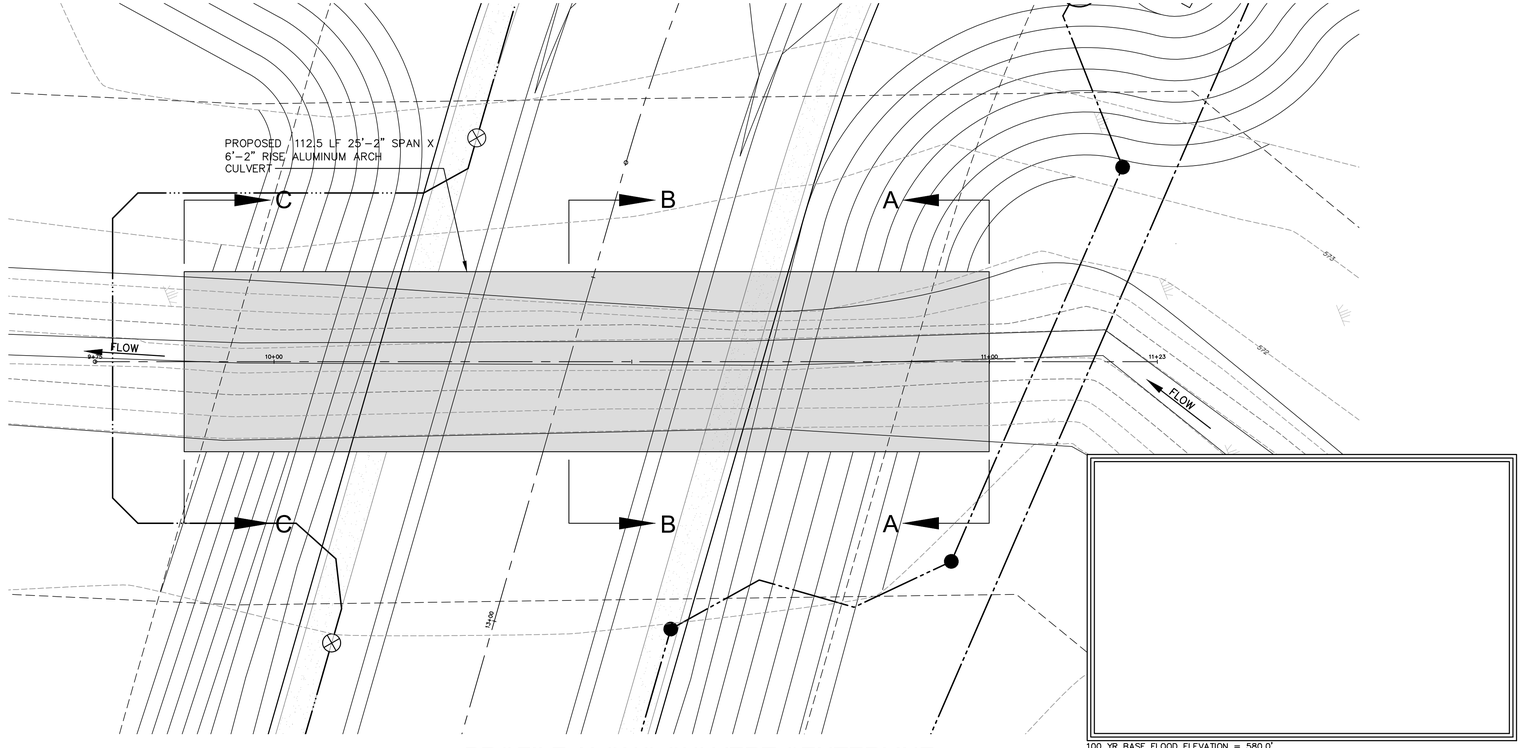
ALUMINUM ARCH CULVERT DETAIL

SCALE: 1"=10'



(3) BOX BEAM GUIDE RAIL DETAIL

SCALE: N.T.S.



PROFILE ALONG CULVERT CENTERLINE 26B CREEK CROSSING

SCALE: 1"=10'

SCALE: 1"=5'
GRAPHIC SCALE IN FEET

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

26B CREEK CROSSING

THIS SHEET ISSUED APRIL 18, 2024

CV1

DRAWING SCALE 1"=5'

WSA PROJECT NO. 13027C

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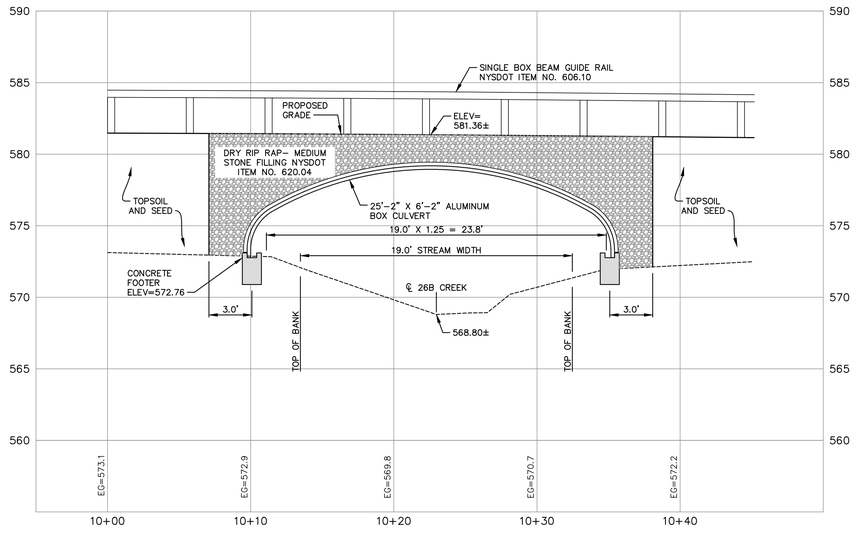
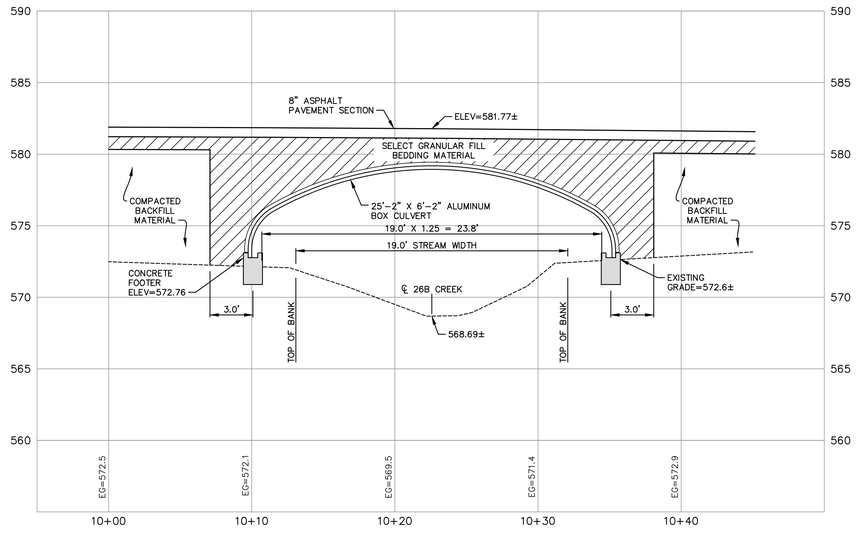


SECTION A-A

SCALE: 1"=5'

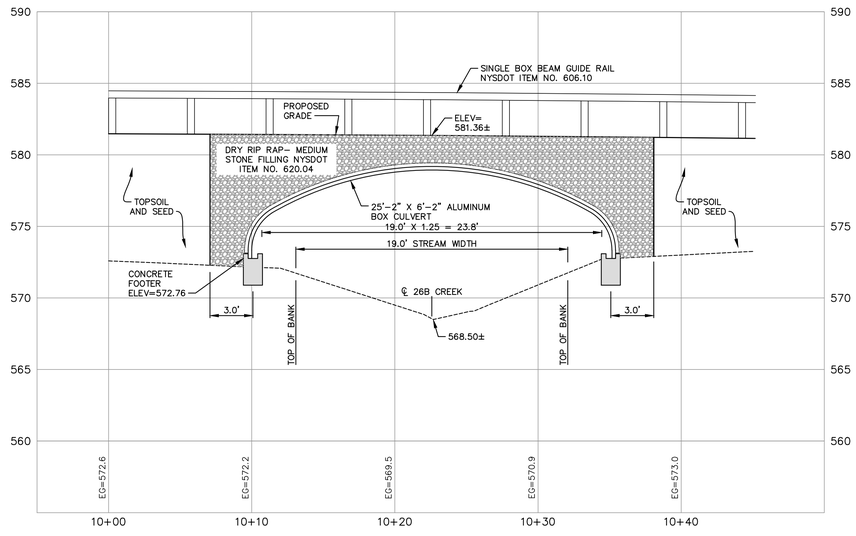


SECTION B-B

SCALE: 1"=5'

PROFILE ALONG CULVERT CENTERLINE
26B CREEK CROSSING

SCALE: 1"=10'



SECTION C-C

SCALE: 1"=5'

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C00B6H

0 5 7.5 10 15 20

SCALE: 1"=5'
GRAPHIC SCALE IN FEET

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

26B CREEK CROSSING

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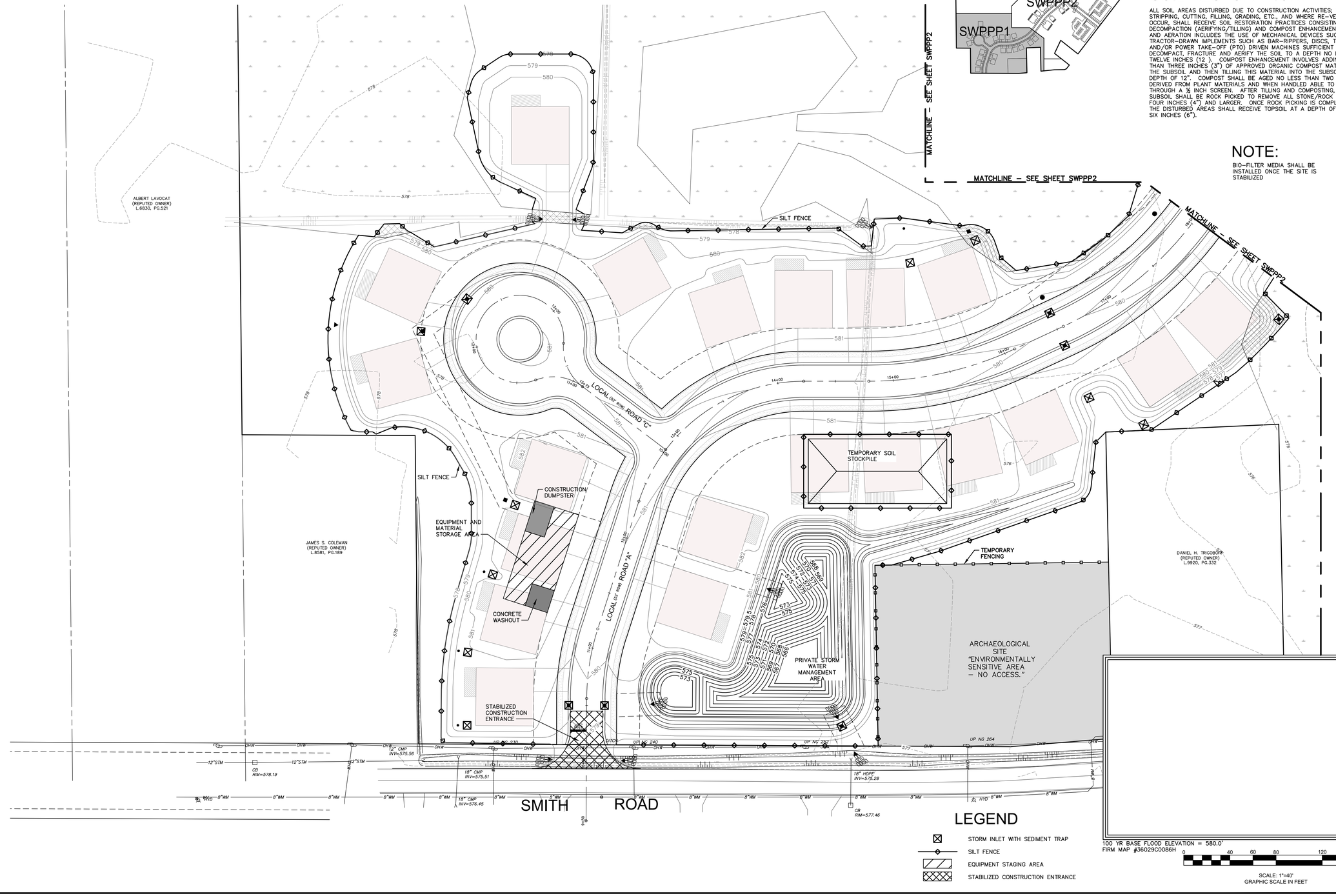
CV2

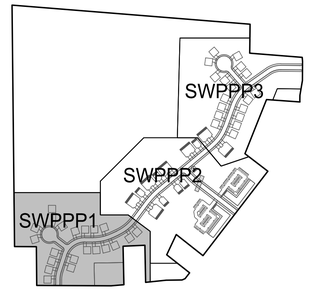
DRAWING SCALE: 1"=5'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A, drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



KEY PLAN



NORTH

SOIL RESTORATION:

ALL SOIL AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITIES; TOPSOIL STRIPPING, CUTTING, FILLING, GRADING, ETC., AND WHERE RE–VEGETATION WILL OCCUR, SHALL RECEIVE SOIL RESTORATION PRACTICES CONSISTING OF DECOMPACTION (AERIFYING/TILLING) AND COMPOST ENHANCEMENT. TILLING AND AERATION INCLUDES THE USE OF MECHANICAL DEVICES SUCH AS TRACTOR–DRAWN IMPLEMENTS SUCH AS BAR–RIPPERS, DISCS, TILLERS, AND/OR POWER TAKE–OFF (PTO) DRIVEN MACHINES SUFFICIENT TO DECOMPACT, FRACTURE AND AERIFY THE SOIL TO A DEPTH NO LESS THAN TWELVE INCHES (12"). COMPOST ENHANCEMENT INVOLVES ADDING NO LESS THAN THREE INCHES (3") OF APPROVED ORGANIC COMPOST MATERIAL OVER THE SUBSOIL AND THEN TILLING THIS MATERIAL INTO THE SUBSOIL TO A DEPTH OF 12". COMPOST SHALL BE AGED NO LESS THAN TWO YEARS DERIVED FROM PLANT MATERIALS AND WHEN HANDLED ABLE TO PASS THROUGH A ½ INCH SCREEN. AFTER TILLING AND COMPOSTING, THE SUBSOIL SHALL BE ROCK PICKED TO REMOVE ALL STONE/ROCK MATERIAL FOUR INCHES (4") AND LARGER. ONCE ROCK PICKING IS COMPLETE, THE DISTURBED AREAS SHALL RECEIVE TOPSOIL AT A DEPTH OF SIX INCHES (6").

NOTE:

BIO–FILTER MEDIA SHALL BE INSTALLED ONCE THE SITE IS STABILIZED

LEGEND

- STORM INLET WITH SEDIMENT TRAP
- SILT FENCE
- EQUIPMENT STAGING AREA
- STABILIZED CONSTRUCTION ENTRANCE

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

STORM WATER POLLUTION PREVENTION PLAN

THIS SHEET ISSUED APRIL 18, 2024

SWPPP1

DRAWING SCALE: 1"=40'

WSA PROJECT NO. 13027C

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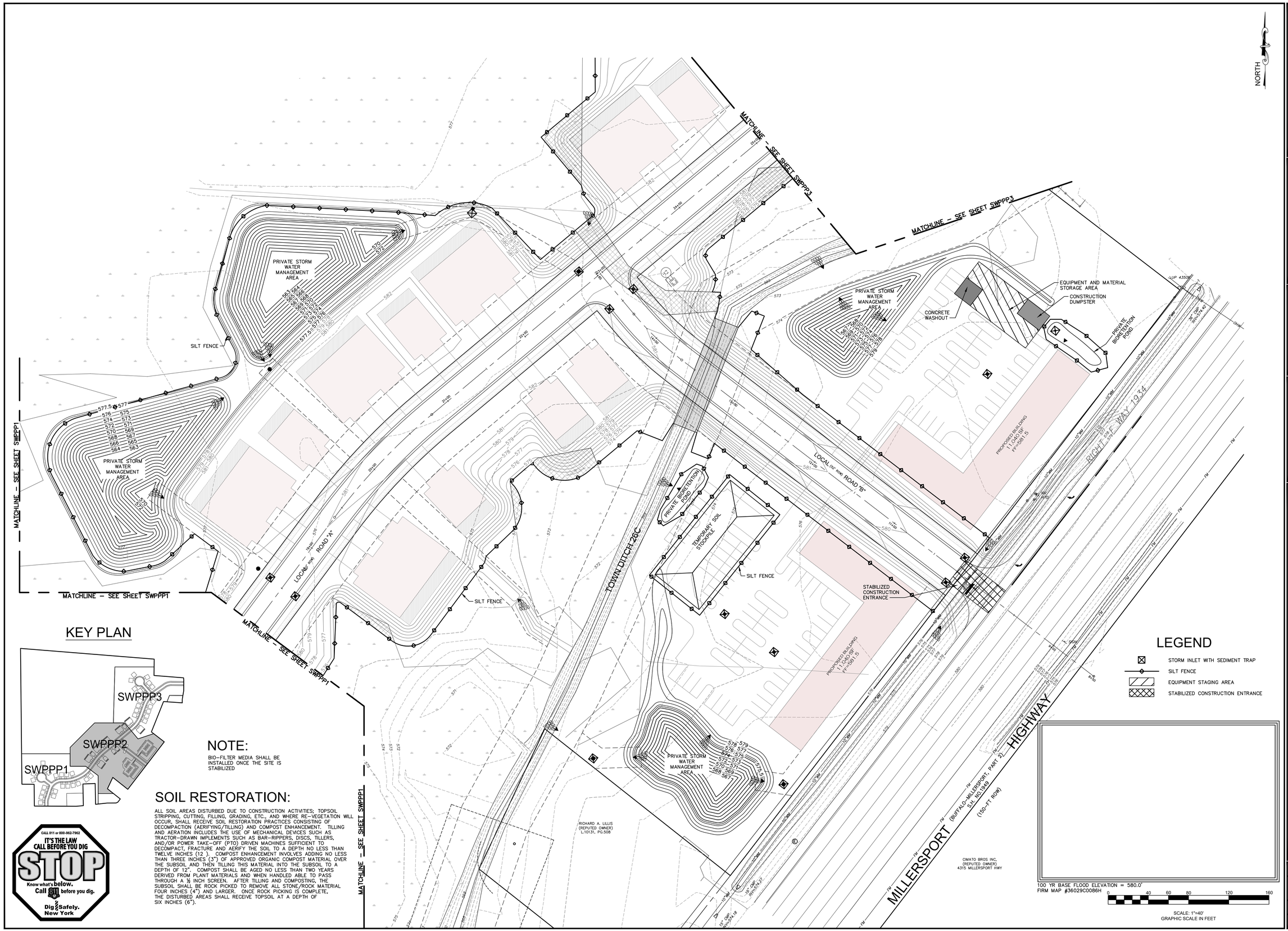

KEY PLAN

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LEGEND

- STORM INLET WITH SEDIMENT TRAP
- SILT FENCE
- EQUIPMENT STAGING AREA
- STABILIZED CONSTRUCTION ENTRANCE

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

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4300 MILLERSPORT DEVELOPMENT

TOWN OF AMHERST
ERIE COUNTY - NEW YORK

STORM WATER POLLUTION PREVENTION PLAN

THIS SHEET ISSUED APRIL 18, 2024

SWPPP2

DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

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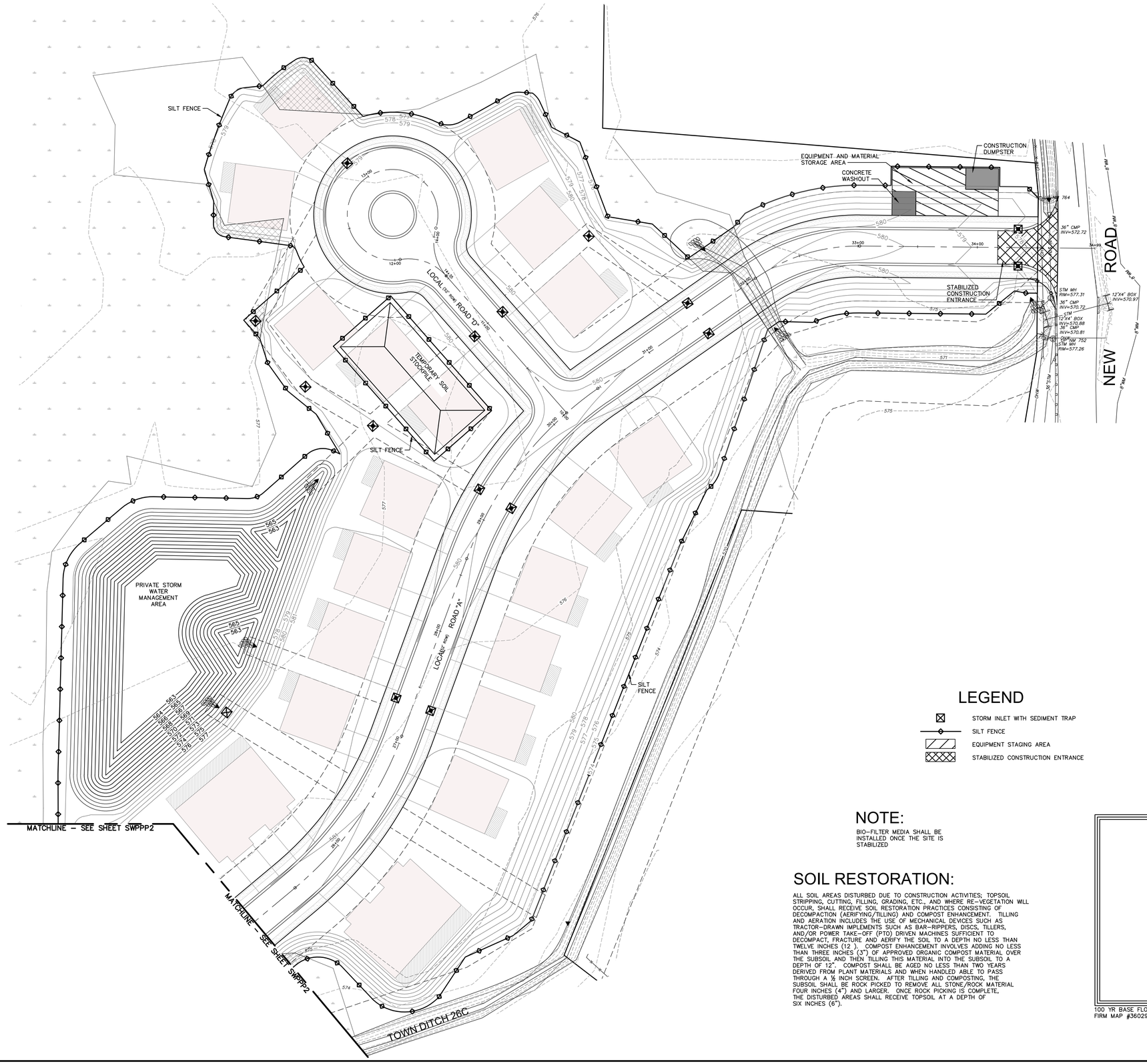

LEGEND

- STORM INLET WITH SEDIMENT TRAP
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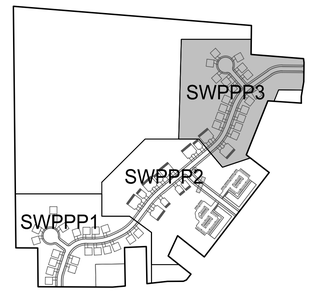
KEY PLAN



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FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

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TOWN OF AMHERST
ERIE COUNTY - NEW YORK

STORM WATER POLLUTION PREVENTION PLAN

THIS SHEET ISSUED APRIL 18, 2024

SWPPP3

DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

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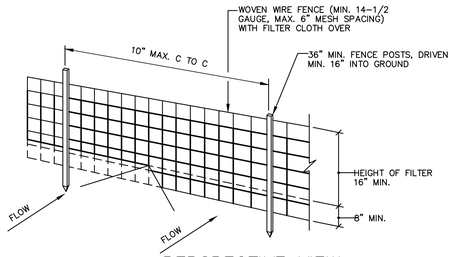
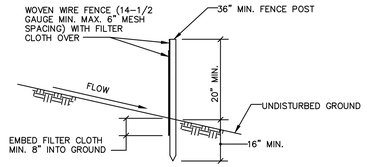


PERSPECTIVE VIEW



SECTION

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1.) WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.

2.) FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.

3.) WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.

4.) MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE.

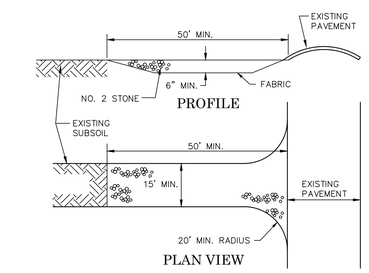
POSTS: Steel either T or U type or 2" hardwood.

FENCE: Woven wire, 14-1/2 Ga. 6" max. mesh opening.

FILTER CLOTH: Filter x, Mirafi 100x, Stabi-Linka T140N or approved equal.

PREFABRICATED UNIT: Geofab, Envirofence, or approved equal.

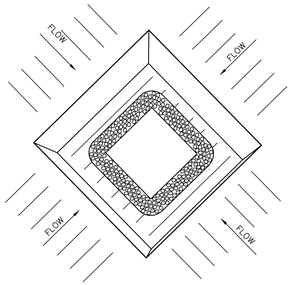
SILT FENCE DETAIL



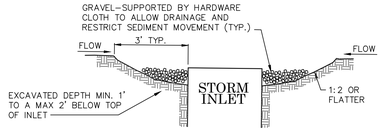
CONSTRUCTION NOTES

1. STONE SIZE – NO. 2 STONE
2. LENGTH – NOT LESS THAN 50 FEET
3. THICKNESS – NOT LESS THAN SIX (6) INCHES AFTER STRIPPING TOPSOIL.
4. WIDTH – TWENTY (20) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. GEOTEXTILE FABRIC – WILL BE PLACED OVER THE ENTIRE AREA AFTER TOPSOIL IS STRIPPED AND PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED UNDER ENTRANCE IF POSSIBLE. SIZE PIPES AS DETERMINED BY AGENCY HAVING JURISDICTION.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN EQUIPMENT WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE



STORM INLET PLAN

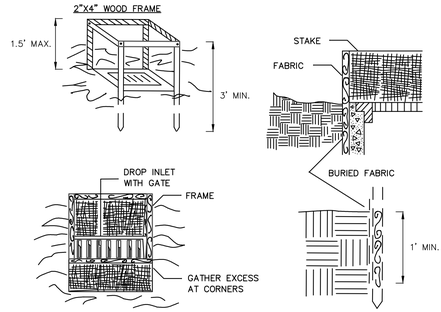


SECTION

CONSTRUCTION NOTES

1. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO A 6" DEPTH. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
2. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND CLEANED.
3. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.
4. ALL CUT SLOPES SHALL BE 2:1 OR FLATTER.

DROP INLET PROTECTION DETAIL

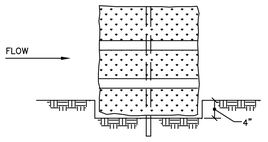


CONSTRUCTION SPECIFICATIONS

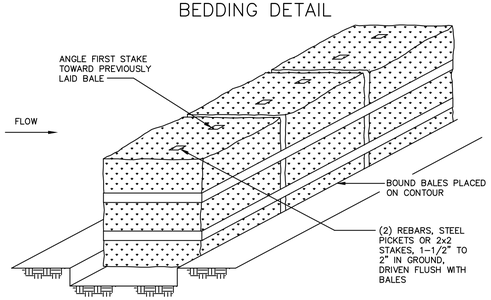
1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

MAXIMUN DRAINAGE AREA 1 ACRE

FILTER FABRIC DROP INLET PROTECTION



BEDDING DETAIL

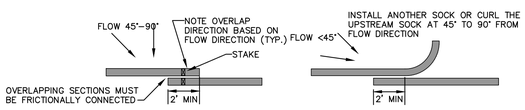


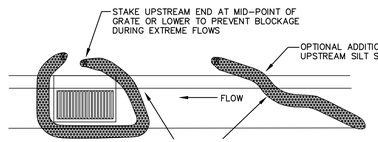
ANCHORING DETAIL

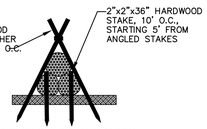
CONSTRUCTION SPECIFICATIONS

1) BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2) EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4 INCHES AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3) BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4) INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5) BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

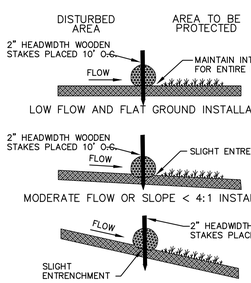
STRAW BALE DIKE DETAIL







PYRAMID FOR DETENTION BASIN OR CHECK DAM



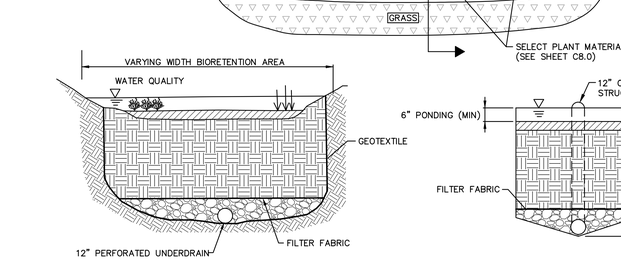
1. THESE GUIDELINES ARE BASED UPON MANUFACTURERS RECOMMENDATIONS. PROJECT SPECIFICATIONS MAY SUPERSEDE THESE GUIDELINES.

2. REFER TO REGULATORY AUTHORITY SPECIFICATIONS FOR DETAILED INSTALLATION PROCEDURED AS REQUIRED.

3. COMPOST FILTER SOCK CONTAINMENT SYSTEM SHALL BE A MESH KNITTED FABRIC OF BIODEGRADABLE (COTTON), OR PHOTODEGRADABLE (POLYPROPYLENE, POLYETHYLENE) WITH 1/8"-3/8" OPENINGS.

4. PARTICLE SIZE FOR FILLER/FILTER MEDIA IS TO BE: 99% < 2" MAX 40% < 3/8"

COMPOST FILTER SOCK



BIORETENTION DETAIL AND CROSS SECTION

(REFER TO SPECIFIC PLANTING DETAILS ON SHEET LANDSCAPE PLAN BY OTHERS)

PLANTING NOTE:
CONTRACTOR SHALL SUBMIT CERTIFICATION TO DESIGN ENGINEER THAT MATERIAL SPECIFIED FOR THE BIORETENTION AREA COMPONENTS MEET NYSDEC AND DESIGN ENGINEER REQUIREMENTS.

BIORETENTION PLANTING SOIL MATERIAL

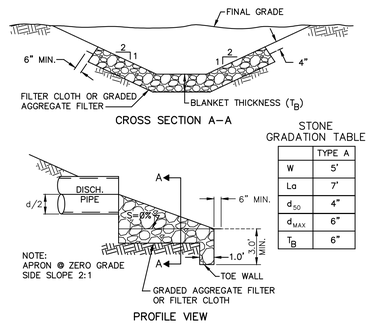
ALL AREAS TO BE USED AS BIORETENTION FACILITIES SHALL BE BACK-FILLED WITH A SUITABLE SANDY LOAM PLANTING MEDIA. THE BORROW SOURCE OF THIS MEDIA, WHICH MAY BE THE SAME OR DIFFERENT LOCATION FROM THE BIORETENTION AREA ITSELF, MUST BE TESTED AS FOLLOWS:

IF THE BORROW AREA IS VIRGIN, UNDISTURBED SOIL, ONE TEST IS REQUIRED PER 200 SF OF BORROW AREA; THE TEST CONSISTS OF "GRAB" SAMPLES AT ONE-FOOT DEPTH INTERVALS TO THE BOTTOM OF THE BORROW AREA. ALL SAMPLES AT THE TESTING LOCATION ARE THEN MIXED, AND THE RESULTING SAMPLE IS THEN LAB-TESTED TO MEET THE FOLLOWING CRITERIA:

a) USDA MINIMUM TEXTURAL ANALYSIS REQUIREMENTS: A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED. THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
SAND CONTENT: 35 – 60%
SILT CONTENT: 30 – 55%
CLAY CONTENT: 10 – 25%

b) THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES.

c) THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
PH RANGE: 5.2 – 7.0
ORGANIC MATTER: 1.5 – 4%
MAGNESIUM: 35 LB./AC
PHOSPHORUS P2O5: 75 LB./AC
POTASSIUM K2O: 85 LB./AC
SOLUBLE SALTS NOT TO EXCEED: 500 PPM



ROCK OUTLET PROTECTION

CONSTRUCTION NOTES:

1. THE SUBGRADE FOR THE RIPRAP SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIPRAP OR FILTER.
3. FILTER CLOTH SHALL BE PROTECTED FROM PUNCHING, CUTTING OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF CLOTH OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE CLOTH. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF CLOTH SHALL BE A MINIMUM OF ONE FOOT.
4. STONE FOR RIPRAP OUTLETS MAY BE PLACED BY EQUIPMENT. AND SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIPRAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONE. RIPRAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR FILTER CLOTH. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
5. RIPRAP SHALL BE COMPOSED OF A WELL GRADED MIXTURE OF STONE SIZE SO THAT 50 PERCENT OF THE PIECES, BY WEIGHT, SHALL BE LARGER THAN THE d_{50} SIZE DETERMINED BY USING THE CHARTS. A WELL GRADED MIXTURE AS USED HEREIN IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF LARGER STONE SIZE BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE d_{50} SIZE.

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

STORM WATER POLLUTION PREVENTION DETAILS

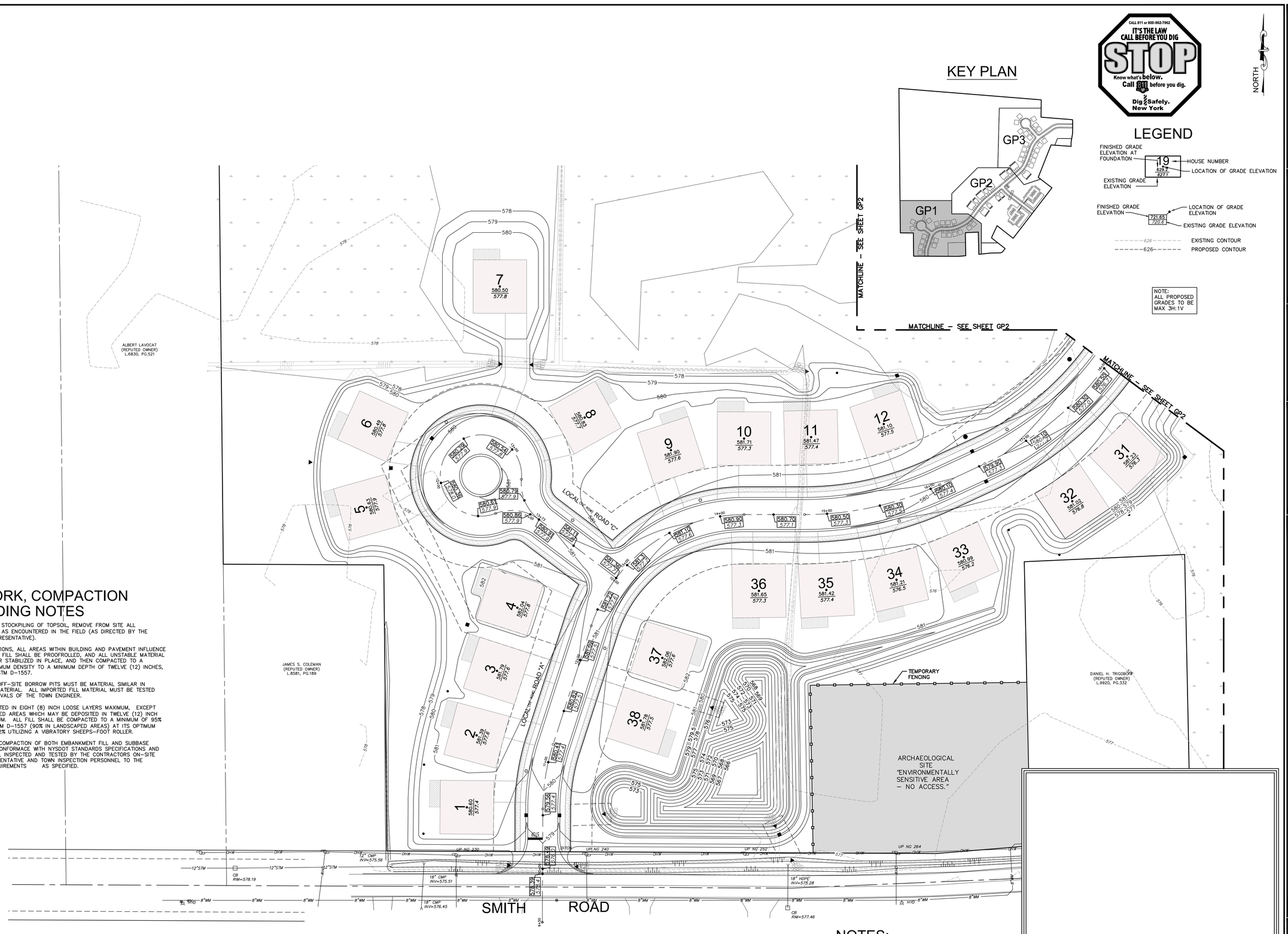
THIS SHEET ISSUED APRIL 18, 2024

SWPPP4

DRAWING SCALE: NONE

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



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LEGEND

FINISHED GRADE ELEVATION AT FOUNDATION — 19 / 629.2 / 627.1 — HOUSE NUMBER; LOCATION OF GRADE ELEVATION
EXISTING GRADE ELEVATION

FINISHED GRADE ELEVATION — 721.55 / 720.6 — LOCATION OF GRADE ELEVATION; EXISTING GRADE ELEVATION

626 EXISTING CONTOUR
626 PROPOSED CONTOUR

NOTE:
ALL PROPOSED GRADES TO BE MAX 3H:1V

EARTHWORK, COMPACTION AND GRADING NOTES

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2. PRIOR TO FILL OPERATIONS, ALL AREAS WITHIN BUILDING AND PAVEMENT INFLUENCE THAT ARE TO RECEIVE FILL SHALL BE PROOFROLLED, AND ALL UNSTABLE MATERIAL SHALL BE REMOVED OR STABILIZED IN PLACE, AND THEN COMPACTED TO A MINIMUM OF 95% MAXIMUM DENSITY TO A MINIMUM DEPTH OF TWELVE (12) INCHES, AS DETERMINED BY ASTM D-1557.
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5. THE PLACEMENT AND COMPACTION OF BOTH EMBANKMENT FILL AND SUBBASE STONE SHALL BE IN CONFORMACE WITH NYSDOT STANDARDS SPECIFICATIONS AND SHALL BE SUBERVISED, INSPECTED AND TESTED BY THE CONTRACTORS ON-SITE GEOTECHNICAL REPRESENTATIVE AND TOWN INSPECTION PERSONNEL TO THE MINIMUM DENSITY REQUIREMENTS AS SPECIFIED.

NOTES:

1. ENTIRE LIMITS OF THE PROJECT AREA FALLS WITHIN THE 100-YR FLOODPLAIN (1% ANNUAL CHANCE FLOOD)

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160
SCALE: 1"=40'
GRAPHIC SCALE IN FEET

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/18/24	REDUCED GRADING SLOPES WHERE POSSIBLE ADJACENT TO STRUCTURES AND ROADS

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

LOT GRADING PLAN

THIS SHEET ISSUED APRIL 18, 2024

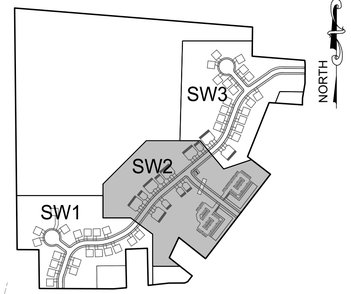
GP1

DRAWING SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

KEY PLAN



NOTES:

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   100 YR BASE FLOOD ELEVATION = 580.0'
   FIRM MAP #36029C0086H

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NOTE:
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LEGEND

FINISHED GRADE ELEVATION AT FOUNDATION — 19 — HOUSE NUMBER
628.2 — LOCATION OF GRADE ELEVATION
627.1 — EXISTING GRADE ELEVATION

FINISHED GRADE ELEVATION — 721.65 — LOCATION OF GRADE ELEVATION
720.6 — EXISTING GRADE ELEVATION

626 — EXISTING CONTOUR
626 — PROPOSED CONTOUR

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0 40 60 80 120 160
SCALE: 1"=40'
GRAPHIC SCALE IN FEET

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TOWN OF AMHERST
ERIE COUNTY - NEW YORK

LOT GRADING PLAN

THIS SHEET ISSUED APRIL 18, 2024

GP2

DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

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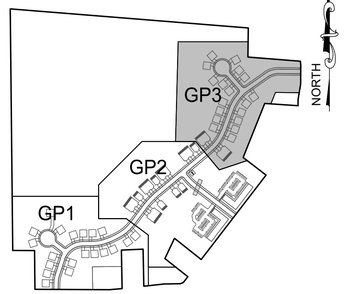

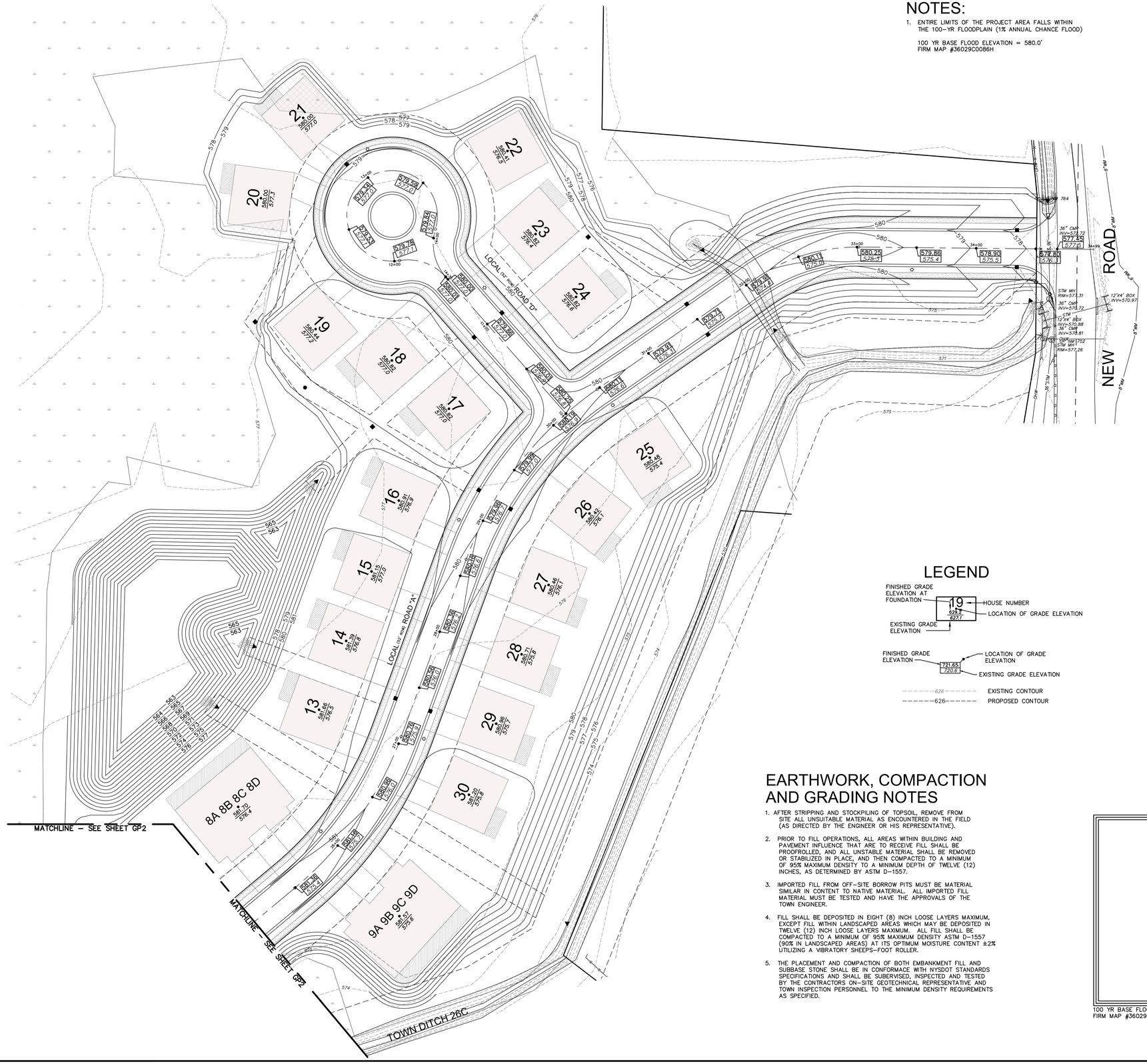

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IT'S THE LAW
CALL BEFORE YOU DIG
STOP
Know what's below.
Call 811 before you dig.
Dig Safely.
New York

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/18/24	REDUCED GRADING SLOPES WHERE POSSIBLE, ADJACENT TO STRUCTURES AND ROADS

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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STATE OF NEW YORK · WILLIAM E. SCHUTT · 058840 · LICENSED PROFESSIONAL ENGINEER

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37 CENTRAL AVE.
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FAX 716-683-0169
WWW.WMSCHUTT.COM

4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

LOT GRADING PLAN

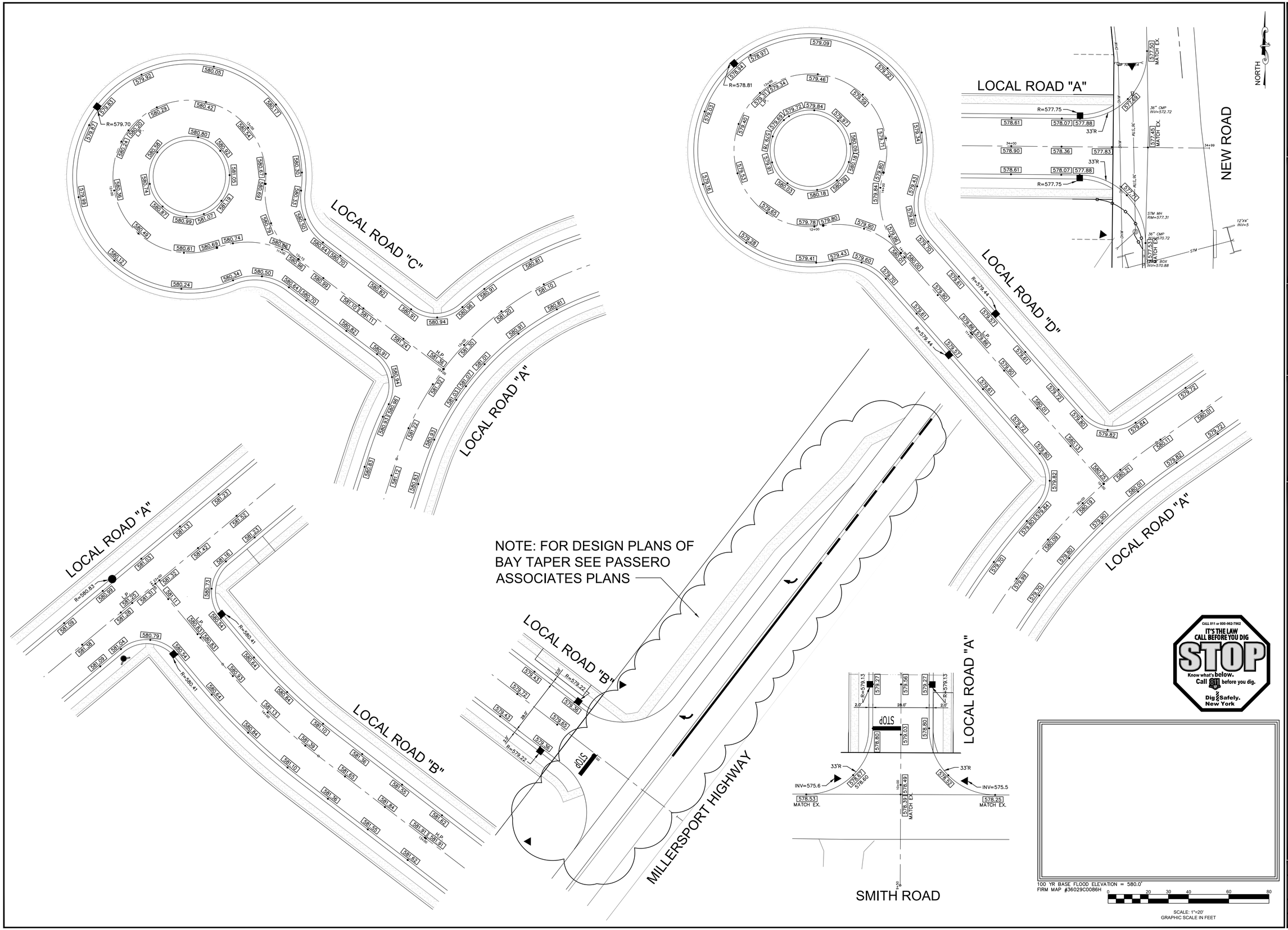
THIS SHEET ISSUED APRIL 18, 2024

GP3

DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



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4300 MILLERSPORT DEVELOPMENT
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GRADING INTERSECTION DETAILS

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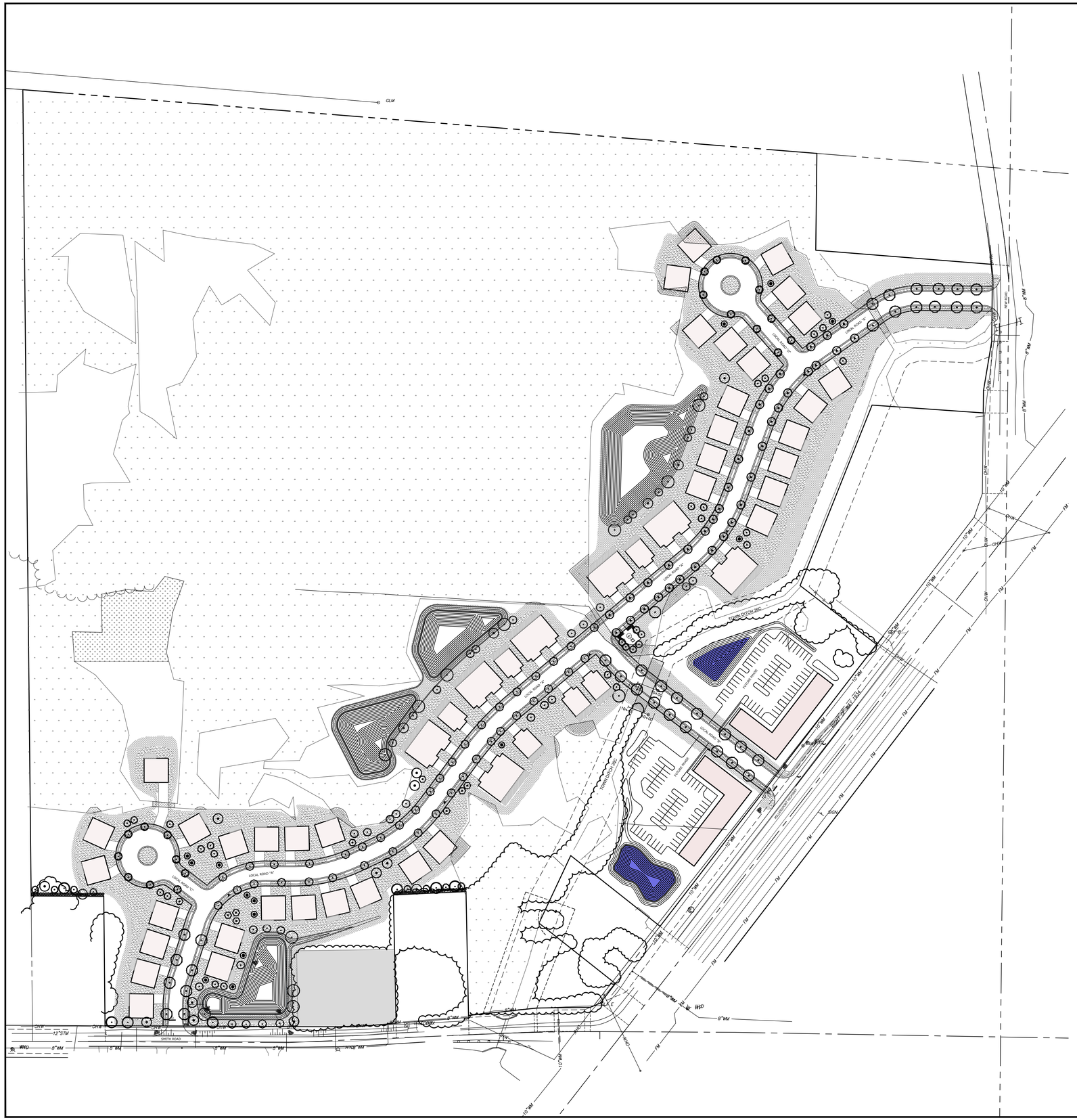
GP4

DRAWING SCALE: 1"=20'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



LANDSCAPE SYMBOLS

PROPOSED MEADOW SEED AREA

PROPOSED LAWN AREA

PROPOSED 4' OPAQUE WOOD FENCE
TWO SECTIONS OF 150' – TOTAL 300'

TREE SCHEDULE (CUMULATIVE - ALL SHEETS)

SYMBOL	QTY.	COMMON NAME	BOTANICAL NAME	SIZE	ROOT
	37	Colorado Spruce	Picea pungens	5'–6' Ht	B&B
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	19	Little Leaf Linden	Tilia cordata	2–1/2"cal	B&B
	37	Princeton Elm	Ulmus Americana 'Princeton'	2–1/2"cal	B&B
	30	River Birch Clump	Betula nigra	8'–10' Ht	B&B
	9	Serviceberry	Amelanchier canadensis	2"cal	B&B
	37	Skyline Honeylocust	Gleditsis triacanthos i. 'Skyline'	2–1/2"cal	B&B
	17	Swamp White Oak	Quercus bicolor	2–1/2"cal	B&B
	12	Golden Weeping Willow	Salix alba 'Tristis'	2–1/2"cal	B&B

SHRUB SCHEDULE (CUMULATIVE - ALL SHEETS)

SYMBOL	QTY.	COMMON NAME	BOTANICAL NAME	SIZE	ROOT
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	12	Inkberry Holly	Ilex glabra	24"Ht Min	#5 cont.
	19	Winterberry Holly	Ilex verticillata	24"Ht Min	#5 cont.

LANDSCAPE NOTES

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2. LAWN AND MEADOW SEED AREAS TO RECEIVE 4" MIN. TOPSOIL AND SEED.
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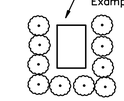
TYPICAL MECHANICAL UNIT SCREENING

Below is a typical planting at all mechanical units which may, or may not, be on plans. A variety of plantings should be used at each unit.

EVERGREEN SHRUBS IN #5 CONTAINER MAY INCLUDE (24" min. Height):
- Blue Maid Holly – Ilex X meservae 'Blue Maid'
- Inkberry Holly – Ilex glabra
- Sea Green Juniper – Juniperus chinensis 'Sea Green'

Required by 203–7–2–4(C) of Town Code; for town homes and patio homes in Phase 1, all mechanical equipment, utility structures, multiple meter boards, generators, RPZ's, and similar appurtenance, including those which are mounted on any part of a primary structure shall be appropriately screened with a fence, wall, and/or landscaping.



Sundell
Landscape Architecture PLLC
5888 Broadway St.
Lancaster, NY 14086

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/18/24	REVISED SHRUBS AND TREE SCHEDULE ADDED NOTE, EDITED MECHANICAL EQUIPMENT SCREENING

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

OVERALL LANDSCAPE PLAN

THIS SHEET ISSUED APRIL 18, 2024

LS1

DRAWING SCALE 1"=100'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings. 051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

SHRUB SCHEDULE (CUMULATIVE - ALL SHEETS)

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LANDSCAPE SYMBOLS

PROPOSED MEADOW SEED AREA

PROPOSED LAWN AREA

PROPOSED 4' OPAQUE WOOD FENCE
TWO SECTIONS OF 150' = TOTAL 300'

TREE SCHEDULE (CUMULATIVE - ALL SHEETS)

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	44	Hedge Maple	Acer campestre	2-1/2"cal	B&B
	19	Little Leaf Linden	Tilia cordata	2-1/2"cal	B&B
	37	Princeton Elm	Ulmus Americana 'Princeton'	2-1/2"cal	B&B
	30	River Birch Clump	Betula nigra	8'-10' Ht	B&B
	9	Serviceberry	Amelanchier canadensis	2"cal	B&B
	37	Skyline Honeylocust	Gleditsis triacanthos i. 'Skyline'	2-1/2"cal	B&B
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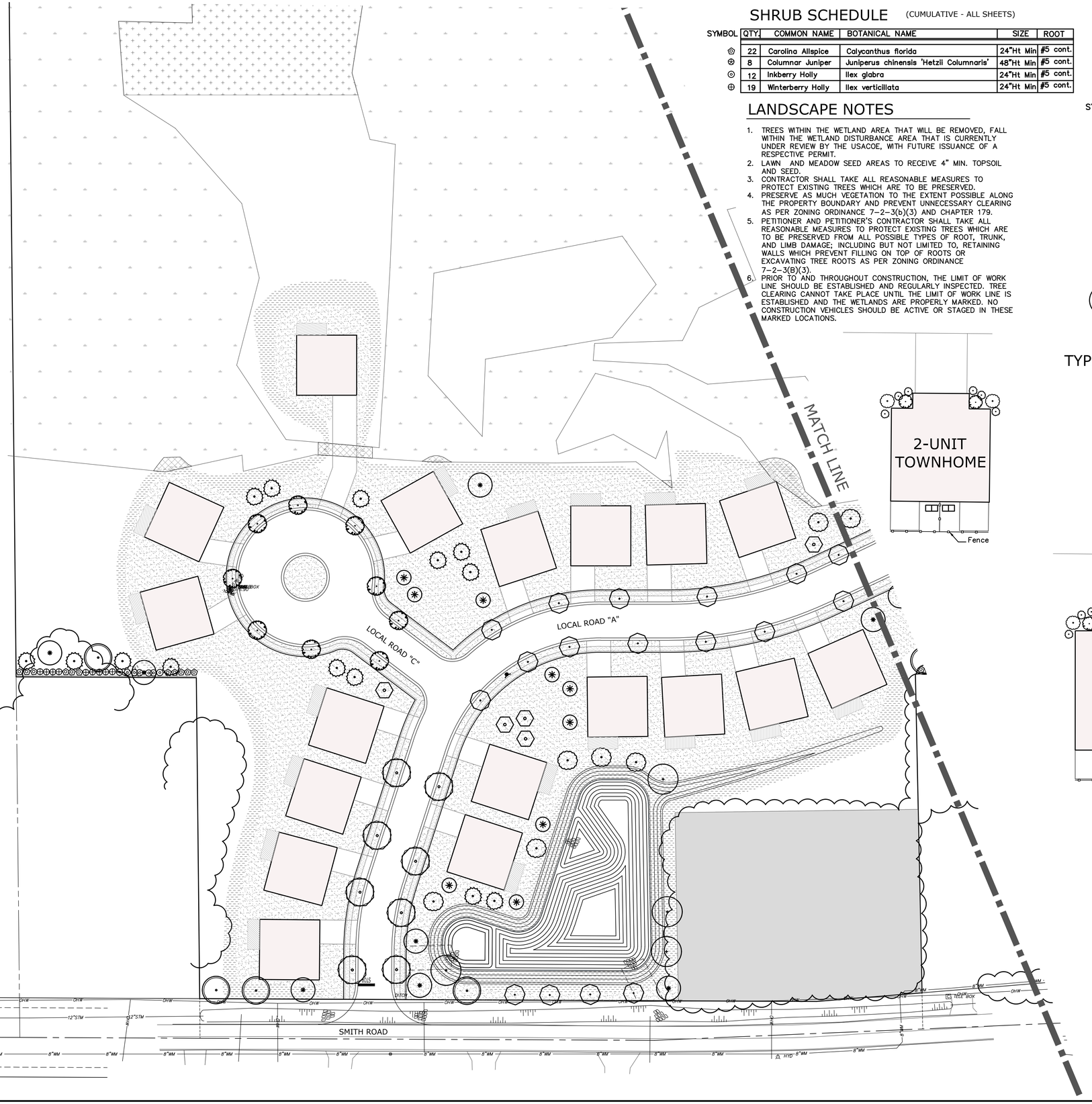
	12	Golden Weeping Willow	Salix alba 'Tristis'	2-1/2"cal	B&B



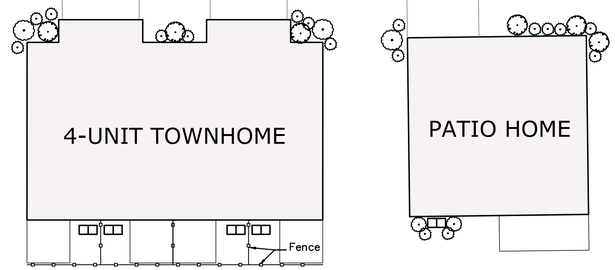
TYPICAL RESIDENTIAL BUILDING PLANTING

Below is a typical planting at the residential building. Plants are selected based on hardiness, deer resistance, and availability with a preference for natives.

EVERGREEN SHRUBS IN #5 CONT (24" Ht Min) MAY INCLUDE:
- Densiformis Yew – Taxus X media 'Densiformis'
- Blue Maid Holly – Ilex X meservae 'Blue Maid'
- Inkberry Holly – Ilex glabra
- Boxwood – Buxus sempervirens

LARGE DECIDUOUS SHRUBS IN #5 CONT. (24"Ht Min) MAY INCLUDE:
- Arrowood Viburnum – Viburnum dentatum
- Eastern Ninebark – Physocarpus opulifolius
- Carolina Allspice – Calycanthus floridus
- Smokebush – Cotinus coggyria

SMALL SHRUBS IN #2 CONT (24" Ht Min) MAY INCLUDE:
- Anthony Waterer Spirea – Spirea bumalda 'Anthony Waterer'
- Deutzia – Deutzia spp.
- Alpine Currant – Ribes alpinum
- Summersweet – Clethera alnifolia



Sundell
Landscape Architecture PLLC
5888 Broadway St.
Lancaster, NY 14086

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION
1	4/18/24	REVISED SHRUBS AND TREE SCHEDULE ADDED NOTE, CENTER MECHANICAL EQUIPMENT SCREENING

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

LANDSCAPE PLAN

THIS SHEET ISSUED APRIL 18, 2024

LS2

DRAWING SCALE 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



LANDSCAPE SYMBOLS

PROPOSED MEADOW SEED AREA

PROPOSED LAWN AREA

PROPOSED 4' OPAQUE WOOD FENCE
TWO SECTIONS OF 150' – TOTAL 300'

TREE SCHEDULE (CUMULATIVE - ALL SHEETS)

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	44	Hedge Maple	Acer campestre	2–1/2"cal	B&B
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LANDSCAPE NOTES

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100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

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ITEM	DATE	DESCRIPTION
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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

LANDSCAPE PLAN

THIS SHEET ISSUED APRIL 18, 2024

LS3

DRAWING SCALE 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

LANDSCAPE SYMBOLS

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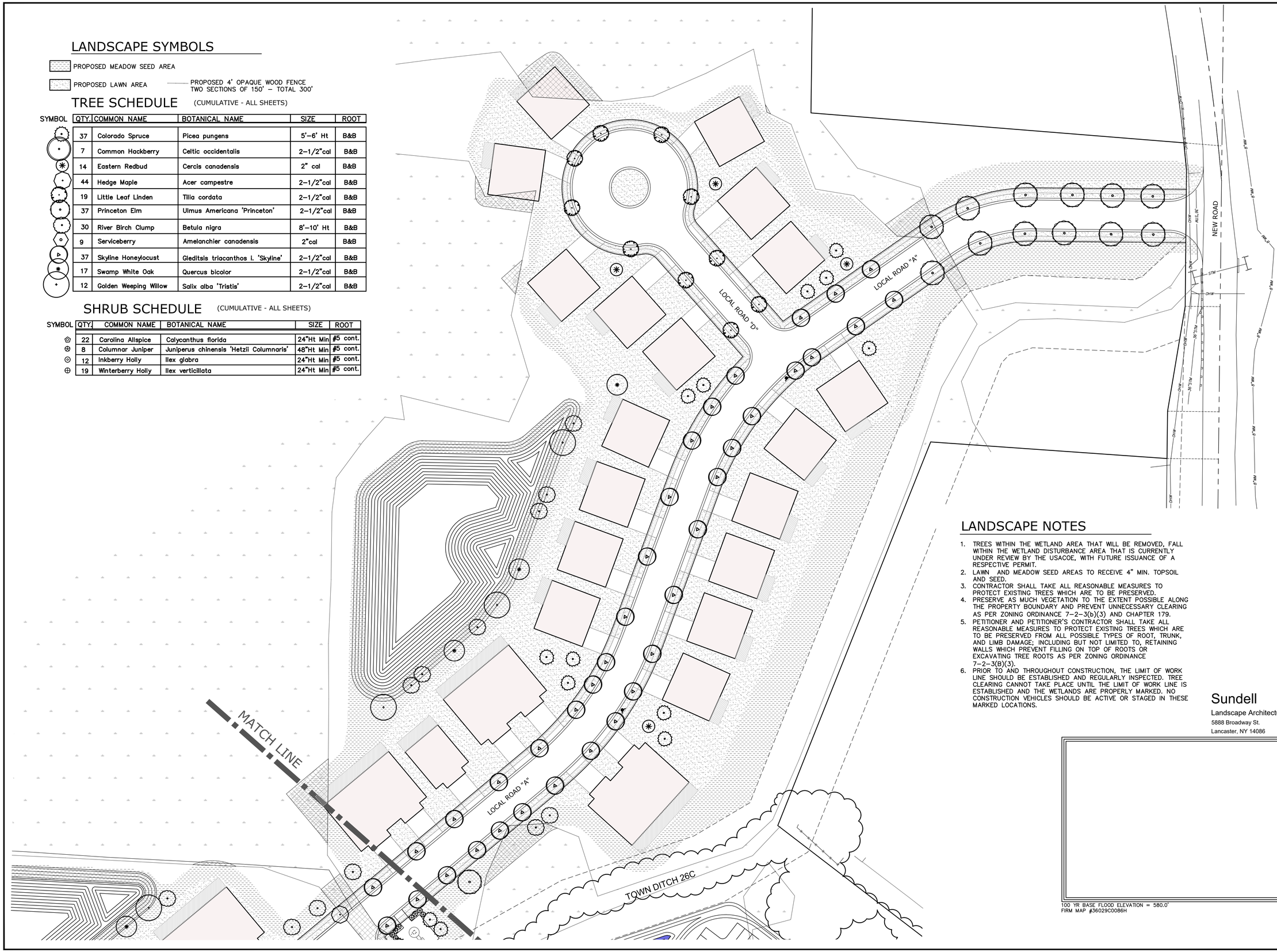

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100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

LANDSCAPE PLAN

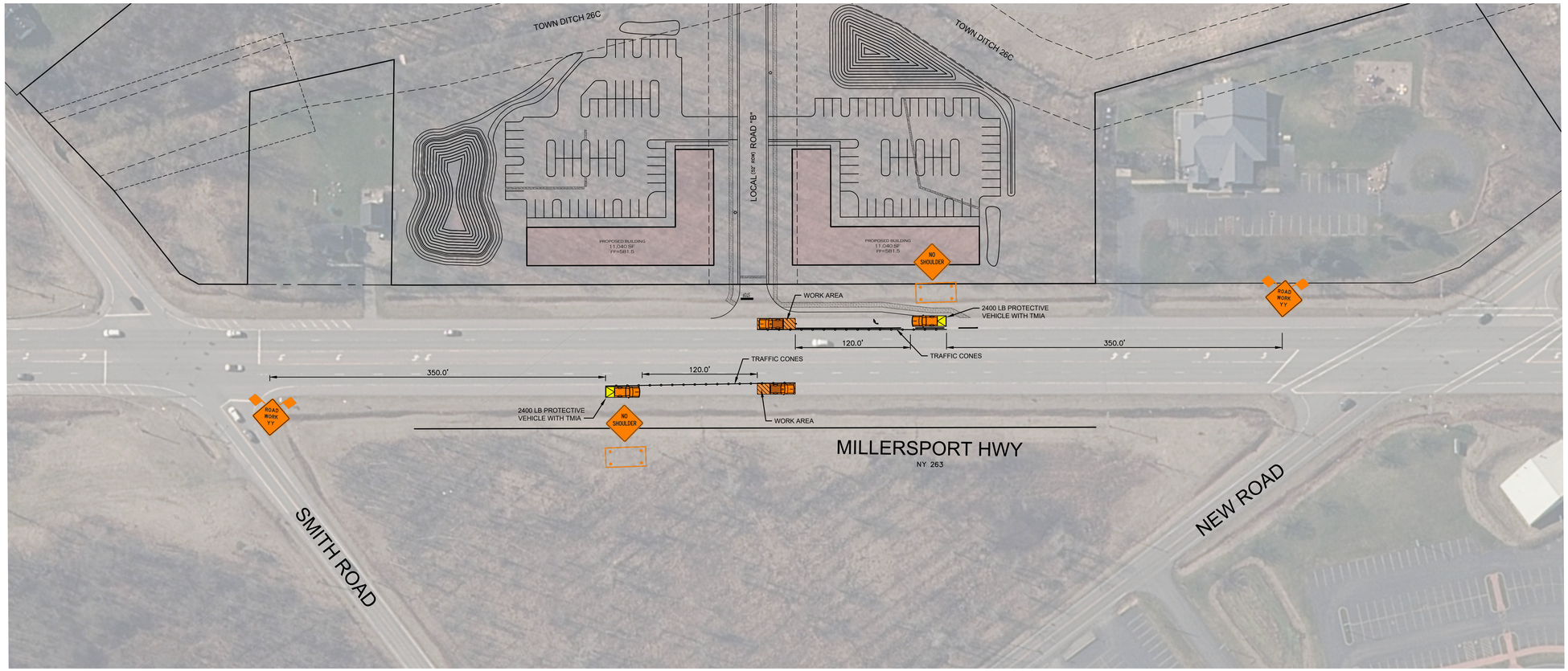
THIS SHEET ISSUED APRIL 18, 2024

LS4

DRAWING SCALE 1"=40'

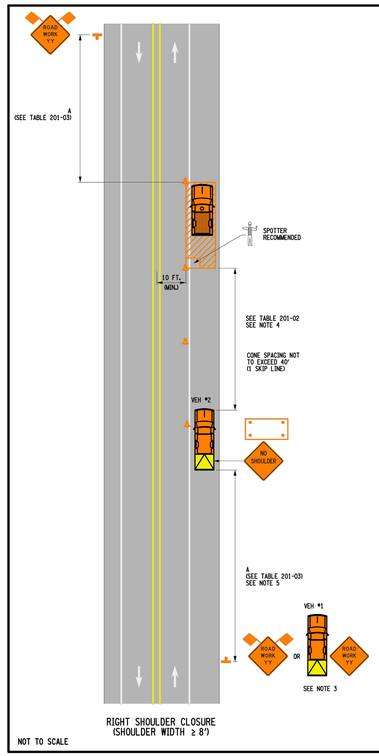
WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



PLAN

SCALE: 1"=60'



RIGHT SHOULDER CLOSURE
(SHOULDER WIDTH ≥ 8')

NOT TO SCALE

TABLE 201-01: PROTECTIVE VEHICLE REQUIREMENTS

CLOSURE TYPE	ROAD TYPE & SPEED	NON-FREEWAY		
		≥ 45 MPH	35 - 40 MPH	≤ 30 MPH
	EXPOSURE CONDITIONS[1]			
LANE CLOSURE OR ENCROACHMENT	WORKERS ON FOOT OR VEHICLE EXPOSED TO TRAFFIC	P, TMIA	P, TMIA	P
	OTHER HAZARDS NO WORKERS EXPOSED	P, TMIA	P	P
SHOULDER CLOSURE OR ENCROACHMENT	WORKERS ON FOOT OR VEHICLE EXPOSED TO TRAFFIC	P, TMIA	P	P
	OTHER HAZARDS NO WORKERS EXPOSED	P, TMIA	P	P

LEGEND

P: PROTECTIVE VEHICLE REQUIRED FOR EACH CLOSED LANE & EACH CLOSED PAVED SHOULDER 8' OR WIDER. IF THE WORK SPACE MOVES WITHIN THE STATIONARY CLOSURE, THE PROTECTIVE VEHICLE SHALL BE REPOSITIONED ACCORDINGLY

TMIA: TMIA REQUIRED

NOTES:
1. THE EXPOSURE CONDITIONS ASSUMES THERE IS NO POSITIVE PROTECTION PRESENT

TABLE 201-02: ROLL AHEAD DISTANCE

ROLL AHEAD DISTANCE FTJ/* OF SKIP LINES FOR VEHICLES		
PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	STATIONARY OPERATION	
	MIN	MAX
≥ 55	120/3	200/5
45 - 50	80/2	160/4
≤ 40	40/1	120/3

TABLE 201-03: ADVANCE WARNING SIGN SPACE

ROAD TYPE	DISTANCE BETWEEN SIGNS	SIGN LEGEND
	A (FT.)	YY
URBAN (≤ 30 MPH*)	100	AHEAD
URBAN (35-40 MPH*)	200	AHEAD
URBAN (≥ 45 MPH*)	350	AHEAD
RURAL	500	1000 FT.

* PRECONSTRUCTION POSTED SPEED LIMIT

TABLE 201-04: REQUIRED SIGN SIZES*

SIGN	NON-FREEWAY	FREEWAY
W7-3a	24x18	36x30
W8-23	36x36	48x48
W20-1	36x36	48x48
WARNING FLAG	18x18	18x18

*FREEWAY SIZES MAY BE USED ON NON-FREEWAY, IF SPACE CONSTRAINTS DO NOT EXIST.

NOTES:
1. SHORT DURATION IS WORK THAT OCCUPIES A LOCATION FOR UP TO 1 HOUR.
2. THE OPERATOR(S) SHALL REMAIN IN THE PROTECTIVE VEHICLE(S) WITH THE SAFETY BELT AND HEADREST PROPERLY ADJUSTED, MAINTAIN VEHICLE SPACING, AND KEEP THE WHEELS ALIGNED WITH THE LANE STRIPING. TWO-WAY RADIOS SHOULD BE USED TO COMMUNICATE BETWEEN THE OPERATOR AND THE WORK CREW.
3. IF SHOULDER AREA BECOMES TOO NARROW FOR VEH #1 TO BE COMPLETELY ON THE SHOULDER, THE VEHICLE SHALL STAY ON THE WIDER SHOULDER AREA UNTIL THE OPERATOR CAN SAFELY DRIVE AROUND THE NARROW SHOULDER TO THE NEW SET-UP POINT.
4. THERE SHALL BE NO WORKERS, EQUIPMENT OR OTHER VEHICLES IN THE ROLL AHEAD DISTANCE.
5. IN URBAN CONDITIONS, ADVANCE WARNING SIGN SPACINGS MAY BE ADJUSTED IN ORDER TO ACCOMMODATE SIDE STREETS AND DRIVEWAYS. IF THERE IS A CONFLICT, MOVE THE SIGN UPSTREAM.
6. A SUPPLEMENTAL DISTANCE PLAQUE W7-3a SHALL BE USED WITH SIGN W20-1 WHEN THE DISTANCE BETWEEN THE ADVANCE WARNING SIGNS AND WORK MAY BECOME GREATER THAN 2 MILES AS A RESULT OF THE FOLLOWING SITUATIONS:
   - MULTIPLE WORK LOCATIONS ARE ANTICIPATED WITHIN A MAXIMUM OF 5 MILES FROM THE W20-1 SIGN
   - WORK AREA WILL BE RELOCATED DURING THE DURATION OF THE WORK WITHIN A MAXIMUM OF 5 MILES FROM THE W20-1 SIGN

NO SHOULDER W8-23
ROAD WORK YY W20-1
NEXT X MILES W7-3a (SEE NOTE 6)
WORK VEHICLE
WORK AREA
24000 LB PROTECTIVE VEHICLE WITH TMIA SEE TABLE 201-01
SPOTTER
ARROW PANEL (CAUTION MODE)

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
NON-FREEWAY
RIGHT SHOULDER CLOSURE/LANE ENCROACHMENT
SHORT DURATION OPERATION

APPROVED DECEMBER 2, 2021	ISSUED UNDER EI 21-028
Robert Limoges ROBERT LIMOGES, P.E. DIRECTOR, OTSM	619-201

NOTE:
THE PERMITTEE IS RESPONSIBLE TO HAVE PREPARED AND SUBMIT PLANS DETAILING HOW HE/SHE INTENDS TO MAINTAIN AND PROTECT TRAFFIC. PERMITTEE IS SOLELY RESPONSIBLE TO SEE THAT TRAFFIC IS MAINTAINED ON THE HIGHWAY IN A SAFE MANNER DURING WORKING AND NON-WORKING HOURS UNTIL CONSTRUCTION IS COMPLETED. THE PERMITTEE IS RESPONSIBLE FOR TRAFFIC PROTECTION AND MAINTENANCE, INCLUDING ADEQUATE USE OF SIGNS, BARRIERS, AND FLAG PERSONS DURING WORKING AND NON-WORKING HOURS UNTIL CONSTRUCTION IS COMPLETED.

SEE ATTACHED FROM DOT STANDARD SPECS.

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 60 80 120 180 240

SCALE: 1"=60'
GRAPHIC SCALE IN FEET

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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NYSDOT WZTC PLAN
FORCEMAIN CROSSING AND DETAILS

THIS SHEET ISSUED APRIL 18, 2024

WZTC1

DRAWING SCALE: 1"=60'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

GENERAL NOTES

1. THE TYPICAL DETAILS DEPICTED ON THE STANDARD SHEETS AND IN THE MUTCD, REFLECT THE MINIMUM REQUIREMENTS.

2. PROPOSED REVISIONS TO THE TRAFFIC CONTROL PLAN SHALL BE PROVIDED, IN WRITING, TO THE DOT ENGINEER FOR REVIEW AND APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE FIVE (5) WORK DAYS PRIOR TO THE PLANNED IMPLEMENTATION OF SUCH PROPOSED REVISIONS, EXCEPT FOR CHANGES THAT ALTER THE SCOPE OF THE TRAFFIC CONTROL PLAN. SUCH CHANGES IN SCOPE MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE THIRTY (30) WORK DAYS PRIOR TO IMPLEMENTATION OF SUCH REVISIONS.

3. THE NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF STAFF WHO ARE AUTHORIZED TO SECURE LABOR, MATERIALS, AND EQUIPMENT FOR EMERGENCY REPAIRS OUTSIDE NORMAL WORKING HOURS SHALL BE PROVIDED, IN WRITING, TO THE NYSDOT ENGINEER. THE ENGINEER WILL PROVIDE THE SUBMITTED INFORMATION TO REGIONAL MANAGEMENT, THE NEW YORK STATE POLICE, THE RESIDENT ENGINEER, AND THE LOCAL POLICE.

4. STANDARD SHEET 619-503 MAY BE USED FOR AN OFFSITE DETOUR SETUP FOR BOTH LONG TERM AND SHORT TERM WORK DURATIONS.

5. REGIONAL HIGH-VOLUME RESTRICTIONS SHALL BE FOLLOWED. CONSULT WITH DOT ENGINEER IF EXCEPTION NEEDED.

6. PLAN AHEAD TO AVOID CONFLICTING WORK ZONES. CHECK FOR CONSTRUCTION PROJECTS, CLOSURES, & RESTRICTIONS AT WWW.511NY.ORG, WWW.DOT.NY.GOV/PROJECTS, AND WITH NYSDOT ENGINEER.

7. WORK ZONE INCIDENTS SHALL BE DOCUMENTED AND REPORTED USING EITHER THE DEPARTMENT'S WORK ZONE INCIDENT FORM, OR THE CONSTRUCTION INCIDENT REPORTING SYSTEM, AS APPROPRIATE.

8. CONSIDER CLOSURE WIDTH AND THE ABILITY TO ACCOMMODATE WIDE LOAD VEHICLES BEFORE ESTABLISHING WORK ZONES.

9. IF THE WORK ZONE AFFECTS AN EXISTING ACCESSIBLE AND DETECTABLE PEDESTRIAN FACILITY, ACCESSIBILITY AND DETECTABILITY SHALL BE PROVIDED ALONG THE ALTERNATE ROUTE.

ACTIVITY AREA

1. A 500' MINIMUM LONGITUDINAL DISTANCE SHALL BE MAINTAINED BETWEEN CONSTRUCTION OPERATIONS ON ALTERNATE SIDES OF THE ROADWAY, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

2. WHEN TWO OR MORE AREAS ARE ADJACENT, OVERLAP, OR ARE IN CLOSE PROXIMITY, THE CONTRACTOR SHALL ENSURE THERE ARE NO CONFLICTING SIGNS AND THAT LANE CONTINUITY IS MAINTAINED THROUGHOUT ALL WORK AREAS.

SIGNS

1. THE LOCATIONS OF THE SIGNS SHOWN ON THE WORK ZONE TRAFFIC CONTROL PLANS AND DETAILS MAY BE ADJUSTED BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS. THE FINAL LOCATIONS OF SIGNS ARE SUBJECT TO APPROVAL OF THE ENGINEER.

2. FOR LONG TERM WORK DURATIONS, ANY EXISTING SIGNS, INCLUDING OVERHEAD SIGNS, WHICH CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL SIGN LAYOUT SHALL BE COVERED, REMOVED, STORED OR RESET, AS APPROVED BY THE ENGINEER. ALL APPROPRIATE EXISTING SIGNS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND/OR LOCATION UNLESS OTHERWISE REPLACED IN THIS CONTRACT.

3. SIGNS AT OR NEAR INTERSECTIONS SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT A MOTORIST'S LINE OF SIGHT.

4. SIGNS MOUNTED ON THE MEDIAN OF DIVIDED HIGHWAYS WHERE MEDIAN BARRIER IS IN PLACE MAY BE MOUNTED ON THE BARRIER WITH A SADDLE TYPE BRACKET OR OMITTED WITH THE APPROVAL OF THE DOT ENGINEER. LAYING THE SIGN DOWN IN A HORIZONTAL POSITION IS NOT PERMITTED.

5. THE DIMENSIONS OF WORK ZONE TRAFFIC CONTROL SIGNS ARE DESCRIBED IN THE MUTCD. ANY CHANGES TO THE DIMENSIONS SHALL BE APPROVED BY THE REGIONAL DIRECTOR OR BY HIS/HER DESIGNEE.

6. NYR9-12 SHALL BE USED IN PLACE OF NYR9-11 WHEN A REDUCED REGULATORY SPEED LIMIT SIGN IS AUTHORIZED.

7. RIGID AND FLEXIBLE "ROLL-UP" SIGNS MAY BE USED FOR MOBILE, SHORT DURATION AND SHORT-TERM STATIONARY WORK. RIGID SIGNS MUST BE MOUNTED AT LEAST 5 FEET ABOVE GRADE IF FEET WHERE THERE ARE PEDESTRIANS OR PARKED CARS). FLEXIBLE SIGNS SHALL BE MOUNTED AT LEAST ONE FOOT ABOVE GRADE. MB3X SIGNS SHALL NOT BE USED. USE RETRO REFLECTORIZED RIGID SIGNS FOR NIGHTTIME WORK.

LANE WIDTHS

1. UNLESS AUTHORIZED BY THE ENGINEER, THE MINIMUM LANE WIDTHS FOR WORK ZONE TRAVEL LANES SHALL BE AS FOLLOWS: FREEWAYS AND/OR EXPRESSWAYS IS 11'. THE MINIMUM LANE WIDTH FOR ALL OTHER TYPES OF ROADWAYS IS 10'.

2. A WRITTEN NOTE SHALL BE PROVIDED TO THE ENGINEER, A MINIMUM OF 21 CALENDAR DAYS IN ADVANCE OF PERFORMING ANY WORK THAT RESULTS IN THE REDUCED WIDTH OF AN EXISTING ROADWAY, SO THAT THE ENGINEER MAY NOTIFY THE REGIONAL PERMIT ENGINEER IN A TIMELY MANNER.

3. IF THE WORK ZONE AFFECTS PEDESTRIANS, A MINIMUM PEDESTRIAN PATHWAY WIDTH OF 5 FEET SHALL BE MAINTAINED UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

4. TEMPORARY BICYCLE ACCOMMODATIONS SHALL NOT BE LESS THAN WHAT CURRENTLY EXISTS UNLESS AUTHORIZED BY THE ENGINEER.

PROTECTIVE VEHICLES

1. PROTECTIVE VEHICLES ARE DIVIDED INTO 2 CATEGORIES BASED ON THE GROSS VEHICLE WEIGHT (GVW):

   - PROTECTIVE VEHICLE LIGHT (PVL) SHALL HAVE A MINIMUM GVW OF 9,500 LBS. OR GREATER.

   - PROTECTIVE VEHICLE HEAVY (PVH) SHALL HAVE A MINIMUM GVW OF 22,000 LBS. OR GREATER.

2. IF THE PROTECTIVE VEHICLE ENCROACHES INTO THE TRAVEL LANE, OR IF IT REMAINS ENTIRELY ON THE SHOULDER OF ANY HIGH SPEED ROAD (45 MPH), IT SHALL BE EQUIPPED WITH A DEPLOYED TRUCK/TRAILER MOUNTED IMPACT ATTENUATOR (TMIA). SEE TABLE 011-01 ON SHEET 619-0131. BALLAST MAY BE USED TO BRING A LIGHTER VEHICLE UP TO THE INDICATED WEIGHT PROVIDED THE BALLAST IS SECURELY CONTAINED WITHIN AN ENCLOSED BODY OR OTHERWISE SECURELY FASTENED TO THE VEHICLE PURSUANT TO FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION (FMCSA) CARGO SECUREMENT RULES, SUCH THAT:

   - THE BALLAST WILL NOT SEPARATE FROM THE VEHICLE UPON IMPACT AND

   - THE BALLAST WEIGHT WILL NOT EXCEED THE MANUFACTURER'S GROSS VEHICLE WEIGHT RATING (GVWR).

   - TRUCK/TRAILER MOUNTED IMPACT ATTENUATORS SHALL NOT BE MOUNTED/INSTALLED ON VEHICLES WITH A GROSS WEIGHT (GVW) LESS THAN WHAT IS MINIMALLY REQUIRED BY THE MANUFACTURER OF THE TMIA.

3. WHEN A PROTECTIVE VEHICLE(S) IS USED BETWEEN THE WORK VEHICLE (CREW) OR HAZARD AND THE TRAFFIC IN A MOVING OPERATION IT IS REFERRED TO AS A SHADOW VEHICLE(S).

4. WHEN A PROTECTIVE VEHICLE(S) IS USED BETWEEN THE WORK VEHICLE (CREW) OR HAZARD AND THE TRAFFIC IN A STATIONARY OPERATION IT IS REFERRED TO AS A BARRIER VEHICLE(S).

5. WHEN A PROTECTIVE VEHICLE IS USED IN ADVANCE OF EITHER MOVING OR STATIONARY OPERATIONS TO DISPLAY SIGN MESSAGES IT IS REFERRED TO AS AN ADVANCE WARNING VEHICLE. WHEN SIGNS ARE MOUNTED ON AN ADVANCED WARNING VEHICLE, THEY SHALL NOT OBSTRUCT VISIBILITY OF ANY LIGHTS (TAILLIGHTS OR WARNING LIGHTS), OR SIDE-VIEW MIRRORS ON THE VEHICLE, OR TRUCK MOUNTED ARROW BOARDS.

6. IN A MOVING OPERATION OR A STATIONARY OPERATION THAT OCCUPIES A LOCATION FOR UP TO 1 HOUR, THE OPERATOR SHALL REMAIN IN THE PROTECTIVE VEHICLE WITH THE SAFETY BELT AND HEADREST PROPERLY ADJUSTED, MAINTAIN VEHICLE SPACING, AND KEEP THE WHEELS ALIGNED WITH THE LANE STRIPING AND LANE TO MAINTAIN LANE DISCIPLINE AND TO STAY IN LANE IF STRUCK. THE PARKING BRAKE SHALL BE SET WHENEVER POSSIBLE. TWO-WAY RADIOS SHOULD BE USED TO COMMUNICATE BETWEEN THE OPERATOR AND THE WORK CREW.

7. IN A STATIONARY OPERATION THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR, ONCE THE PROTECTIVE VEHICLE HAS BEEN APPROPRIATELY PLACED, IT SHOULD BE UNOCCUPIED. UNOCCUPIED VEHICLE SHALL BE POSITIONED PARALLEL TO TRAFFIC, PARKING BRAKE SET, PLACED IN 2ND GEAR (MANUAL TRANSMISSIONS) (ENGINE OFF) OR PARK / NEUTRAL (AUTOMATIC TRANSMISSIONS). THE FRONT WHEELS SHALL BE ALIGNED WITH THE LANE STRIPING AND LANE TO MAINTAIN LANE DISCIPLINE AND TO STAY IN LANE IF STRUCK.

8. NO WORK ACTIVITY, EQUIPMENT, VEHICLES AND/OR MATERIALS SHALL BE LOCATED BETWEEN THE PROTECTIVE VEHICLE AND THE ACTIVE WORK AREA (ROLL AHEAD DISTANCE).

9. DIRECT VERBAL COMMUNICATION BETWEEN THE PROTECTIVE VEHICLES AND THE WORK VEHICLES / EQUIPMENT SHALL BE UTILIZED WHERE AVAILABLE.

CHANNELIZING DEVICES

1. WHERE POSSIBLE ALL CHANNELIZING AND GUIDING DEVICES ARE TO BE PLACED 50 AS TO PROVIDE A MINIMUM 2' LATERAL CLEARANCE TO THE TRAVELED WAY.

2. A DROP-OFF OF GREATER THAN 24 INCHES WITHIN 10 FEET FROM THE EDGE OF THE TRAVELED WAY TO REMAIN AT THE END OF THE WORK SHIFT SHALL BE SEPARATED FROM TRAFFIC WITH POSITIVE BARRIER. FOR POSTED SPEED LIMIT OF 45 MPH AND LESS, A DROP-OFF OF GREATER THAN 24 INCHES WITHIN 10 FEET FROM THE EDGE OF THE TRAVELED WAY THAT IS 100 FEET OR LESS IN LENGTH WILL BE ALLOWED WITH CHANNELIZING DEVICES CONSISTING OF DRUMS, EXTRA TALL CONES, OR OVERSIZED VERTICAL PANELS ONLY AT A MAXIMUM SPACING OF 20 FEET FOR SHORT DURATIONS NOW TO EXCEED ONE WORK SHIFT.

3. TEMPORARY POSITIVE BARRIER MAY BE SUBSTITUTED WITH DRUM CHANNELIZING DEVICES, IN SOME CIRCUMSTANCES, WITH APPROVAL OF THE REGIONAL TRAFFIC ENGINEER BASED ON GUIDANCE FOUND IN THE HIGHWAY DESIGN MANUAL AND ENGINEERING JUDGEMENT.

PUBLIC ACCESS

1. PROPERTY OWNERS WHOSE DRIVEWAYS WILL BE MADE INACCESSIBLE SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO RESTRICTING USE OF THE DRIVEWAY. FOR MULTIPLE ACCESS PROPERTIES, AT LEAST ONE DRIVEWAY SHALL BE OPEN AT ALL TIMES. ACCESS SHALL BE RESTORED TO ALL DRIVEWAYS AS SOON AS POSSIBLE.

2. SUITABLE RAMPS SHALL BE INSTALLED TO MAINTAIN SMOOTH TRANSITIONS FROM RESIDENTIAL AND COMMERCIAL DRIVEWAYS TO AND FROM THE WORK AREA.

LANE CLOSURES

1. LANE CLOSURES SHALL BE LOCATED TO PROVIDE OPTIMUM VISIBILITY, I.E. BEFORE CURVES AND CRESTS, TO THE EXTENT CONDITIONS PERMIT.

2. THE ENGINEER MAY REQUIRE THAT ALL LANES BE RE-OPENED AT ANY TIME IF THE ROUTE IS NEEDED FOR EMERGENCY PURPOSES. THIS COULD INCLUDE INCIDENTS AT LOCATIONS OUTSIDE THE CONTRACT LIMITS.

3. EACH ARROW PANEL SHALL BE VISIBLE 1500 FEET IN ADVANCE FROM ANY POINT WITHIN THE ROADWAY.

TOLERANCE NOTE

1. ALL DIMENSIONS ON ANY 619 STANDARD SHEET ARE NOMINAL.

   - WHEN A DECIMAL POINT WITH SIGNIFICANT DIGIT(S) TO THE RIGHT OF IT IS/ARE PRESENT-TOLERANCE FOR EACH DIMENSION IS: ONE HALF OF THE LAST SIGNIFICANT DIGIT IN THE UNITS SHOWN. e.g. 1.2' IS ± 0.05' & 1.00" IS ± 0.005".

   - OTHERWISE, TOLERANCE FOR EACH DIMENSION IS THE LESSER OF 10% OF THE NOMINAL DIMENSION SHOWN OR 6" (e.g. TOLERANCE FOR 3' IS 3.6" & TOLERANCE FOR 10' IS 6").

2. TOLERANCE ARE NOT CUMULATIVE. ABOVE DOES NOT APPLY WHEN ANY RANGE, MAXIMUM OR MINIMUM DIMENSION OR A CONTEXT SPECIFIC TOLERANCE IS SPECIFIED.

ERRATA 3 EFF. 05/01/24 ISSUED WITH EB 24-007	
ERRATA 2 EFF. 09/01/23 ISSUED WITH EB 23-016	
ERRATA 1 EFF. 05/01/23 ISSUED WITH EB 22-033	

NEW YORK STATE OF OPPORTUNITY. **Department of Transportation**

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
GENERAL NOTES
(SHEET 1 OF 2)

APPROVED DECEMBER 21, 2022	ISSUED UNDER EI 22-033
Robert Limoges ROBERT LIMOGES, P.E. DIRECTOR, OTSM	619-010

WORK DURATION DEFINITIONS

1. THERE ARE MAINLY FIVE WORK DURATIONS:

   A. LONG-TERM IS STATIONARY WORK THAT OCCUPIES A LOCATION MORE THAN 3 CONSECUTIVE DAYS.

   B. INTERMEDIATE-TERM IS STATIONARY WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 CONSECUTIVE DAYS, OR NIGHTTIME WORK LASTING MORE THAN 1 HOUR.

   C. SHORT-TERM IS STATIONARY DAYTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR WITHIN A SINGLE DAYLIGHT PERIOD.

   D. SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR. IT CAN BE PERFORMED DURING THE DAYTIME OR AT NIGHT IN ACCORDANCE WITH NOTES N1 TO N11 NOTES ON NIGHTTIME WORK.

   E. MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY WHERE THE WORK AT ANY SPECIFIC LOCATION COMPLETES WITHIN 15 MINUTES. IT IS USED FOR VEHICLE BASED OPERATIONS AND DOES NOT INVOLVE WORKERS ON FOOT. IT CAN BE PERFORMED DURING THE DAYTIME OR AT NIGHT IN ACCORDANCE WITH NOTES N1 TO N10 NOTES ON NIGHTTIME WORK.

2. SPECIAL OPERATIONS ARE WORK OPERATIONS THAT DO NOT FIT INTO ONE OF THE ABOVE FIVE CATEGORIES. SPECIAL OPERATIONS INCLUDE:

   A. STOP AND GO OPERATIONS - WORK THAT COMPLETES WITHIN 5 MINUTES AND ALLOWS WORKERS ON FOOT.

   B. OTHER OPERATIONS INCLUDING MOWING, MULCHING/HERBICIDE OPERATIONS, TEMPORARY ROAD/INTERSECTION CLOSURES, ETC.

ROADWAY TYPE DEFINITIONS

1. FREEWAY:

   A. INTERSTATE: INTERREGIONAL HIGH-SPEED, HIGH-VOLUME, DIVIDED FACILITIES WITH COMPLETE CONTROL OF ACCESS.

   B. PARKWAY: DIVIDED HIGHWAYS FOR NON-COMMERCIAL TRAFFIC WITH FULL CONTROL OF ACCESS, GRADE PARKWAY SEPARATIONS, INTERCHANGES, AND OCCASIONAL AT-GRADE INTERSECTIONS. PARKWAYS ARE DESIGNATED BY LAW.

2. EXPRESSWAY: DIVIDED HIGHWAYS FOR THROUGH TRAFFIC WITH FULL OR PARTIAL CONTROL OF ACCESS AND GENERALLY WITH GRADE SEPARATIONS AT MAJOR CROSSROADS. ALL FREEWAY STANDARD SHEETS ARE APPLICABLE TO EXPRESSWAY.

3. NON-FREEWAY:

   A. MULTILANE DIVIDED HIGHWAY

   B. MULTILANE UNDIVIDED HIGHWAY

   C. TWO-LANE TWO-WAY ROADWAY

ALL NON-FREEWAYS CAN BE EITHER URBAN OR RURAL:

URBAN: MEETS MORE THAN 1 OF THE FOLLOWING CRITERIA:
- HIGH DENSITY DEVELOPMENT
- ON-STREET PARKING
- VARIED BUILDING SETBACKS
- PREDOMINANTLY 2-OR-TO MEDIUM-RISE STRUCTURES FOR RESIDENTIAL, COMMERCIAL, AND EDUCATIONAL USES. STRUCTURES THAT ACCOMMODATE MIXED USES: COMMERCIAL, RESIDENTIAL, AND PARKING
- LIGHT INDUSTRIAL, AND SOMETIMES HEAVY INDUSTRIAL, LAND USE
- PROMINENT DESTINATIONS WITH SPECIALIZED STRUCTURES, E.G., LARGE THEATERS, SPORTS FACILITIES OR CONFERENCE CENTERS
- HIGH LEVELS OF PEDESTRIAN AND BICYCLIST ACTIVITY, WITH NEARLY CONTINUOUS SIDEWALKS AND MARKED CROSSWALKS
- HIGHER DENSITY OF TRANSIT STOPS AND ROUTES
- DRIVEWAY DENSITIES GREATER THAN 25 DRIVEWAYS/MILE ON EACH SIDE OF THE ROAD
- MINOR COMMERCIAL DRIVEWAY DENSITIES OF 10 DRIVEWAYS/MILE OR GREATER
- MAJOR COMMERCIAL DRIVEWAYS
- HIGH DENSITY OF CROSS STREETS

RURAL: DOES NOT MEET MORE THAN ONE OF THE ABOVE CRITERIA.

NOTES FOR NIGHTTIME OPERATIONS:

N1. WORK OCCURRING AFTER SUNSET AND BEFORE SUNRISE WILL BE CONSIDERED NIGHTTIME OPERATIONS.

N2. ALL SIGNS, STOP/SLOW PADDLES AND RED FLAGS USED TO WARN/ALERT/CONTROL TRAFFIC SHALL BE RETROREFLECTIVE.

N3. ALL WORKERS INVOLVED SHALL WEAR PROTECTIVE HELMETS AND NIGHTTIME APPAREL IN ACCORDANCE WITH §107-05A HIGH VISIBILITY APPAREL AT ALL TIMES.

N4. VEHICLES OPERATING ON THE PAVEMENT OF A CLOSED ROADWAY OR TRAVEL LANE SHALL DISPLAY ROTATING AMBER BEACONS OR FLASHING LED BEACONS AT ALL TIMES.

N5. LEVEL I ILLUMINATION SHALL BE PROVIDED NEAR THE BEGINNING OF LANE CLOSURE TAPERS AND AT ROAD CLOSURES, INCLUDING THE SETUP AND REMOVAL OF THE CLOSURE TAPERS.

N6. LEVEL II ILLUMINATION SHALL BE PROVIDED FOR FLAGGING STATIONS, ASPHALT PAVING, MILLING, AND CONCRETE PLACEMENT AND/OR REMOVAL OPERATIONS, INCLUDING BRIDGE DECKS, 50 FEET AHEAD OF AND 100 FEET BEHIND A PAVING OR MILLING MACHINE.

N7. LEVEL III ILLUMINATION SHALL BE PROVIDED FOR PAVEMENT OR STRUCTURAL CRACK FILLING, JOINT REPAIR, PAVEMENT PATCHING AND REPAIRS, INSTALLATION OF SIGNAL EQUIPMENT OR OTHER ELECTRICAL/MECHANICAL EQUIPMENT, AND OTHER TASKS INVOLVING FINE DETAILS OR INTRICATE PARTS AND EQUIPMENT.

N8. ALL LIGHTING SHALL BE DESIGNED, INSTALLED, AND OPERATED TO AVOID GLARE THAT AFFECTS TRAFFIC ON THE ROADWAY OR THAT CAUSES ANNOYANCE OR DISCOMFORT FOR RESIDENCES ADJOINING THE ROADWAY.

N9. PRIOR TO THE START OF NIGHTTIME OPERATIONS, A WRITTEN NIGHTTIME OPERATIONS AND LIGHTING PLAN IS REQUIRED FOR APPROVAL FROM THE DOT ENGINEER.

N10. SEE STANDARD SPECIFICATIONS 619 FOR ADDITIONAL REQUIREMENTS AND CONSIDERATIONS. REFER TO SECTION 619-3.19B FOR BALLOON LIGHTING REQUIREMENTS.

N11. FLAGGERS SHALL USE A FLASHLIGHT WITH RED GLOW CONE/RED LED BATON FOR FLAGGING IN NON-ILLUMINATED FLAGGER STATIONS DURING NIGHTTIME OPERATIONS.

NEW YORK STATE OF OPPORTUNITY. **Department of Transportation**

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
GENERAL NOTES
(SHEET 2 OF 2)

APPROVED DECEMBER 21, 2022	ISSUED UNDER EI 22-033
Robert Limoges ROBERT LIMOGES, P.E. DIRECTOR, OTSM	619-010

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SEE ATTACHED FROM DOT STANDARD SPECS.

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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NYSDOT WZTC NOTES

THIS SHEET ISSUED APRIL 18, 2024

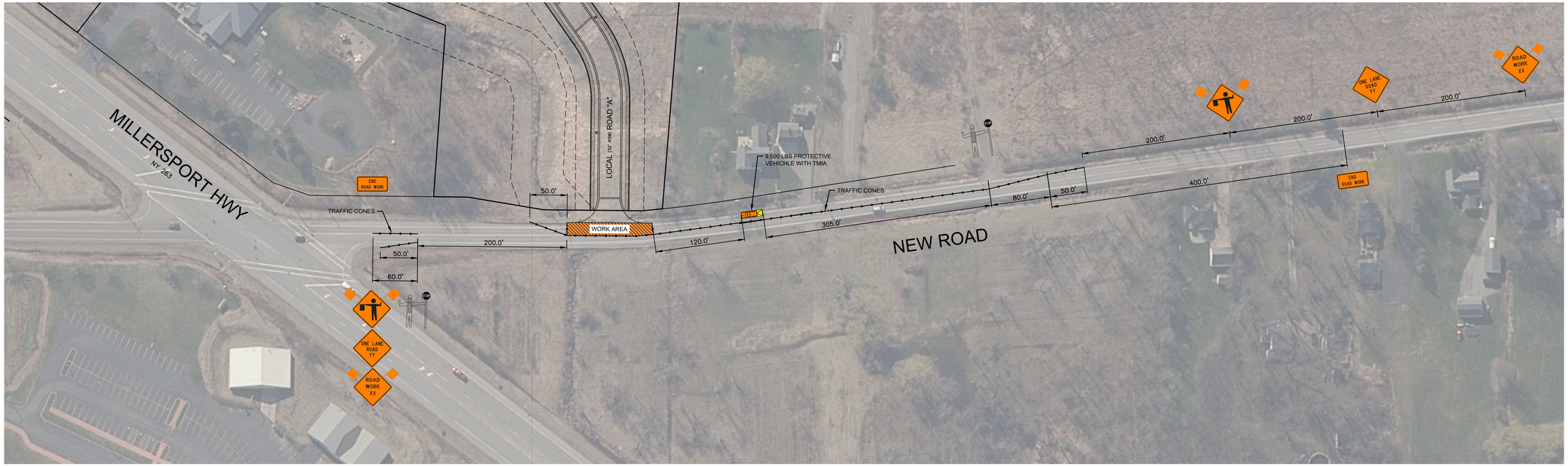
WZTC2

DRAWING SCALE: NONE

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

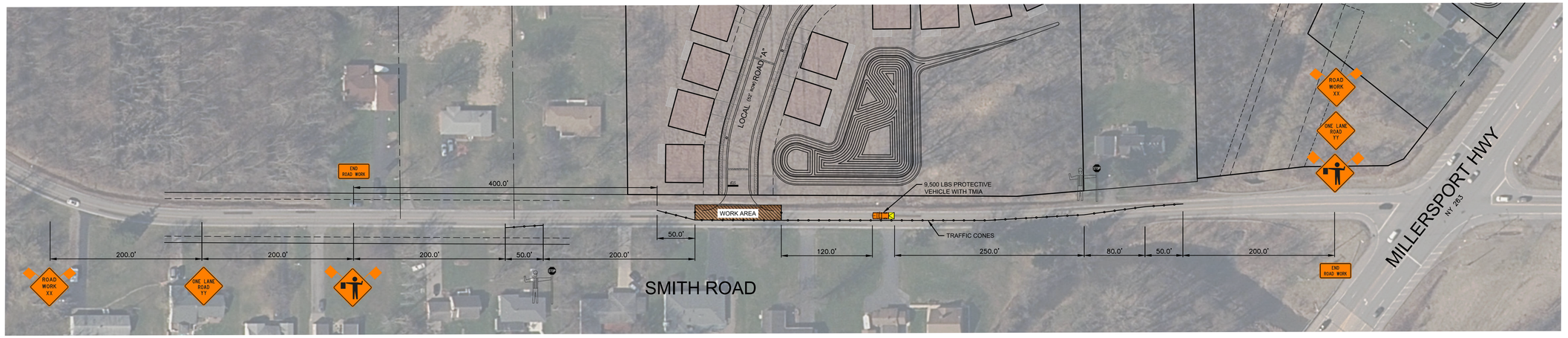
NORTH



PLAN

SCALE: 1"=70'

NORTH



PLAN

SCALE: 1"=70'

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 70 105 140 210 280

SCALE: 1"=70'
GRAPHIC SCALE IN FEET

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

ECHWY WZTC PLAN

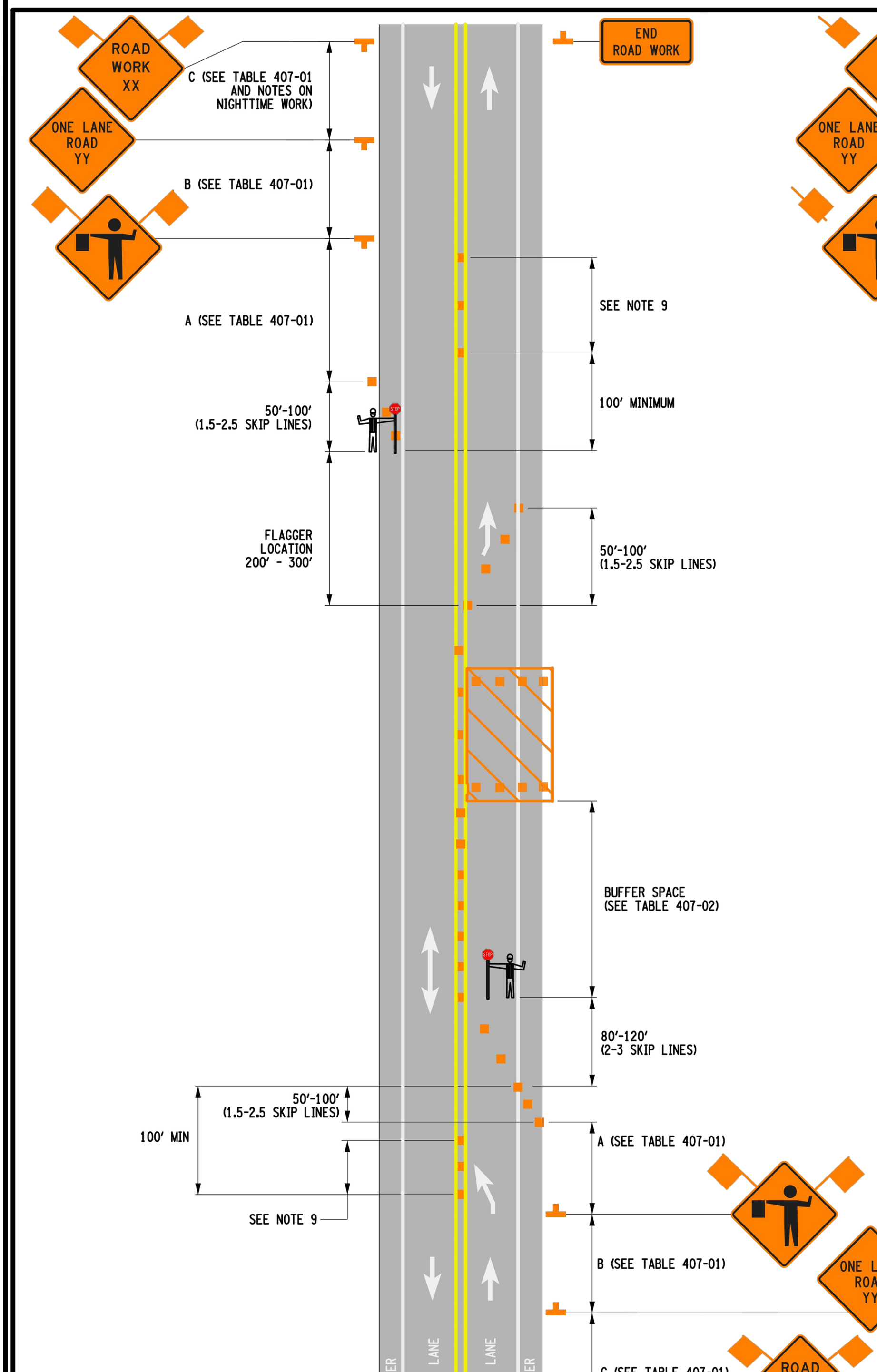
THIS SHEET ISSUED APRIL 18, 2024

WZTC3

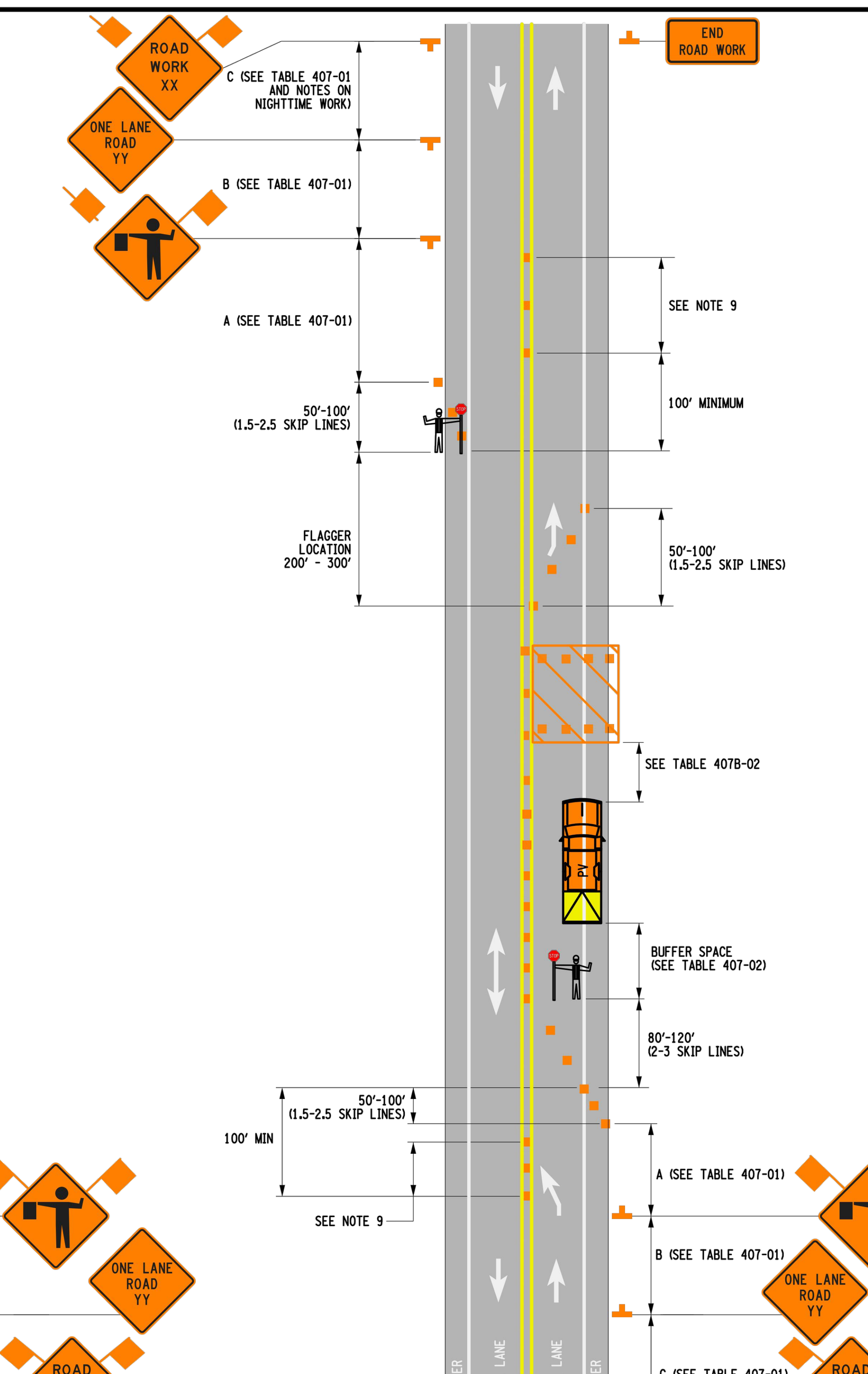
DRAWING SCALE: 1"=70'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

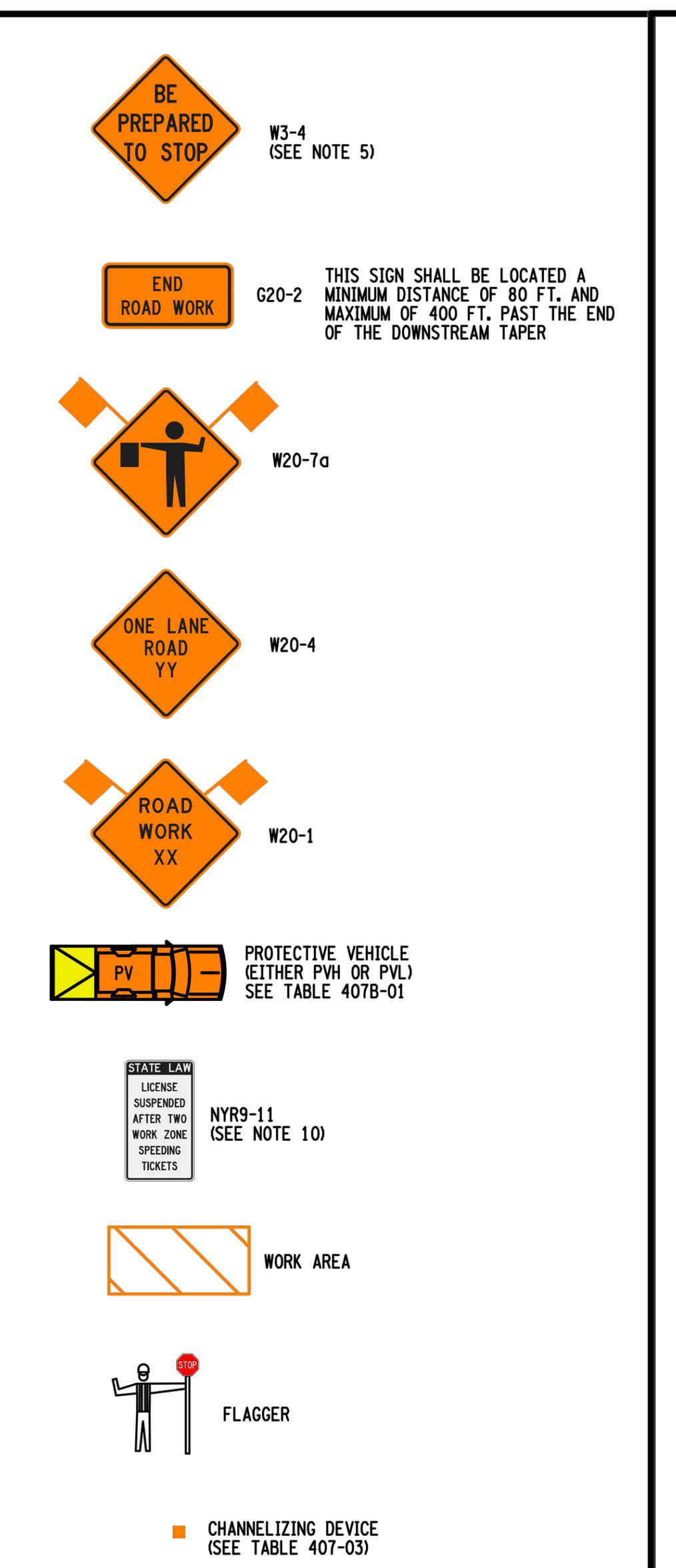


407A: REQUIRED SETUP



307B: OPTIONAL SETUP WITH PROTECTIVE VEHICLE (SEE NOTE 6)

NOT TO SCALE



REFER TO SHEET 2 OF 2 FOR TABLES AND NOTES

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
TWO-LANE TWO-WAY ROADWAY
LANE CLOSURE WITH FLAGGERS
INTERMEDIATE TERM OPERATIONS
(SHEET 1 OF 2)

ERRATA 2 EFF. 09/01/23 ISSUED WITH EB 23-016	
ERRATA 1 EFF. 01/01/23 ISSUED WITH EB 22-050	
APPROVED DECEMBER 2, 2021 — Robert Limoges — ROBERT LIMOGES, P.E. DIRECTOR, OTSM	ISSUED UNDER EI 21-028 — 619-407

TABLE 407-01: ADVANCE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS A (FT.)	B (FT.)	C (FT.)	SIGN LEGEND XX	YY
URBAN (≤ 30 MPH•)	100	100	100	AHEAD	AHEAD
URBAN (35-40 MPH•)	200	200	200	AHEAD	AHEAD
URBAN (≥ 45 MPH•)	350	350	350	1000 FT.	AHEAD
RURAL	500	500	500	1500 FT.	1000 FT.

• PRECONSTRUCTION POSTED SPEED LIMIT

TABLE 407-02: LONGITUDINAL BUFFER SPACE

PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	LONGITUDINAL BUFFER SPACE DISTANCE (FT.)/ # OF SKIP LINES
25	155/4
30	200/5
35	250/6
40	305/8
45	360/9
50	425/11
55	495/13

TABLE 407-03: CHANNELIZING DEVICE APPLICATION FOR INTERMEDIATE-TERM STATIONARY WORK ZONES

WORK ZONE PROVISIONS	MAXIMUM DEVICE SPACING (CENTER TO CENTER)	DRUMS	STANDARD CONES	TALL CONES	EXTRA TALL CONES	TEMPORARY TUBULAR MARKERS	INTERIM TUBULAR MARKERS	VERTICAL PANELS	OVERSIZED VERTICAL PANELS	TYPE III BARRICADES
INTERMEDIATE-TERM STATIONARY WORK ZONES INVOLVE WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 DAYLIGHT PERIOD UP TO 3 CONSECUTIVE DAYS, OR NIGHTTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR										
SHOULDER/MERGING/ SHIFTING TAPERS	20 FT. •	X							X	
	40 FT.	X							X	
MARKING FOR TRANSVERSE BUMPS[1]	N/A	X^2			X^2				X^2	
TRANSVERSE DEVICE WITHIN CLOSED TRAFFIC LANE AND/OR SHOULDER	800 FT.	X		X	X			X	X	O
REMOVAL OF EXISTING GUIDE RAIL	80 FT.	X		X	X	X		X	X	O
	40 FT.									

(Column group heading: MUTCD COMPLIANT CHANNELIZING DEVICE)

NOTES: X= ALLOWED, BLANK = NOT ALLOWED, O = OPTIONAL • SEE NOTE 4 ON SHEET 1 OF 2.
1. - A TYPE 1 OBJECT MARKER MAY BE USED IN LIEU OF CHANNELIZING DEVICE.
2. - CHANNELIZING DEVICES SHALL BE EQUIPPED WITH A FLASHING WARNING LIGHT.

TABLE 407-04: REQUIRED SIGN SIZES•

SIGN	NON-FREEWAY	FREEWAY
G20-2	36x18	48x24
W3-4	36x36	48x48
W20-1	36x36	48x48
W20-4	36x36	48x48
W20-7	36x36	48x48
WARNING FLAG	18x18	18x18

•FREEWAY SIZES MAY BE USED ON NON-FREEWAY, IF SPACE CONSTRAINTS DO NOT EXIST.

TABLE 407B-01: PROTECTIVE VEHICLE REQUIREMENTS

CLOSURE TYPE	ROAD TYPE & SPEED / EXPOSURE CONDITIONS (SEE NOTE 1)	NON-FREEWAY ≥ 45 MPH	35 - 40 MPH	≤ 30 MPH
LANE CLOSURE OR ENCROACHMENT	WORKERS ON FOOT OR WORK VEHICLE EXPOSED TO TRAFFIC	PVH+TMIA	PVL+TMIA	SEE NOTE 2
	-NO WORKERS ON FOOT -NO WORK VEHICLE EXPOSED TO TRAFFIC -OTHER HAZARDS EXPOSED (IE EQUIPMENT, MATERIALS)	PVH+TMIA	SEE NOTE 2	SEE NOTE 2
SHOULDER CLOSURE OR ENCROACHMENT	WORKERS ON FOOT OR WORK VEHICLE EXPOSED TO TRAFFIC	PVH+TMIA	SEE NOTE 2	SEE NOTE 2
	-NO WORKERS ON FOOT -NO WORK VEHICLE EXPOSED TO TRAFFIC -OTHER HAZARDS EXPOSED (IE EQUIPMENT, MATERIALS, EXCAVATION)	SEE NOTE 3	SEE NOTE 2	SEE NOTE 2

LEGEND
PVL - PROTECTIVE VEHICLE LIGHT (MINIMUM GROSS WEIGHT 9,500 LBS. OR GREATER) (SEE NOTE 4)
PVH - PROTECTIVE VEHICLE HEAVY (MINIMUM GROSS WEIGHT 22,000 LBS. OR GREATER)
TMIA - TRUCK/TRAILER MOUNTED IMPACT ATTENUATOR

NOTES
1. THE EXPOSURE CONDITIONS ASSUME THERE IS NO POSITIVE PROTECTION PRESENT.
2. EITHER A PROTECTIVE LIGHT (PVL) OR THE STANDARD BUFFER SPACE (SEE TABLE 011-03 SHALL BE PROVIDED.
3. TRUCK/TRAILER MOUNTED IMPACT ATTENUATORS (TMIA) SHALL NOT BE MOUNTED/INSTALLED ON VEHICLES WITH A GROSS VEHICLE WEIGHT (GVW) LESS THAN WHAT IS MINIMALLY REQUIRED BY THE MANUFACTURER OF THE TMIA.
4. THE USE OF A PROTECTIVE VEHICLE LIGHT (PVL) AS A SHADOW VEHICLE IS LIMITED TO NON-FREEWAY ROADWAYS WHERE THE POSTED SPEED LIMITS IS ≤ 40 MPH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

TABLE 407B-02: ROLL AHEAD DISTANCE FOR PROTECTIVE VEHICLES

ROLL AHEAD DISTANCE (FT.)/# OF SKIP LINES FOR VEHICLES

PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	STATIONARY OPERATION: PROTECTIVE VEHICLES WEIGHING 9,500 TO 21,999 LBS. GVW	PROTECTIVE VEHICLES WEIGHING 22,000 LBS. OR GREATER GVW
45 - 55	160/4	120/3
≤ 40	120/3	80/2

NOTES:

1. INTERMEDIATE-TERM IS STATIONARY WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 CONSECUTIVE DAYS, OR NIGHTTIME WORK LASTING MORE THAN 1 HOUR.
2. WHEN A SIDE ROAD OR DRIVEWAY INTERSECTS THE ROADWAY WITHIN A WORK ZONE TRAFFIC CONTROL AREA, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES AND/OR FLAGGERS SHALL BE PLACED AS NEEDED. ADDITIONAL FLAGGERS SHALL BE LOCATED AT ALL INTERSECTIONS AND COMMERCIAL DRIVEWAYS LOCATED WITHIN OR NEAR THE ACTIVE WORK SPACE. NO WORK ACTIVITY, EQUIPMENT, OR STORAGE OF VEHICLES, OR MATERIAL SHALL OCCUR WITHIN THE BUFFER SPACE AT ANY TIME.
3. CHANNELIZING DEVICE SPACING (CENTER TO CENTER) SHALL NOT EXCEED 20' IN THE ACTIVE WORK SPACE.
4. CHANNELIZING DEVICES SHALL BE PLACED TRANSVERSELY A MINIMUM OF EVERY 800' AS SHOWN WHEN A PAVED SHOULDER HAVING A WIDTH OF 8' OR GREATER IS CLOSED FOR A DISTANCE GREATER THAN 800'.
5. IF THE TRAFFIC IS EXPECTED TO QUEUE PAST THE W20-4 SIGN, A W3-4 SIGN SHOULD BE ADDED HALFWAY BETWEEN THE W20-4 AND W20-1 SIGNS.
6. IF CONDITION WARRANTS, PROTECTIVE VEHICLE WITH APPROPRIATE ROLL AHEAD DISTANCE MAY BE USED IN ADVANCE OF THE WORK AREA. TO USE PROTECTIVE VEHICLE, BUFFER SPACE SHALL BE PROVIDED ACCORDINGLY, AND THE WHEELS SHALL BE ALIGNED WITH THE LANE STRIPING.
7. FLAGGER SIGN (W20-7a) AND ONE LANE ROAD AHEAD SIGN (W20-4) SHALL BE REMOVED, COVERED OR TURNED AWAY FROM ROAD USERS WHEN FLAGGING OPERATIONS ARE NOT OCCURRING.
8. ALL FLAGGERS SHALL USE 24" (MIN.) OCTAGON SHAPED STOP/SLOW PADDLES HAVING 6' STAFF. THE PADDLE IS THE PREFERRED DEVICE, BUT THE FLAG MAY BE USED AT INTERSECTIONS WHERE THE STOP/SLOW PADDLE WOULD OFFER CONTRADICTING INFORMATION TO DRIVERS TRAVELING IN OPPOSITE DIRECTIONS/LEGS OF THE INTERSECTION OR DURING INCIDENT MANAGEMENT SITUATIONS.
9. CENTERLINE CONES MAY BE ADDED TO ENHANCE THE VISIBILITY OF THE FLAGGER STATION. IF CONES ARE USED, PLACE THEM 100 FT. (MINIMUM) FROM FLAGGER.
10. THE NY9-11 SIGN IS RECOMMENDED. WHEN USED, IT SHALL BE PLACED IN ADVANCE OF THE FIRST ADVANCE WARNING SIGN. THE PLACEMENT DISTANCE SHALL BE 1000' FOR POSTED SPEED LIMITS OF 45 MPH OR HIGHER, AND 300' - 500' FOR POSTED SPEED LIMITS OF LESS THAN 45 MPH.

NOTES FOR NIGHTTIME OPERATIONS:

N1. WORK OCCURRING AFTER SUNSET AND BEFORE SUNRISE WILL BE CONSIDERED NIGHTTIME OPERATIONS.
N2. ALL SIGNS, STOP / SLOW PADDLES AND RED FLAGS USED TO WARN / ALERT / CONTROL TRAFFIC SHALL BE RETROREFLECTIVE.
N3. ALL WORKERS INVOLVED SHALL WEAR PROTECTIVE HELMET AND NIGHTTIME APPAREL IN ACCORDANCE WITH y107-05A. HIGH VISIBILITY APPAREL AT ALL TIMES.
N4. VEHICLES OPERATING ON THE PAVEMENT OF A CLOSED ROADWAY OR TRAVEL LANE SHALL DISPLAY ROTATING AMBER BEACONS AT ALL TIMES.
N5. LEVEL I ILLUMINATION SHALL BE PROVIDED NEAR THE BEGINNING OF LANE CLOSURE TAPERS AND AT ROAD CLOSURES, INCLUDING THE SETUP AND REMOVAL OF THE CLOSURE TAPERS.
N6. LEVEL II ILLUMINATION SHALL BE PROVIDED FOR FLAGGING STATIONS, ASPHALT PAVING, MILLING, AND CONCRETE PLACEMENT AND/OR REMOVAL OPERATIONS,INCLUDING BRIDGE DECKS, 50 FEET AHEAD OF AND 100 FEET BEHIND A PAVING OR MILLING MACHINE.
N7. LEVEL III ILLUMINATION SHALL BE PROVIDED FOR PAVEMENT OR STRUCTURAL CRACK FILLING, JOINT REPAIR, PAVEMENT PATCHING AND REPAIRS, INSTALLATION OF SIGNAL EQUIPMENT OR OTHER ELECTRICAL/MECHANICAL, AND OTHER TASKS INVOLVING FINE DETAILS OR INTRICATE PARTS AND EQUIPMENT.
N8. ALL LIGHTING SHALL BE DESIGNED, INSTALLED, AND OPERATED TO AVOID GLARE THAT AFFECTS TRAFFIC ON THE ROADWAY OR THAT CAUSES ANNOYANCE OR DISCOMFORT FOR RESIDENCES ADJOINING THE ROADWAY.
N9. PRIOR TO THE START OF NIGHTTIME OPERATIONS, A WRITTEN NIGHTTIME OPERATIONS AND LIGHTING PLAN IS REQUIRED FOR APPROVAL FROM THE DOT ENGINEER.
N10. SEE STANDARD SPECIFICATIONS y619 FOR ADDITONAL REQUIREMENTS AND CONSIDERATIONS.
N11. FLAGGERS SHALL USE A FLASHLIGHT WITH A RED GLOW CONE/RED LED BATON FOR FLAGGING IN NON-ILLUMINATED FLAGGER STATIONS DURING NIGHTTIME OPERATIONS.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
TWO-LANE TWO-WAY ROADWAY
LANE CLOSURE WITH FLAGGERS
INTERMEDIATE TERM OPERATION
(SHEET 2 OF 2)

ERRATA 1 EFF. 09/01/23 ISSUED WITH EB 23-016	
APPROVED APRIL 8, 2022 — Robert Limoges — ROBERT LIMOGES, P.E. DIRECTOR, OTSM	ISSUED UNDER EI 22-008 — 619-407

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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ECHWY WZTC NOTES

THIS SHEET ISSUED APRIL 18, 2024

WZTC4

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WSA PROJECT NO. 13027C

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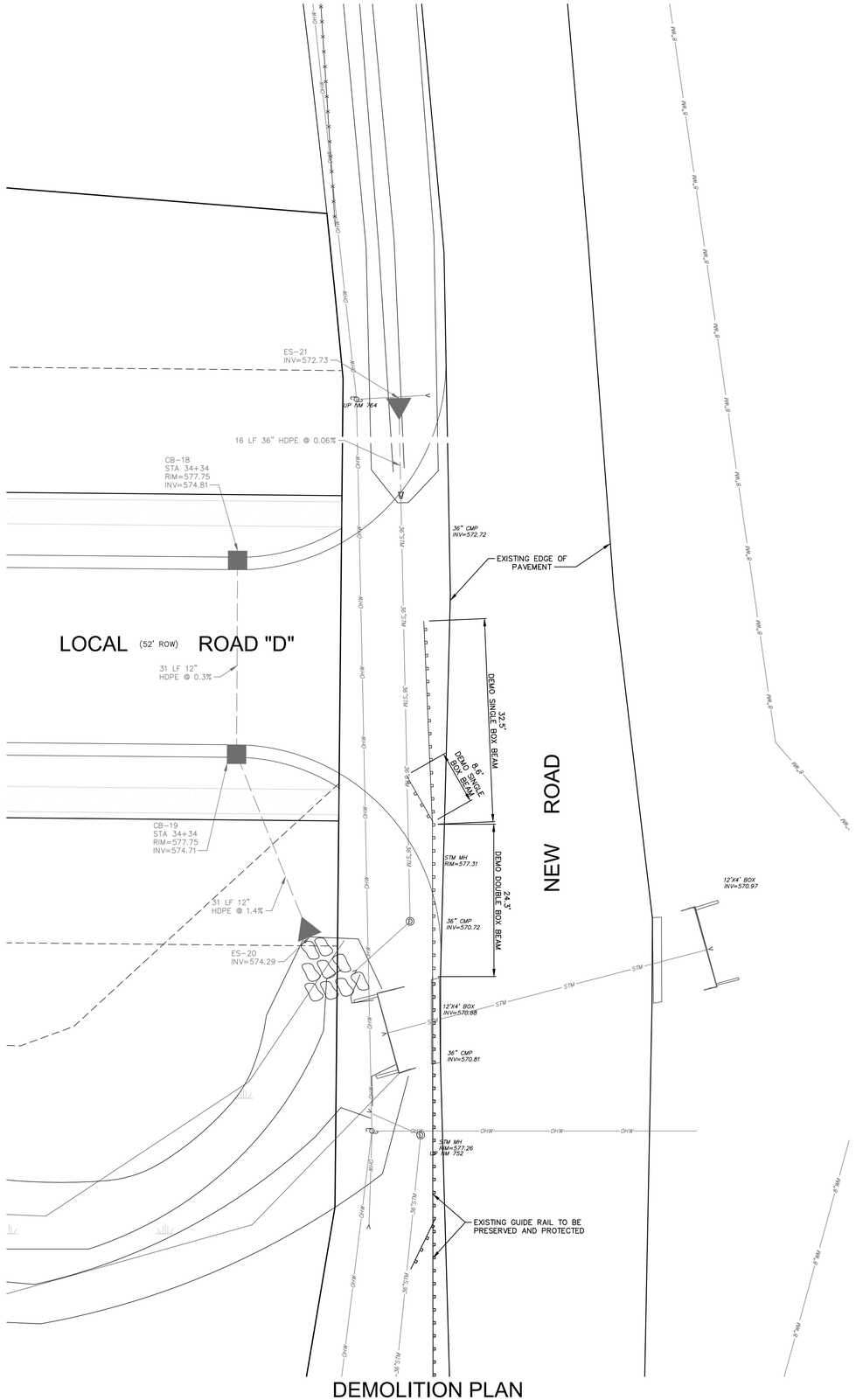
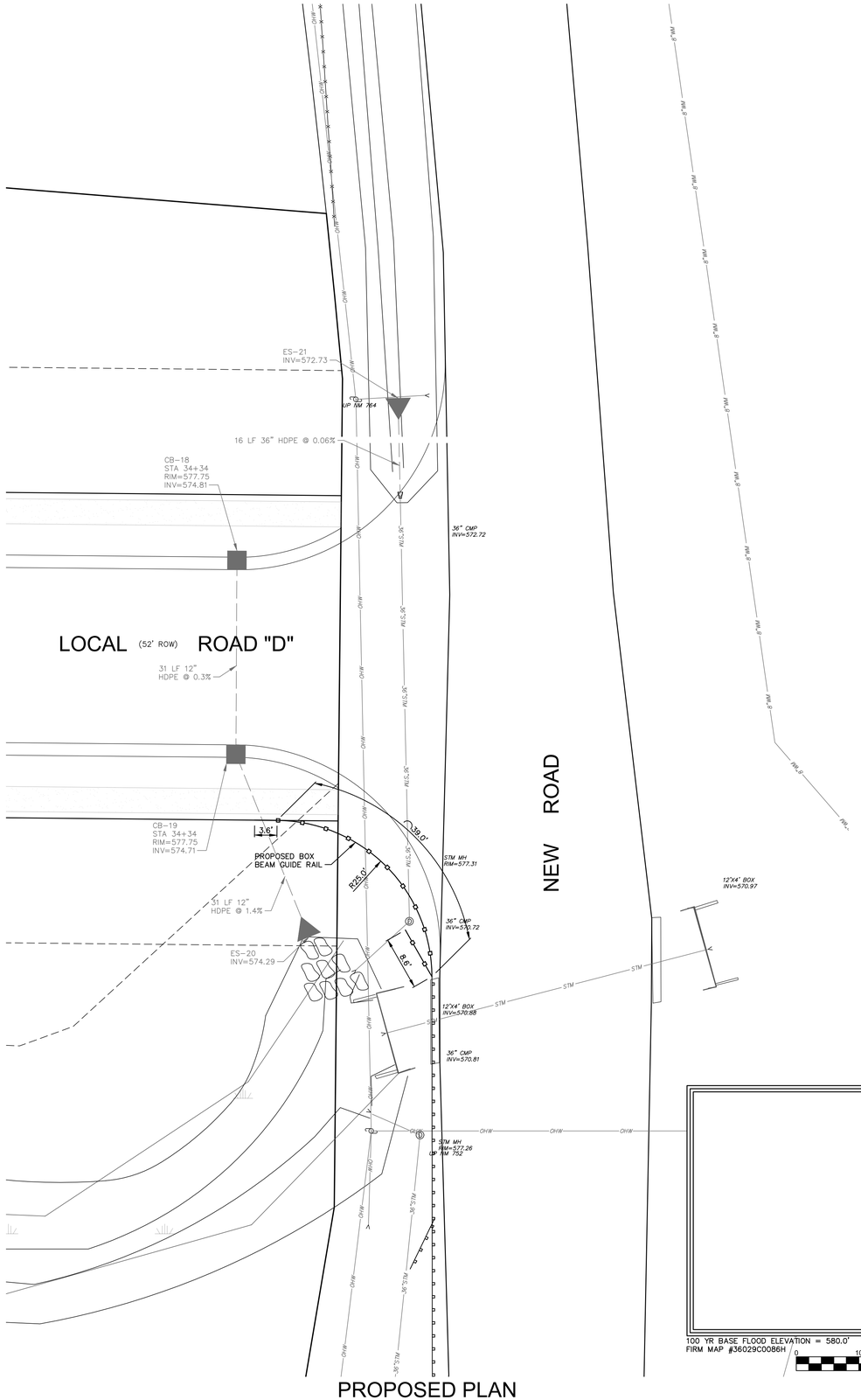


DEMOLITION PLAN



PROPOSED PLAN

NORTH

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 10 15 20 30 40

SCALE: 1"=10'
GRAPHIC SCALE IN FEET

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4300 MILLERSPORT DEVELOPMENT
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ECHWY BOX BEAM GUIDE RAIL PLAN

THIS SHEET ISSUED APRIL 18, 2024

WZTC5

DRAWINGS SCALE: 1"=10'

WSA PROJECT NO. 13027C

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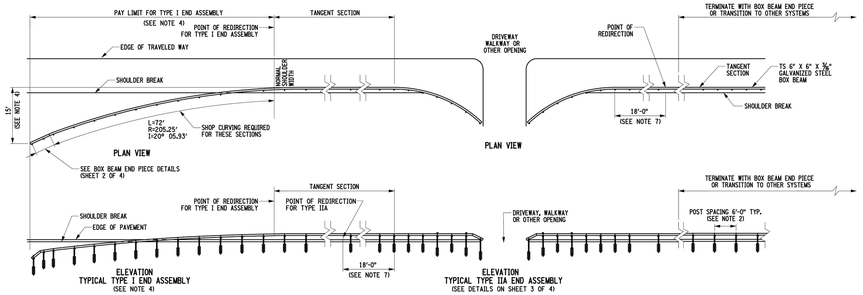
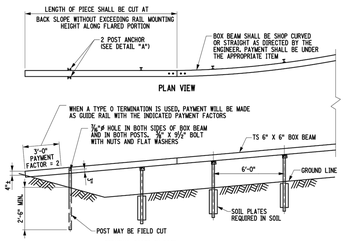


ELEVATION
TYPICAL LAYOUT



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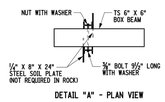


DETAIL "A" - PLAN VIEW

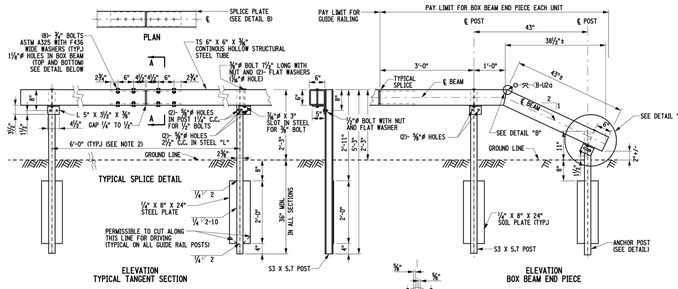
GENERAL NOTES:

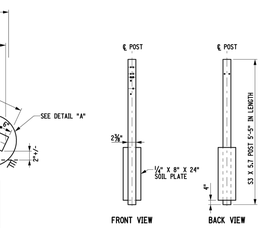
1. POST SPACING SHALL BE 6'-0" EXCEPT WHERE REDUCED POST SPACING IS INDICATED ON THE CONTRACT PLANS. FOR RUNS UNDER 130 FEET IN LENGTH, BACKUP POSTS ARE REQUIRED TO REDUCE POST SPACING TO 3'-0" AND SHALL BE FASTENED TO RAIL, EXCEPT AT SPLICE LOCATIONS.
2. SEE BRIDGE PLANS FOR GUIDE RAIL DETAILS, POST SPACING AND PAY ITEMS FOR TRANSITIONS AND CONNECTIONS TO BRIDGE RAIL.
3. THE LINE OF BOX BEAM GUIDE RAIL, WHEN COMPLETED, SHALL PRESENT A SMOOTH AND PLEASING GRADE LINE IN BOTH HORIZONTAL AND VERTICAL PLANES. BOX BEAM WITH RADIUS OF 720'-0" OR LESS SHALL BE SHOP WORKED TO THE REQUIRED CURVATURE. PAYMENT FOR SUCH CURVED LENGTHS SHALL BE MADE UNDER THE APPROPRIATE ITEM.
4. THE END MAY BE EXTENDED BY ONE 18'-0" STRAIGHT SECTION, PLACED BETWEEN THE CURVED SECTION AND THE END PIECE, TO MOVE THE END CLOSER TO THE EDGE OF THE CLEAR ZONE. PAYMENT SHALL BE MADE UNDER THE APPROPRIATE ITEM.
5. BACKUP MAY REMAIN IN PLACE.
6. THE RAIL MOUNTING HEIGHT OF ALL GUIDE RAIL OR MEDIAN BARRIER PLACED BEHIND CURB, REGARDLESS OF THE CURB HEIGHT OR SPEED, SHALL BE MEASURED FROM THE PAVEMENT SURFACE WHEN THE OFFSET IS 12" OR LESS AND TO THE GROUND SURFACE UNDER THE FACE OF THE RAIL WHEN THE OFFSET IS GREATER.
7. FOR DESIGN SPEEDS UNDER 50 MPH THE POINT OF REDIRECTION WILL BE AT THE POINT OF TANGENCY.

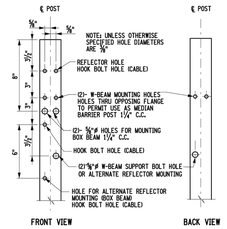
NEW YORK STATE OF OPPORTUNITY.	Department of Transportation
U.S. CUSTOMARY STANDARD SHEET	
BOX BEAM GUIDE RAIL (SHEET 1 OF 5)	
APPROVED JUNE 21, 2011	ISSUED UNDER EB 11-013
/S/ RICHARD W. LEE, P.E. DEPUTY CHIEF ENGINEER (DESIGN)	606-04

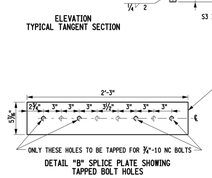
ERRATA 1 EFF. 01/01/2020
ISSUED WITH EB 19-041

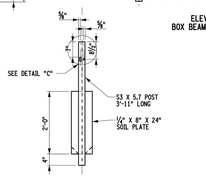
GENERAL NOTES ON SHEET 1 OF 4

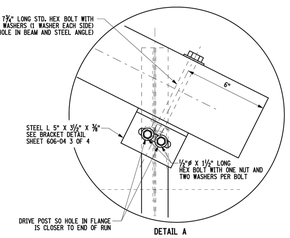


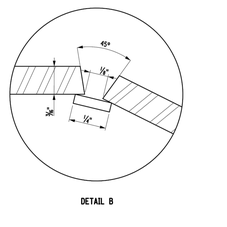


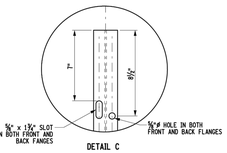






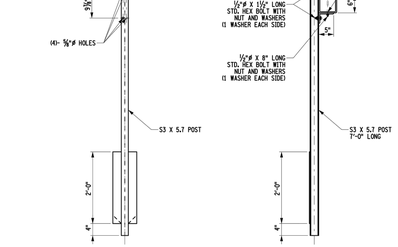


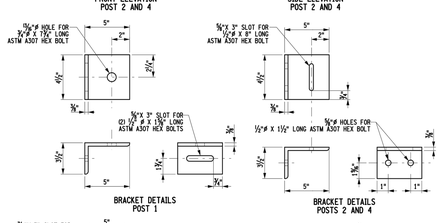


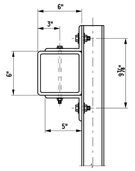


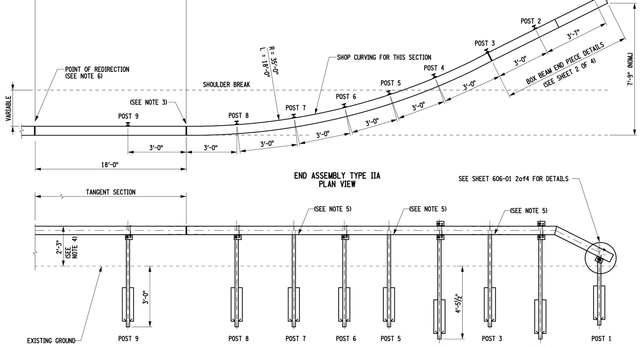
NEW YORK STATE OF OPPORTUNITY.	Department of Transportation
U.S. CUSTOMARY STANDARD SHEET	
BOX BEAM GUIDE RAIL (SHEET 2 OF 5)	
APPROVED JANUARY 30, 2023	ISSUED UNDER EI 23-001
DEPUTY CHIEF ENGINEER (DESIGN)	606-04

GENERAL NOTES ON SHEET 1 OF 4









TYPE IIA NOTES:

1. POSTS 2, AND 4 SHALL BE EXTRA LONG POSTS. POSTS 3, 5, 6, 7, 8, AND 9 SHALL BE STANDARD LENGTH.
2. POSTS 2 AND 4 SHALL BE FASTENED TO THE RAIL USING DETAIL "A".
3. FOR SIDE SLOPES 1:6 OR FLATTER, THE 18' OF CURVED BOX BEAM MAY BE PROVIDED IN A CURVED PORTION OF A 24' OR 36' PIECE, OTHERWISE, AN 18' SECTION IS TO BE SPLICED AT THE POINT OF TANGENCY.
4. THE DRAWING INDICATES THE TERMINAL INSTALLED ON LEVEL GROUND, WHEN INSTALLED OVER A SLOPE OR DITCH, THE TERMINAL END SHOULD BE PUSHED DOWN WITH THE EQUIVALENT OF APPROXIMATELY 100 LBS EFFORT TO DEPRESS THE TERMINAL DOWN.
5. POSTS 3, 5, AND 7 SHALL NOT BE CONNECTED TO BOX BEAM GUIDE RAIL. HOWEVER, FOR RUNS LESS THAN 130' IN LENGTH, ALL BACKUP POSTS SHALL BE FASTENED TO THE RAIL.
6. FOR DESIGN SPEEDS UNDER 50 MPH THE POINT OF REDIRECTION WILL BE AT THE POINT OF TANGENCY.

NEW YORK STATE OF OPPORTUNITY.	Department of Transportation
U.S. CUSTOMARY STANDARD SHEET	
BOX BEAM GUIDE RAIL (SHEET 3 OF 5)	
APPROVED JANUARY 2, 2020	ISSUED UNDER EB 19-049
/S/ RICHARD D. WILDER P.E. DEPUTY CHIEF ENGINEER (DESIGN)	606-04

100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

DRAWING REVISIONS

ITEM	DESCRIPTION	DATE

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
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37 CENTRAL AVE.
LANCASTER, NY 14086-2143
PH. 716-683-5961
FAX 716-683-0169
WWW.WMSCHUTT.COM

STATE OF NEW YORK · WILLIAM E. SCHUTT · 058840 · LICENSED PROFESSIONAL ENGINEER

4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

ECHWY BOX BEAM GUIDE RAIL DETAILS

THIS SHEET ISSUED APRIL 18, 2024

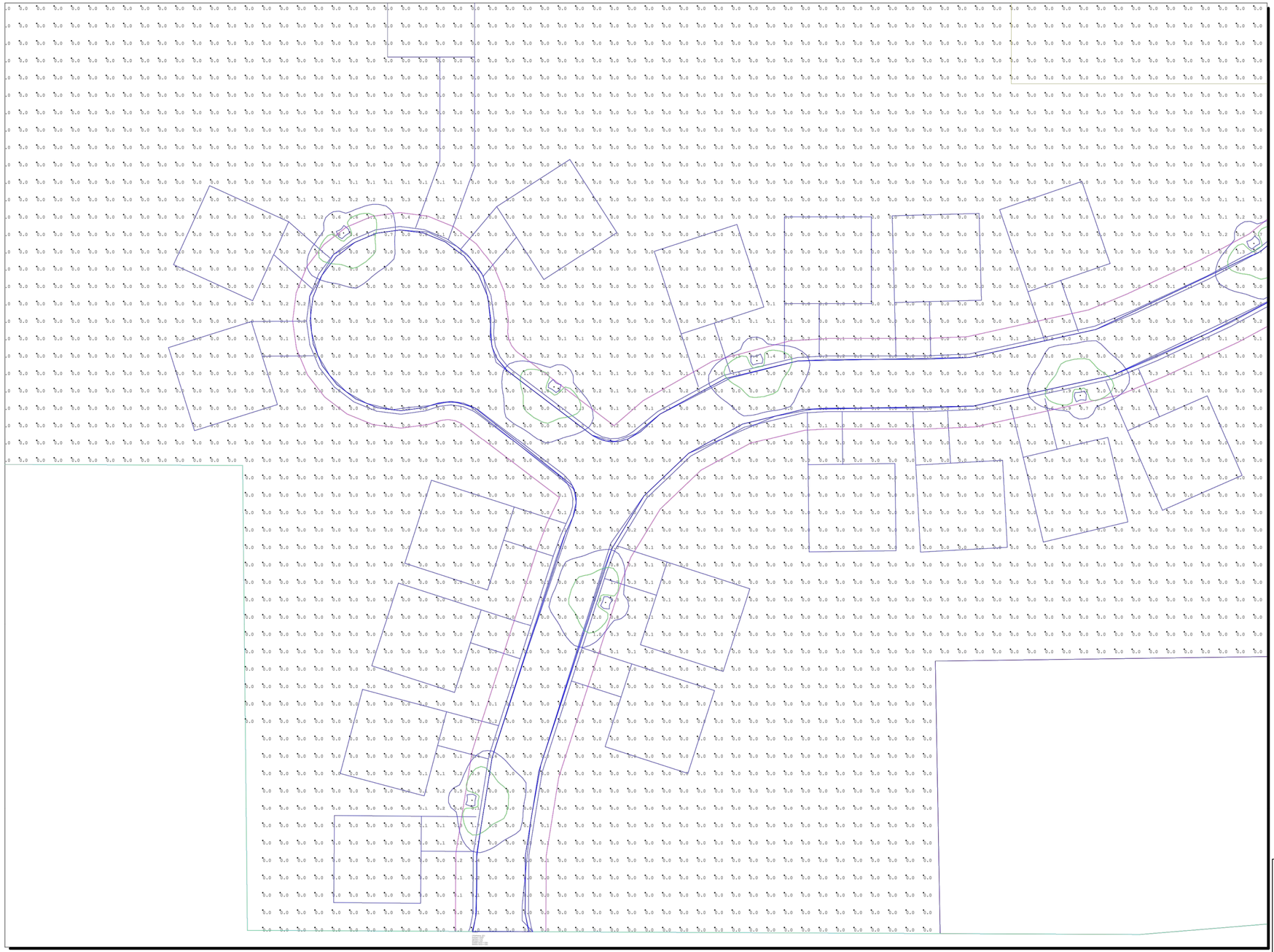
WZTC6

DRAWING SCALE: NONE'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

DRWG. NO. V3



Scale: 1 inch= 30 Ft.

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100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

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LIGHTSPEC

BRIGHTFOCUSSALES
A LightSpec Company

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN FEET

NOTES:

SCALE	DATE	NEXT ASSEMBLY	REF. DRWGS.
DRAWN BY CDH	3/8/2024		REF. DRWGS.
CHECKED BY			
APPROVED BY			
APPROVED BY		FINISH	
APPROVED BY			
SHOP ORDER		MATERIAL	
PROJECT NO.			

POINT-BY-POINT FOOTCANDLE PLOT FOR:

DRAWING NUMBER

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A_4300 Millersport Hwy)

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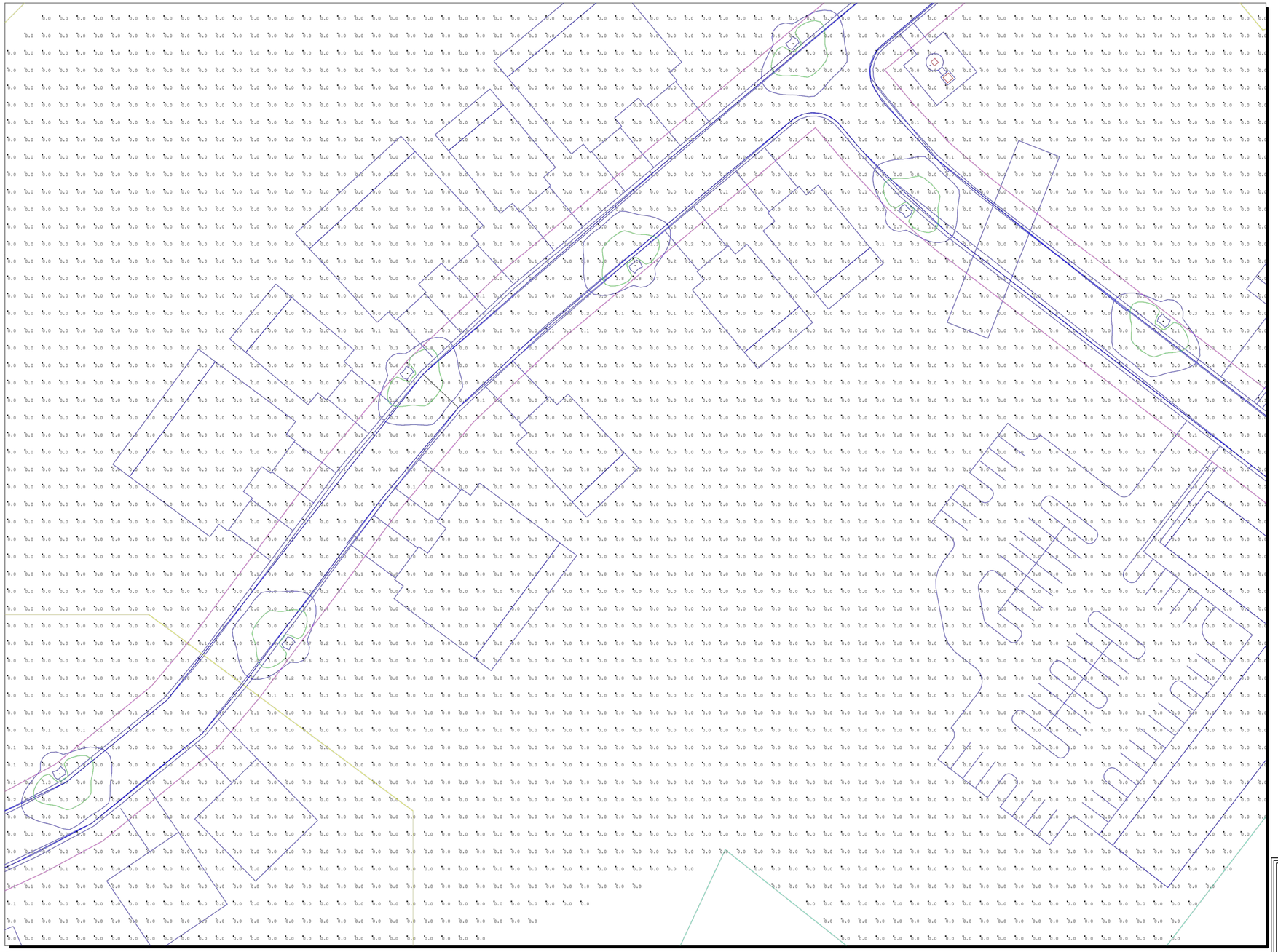

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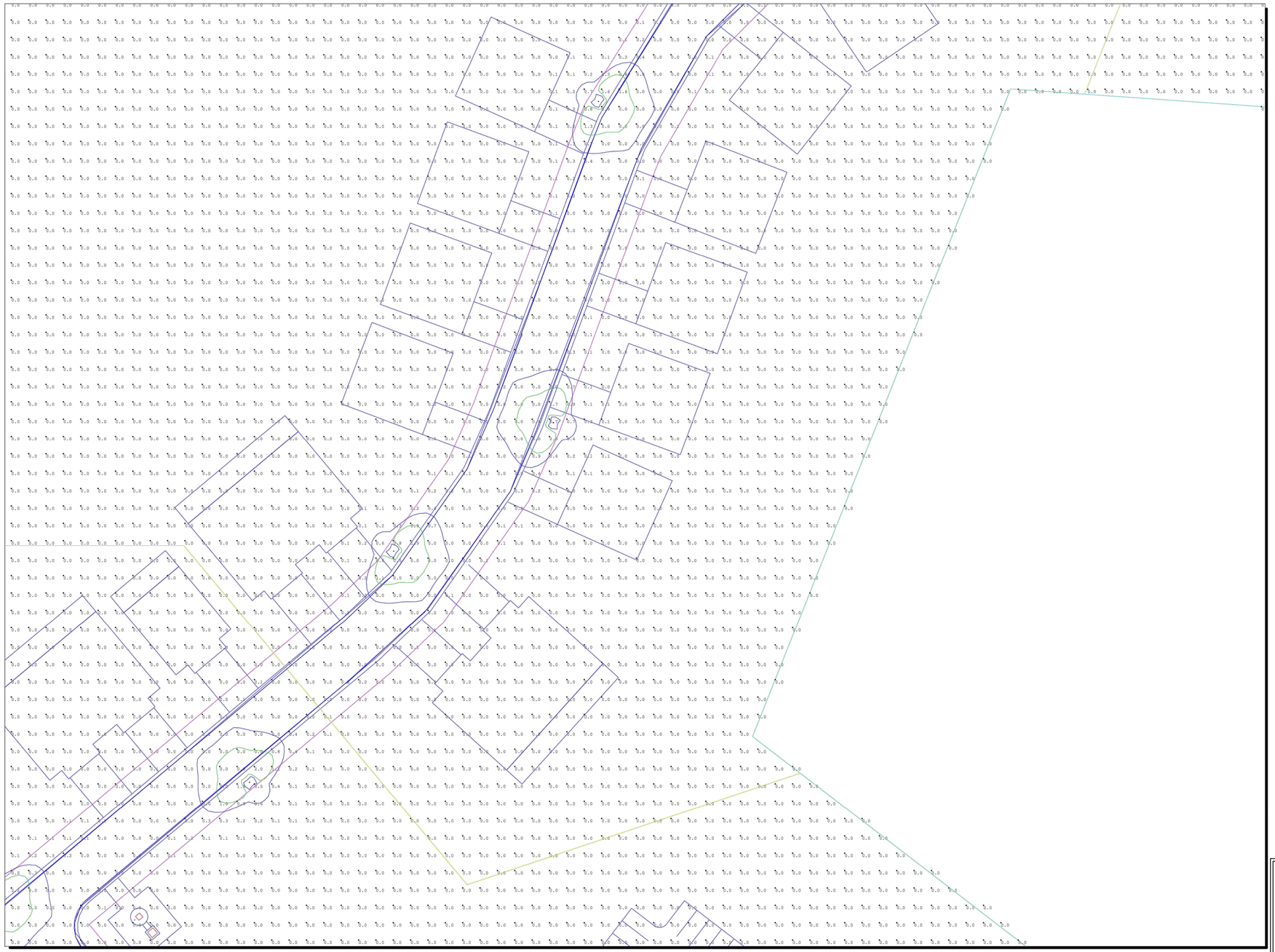

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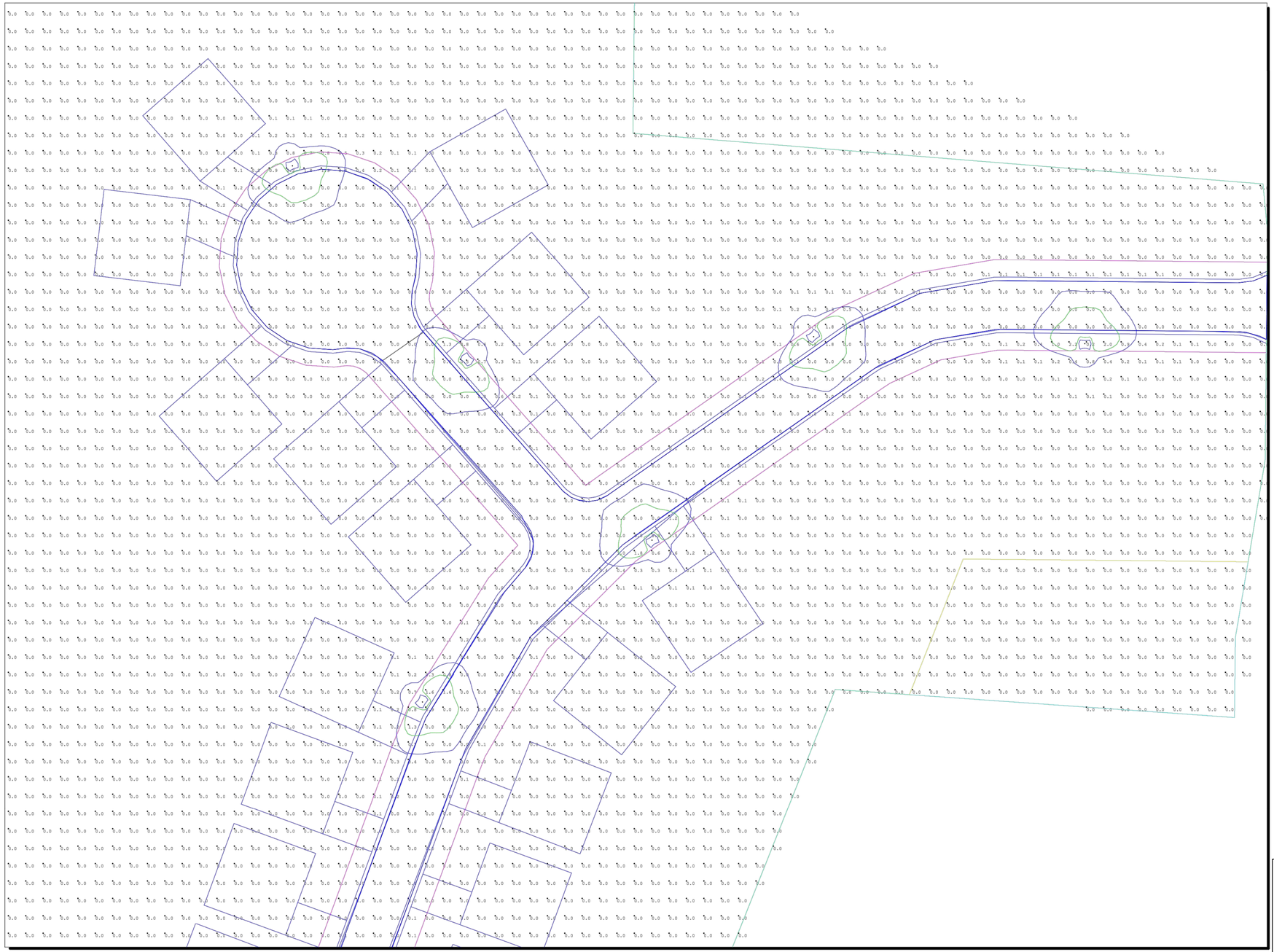

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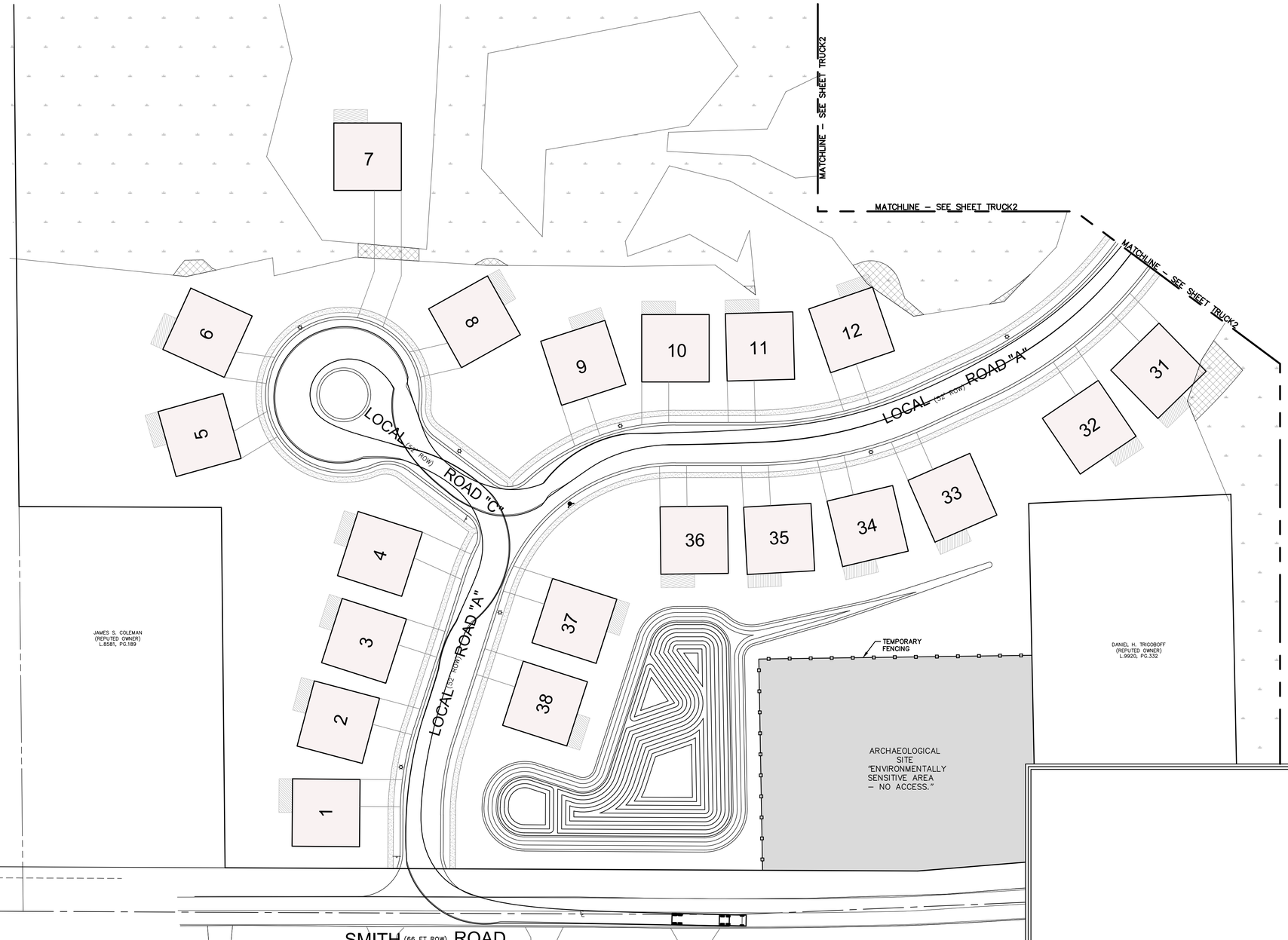
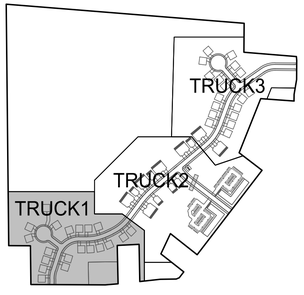
NORTH



KEY PLAN



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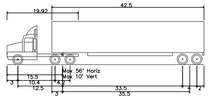

WB-50 – Intermediate Semi-Trailer

Overall Length	55.000ft
Overall Width	8.500ft
Overall Body Height	12.002ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	17.96°

CAUTION – NOTICE TO CONTRACTOR
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100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160
SCALE: 1"=40'
GRAPHIC SCALE IN FEET

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

TRUCK CIRCULATION PLAN

THIS SHEET ISSUED APRIL 18, 2024

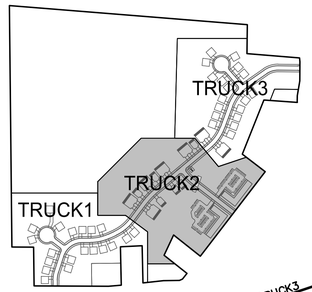
TRUCK1

DRAWING SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

KEY PLAN



NORTH

MATCHLINE – SEE SHEET TRUCK3

MATCHLINE – SEE SHEET TRUCK1

MATCHLINE – SEE SHEET TRUCK1

MATCHLINE – SEE SHEET TRUCK1

6A 6B 6C 6D

7A 7B

5A 5B 5C 5D

4A 4B

3A 3B3C 3D

2A 2B

1A 1B 1C 1D

10A 10B

11A 11B

12A 12B

13A 13B 13C 13D

LOCAL (52' ROW) ROAD "A"

LOCAL (52' ROW) ROAD "B"

TOWN DITCH 26C

PROPOSED BUILDING
1 LOAD 15'
FF=580.15

PROPOSED BUILDING
1 LOAD 15'
FF=580.15

RICHARD A. LILLIS
(REPUTED OWNER)
L.10131, PG.508

CIMATO BROS INC.
(REPUTED OWNER)
4315 MILLERSPORT HWY

MILLERSPORT (BUFFALO–MILLERSPORT, PART 2) HIGHWAY
S.H. NO.13489
(150–FT ROW)

L SIGN

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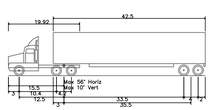

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SCALE: 1"=40'
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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

TRUCK CIRCULATION PLAN

THIS SHEET ISSUED APRIL 18, 2024

TRUCK2

DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

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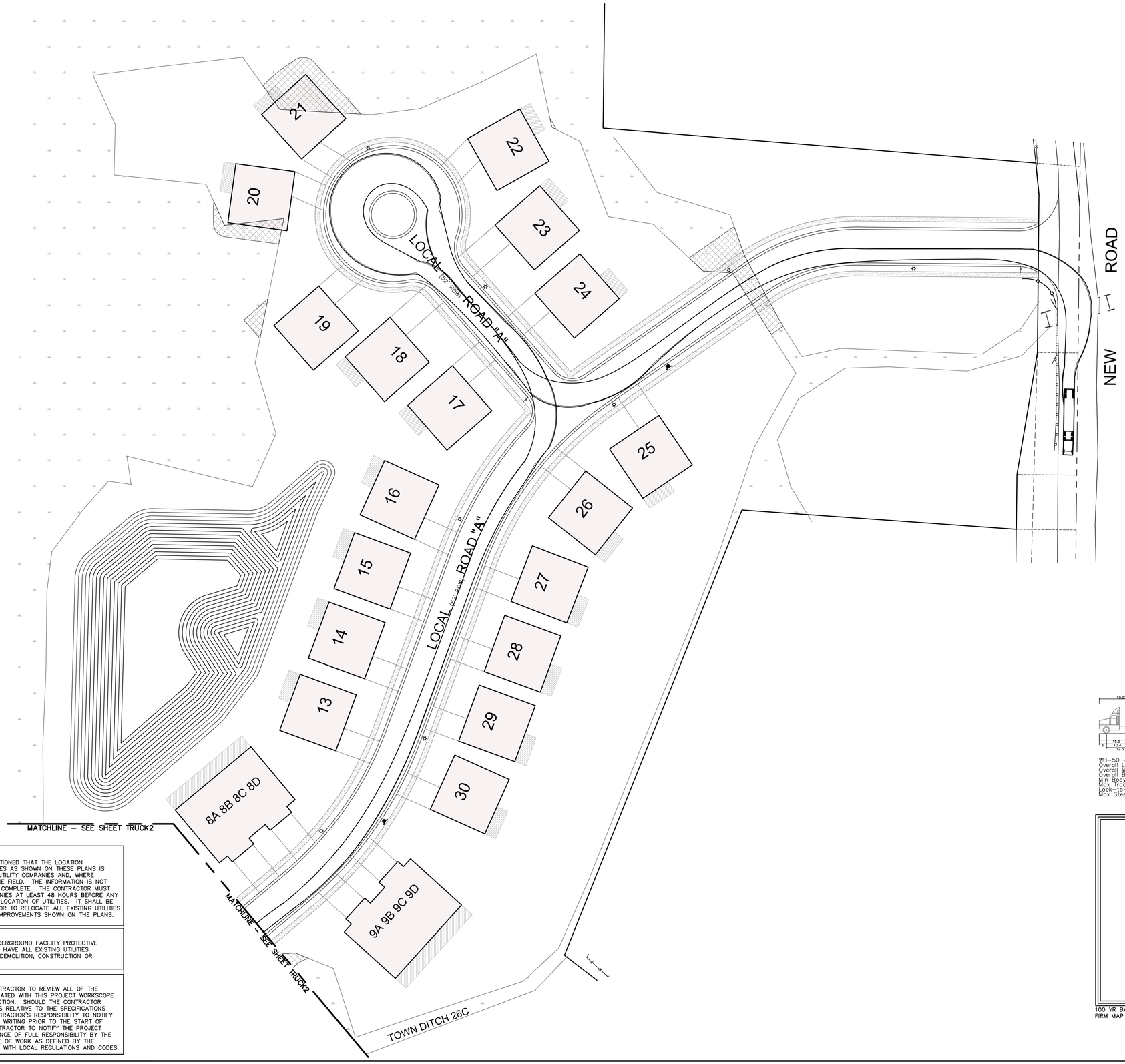

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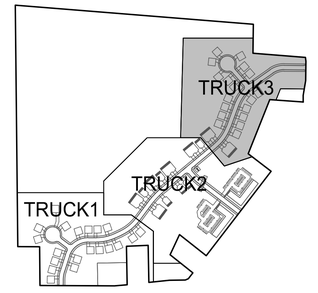
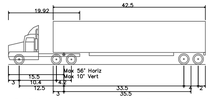
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

IMPORTANT NOTE:
CONTRACTOR IS TO CONTACT THE "UNDERGROUND FACILITY PROTECTIVE ORGANIZATION" (1-800-962-7962) TO HAVE ALL EXISTING UTILITIES LOCATED AND MARKED PRIOR TO ANY DEMOLITION, CONSTRUCTION OR EXCAVATION ON THE SITE.

IMPORTANT NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORKSCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

KEY PLAN





WB-50 – Intermediate Semi-Trailer

Overall Length	55.000ft
Overall Width	8.500ft
Overall Body Height	12.092ft
Min Body Ground Clearance	1.334ft
Max Track Width	8.500ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	17.90°



100 YR BASE FLOOD ELEVATION = 580.0'
FIRM MAP #36029C0086H

0 40 60 80 120 160

SCALE: 1"=40'
GRAPHIC SCALE IN FEET

DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

WARNING:
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STATE OF NEW YORK · WILLIAM E. SCHUTT · 058840 · LICENSED PROFESSIONAL ENGINEER

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

TRUCK CIRCULATION PLAN

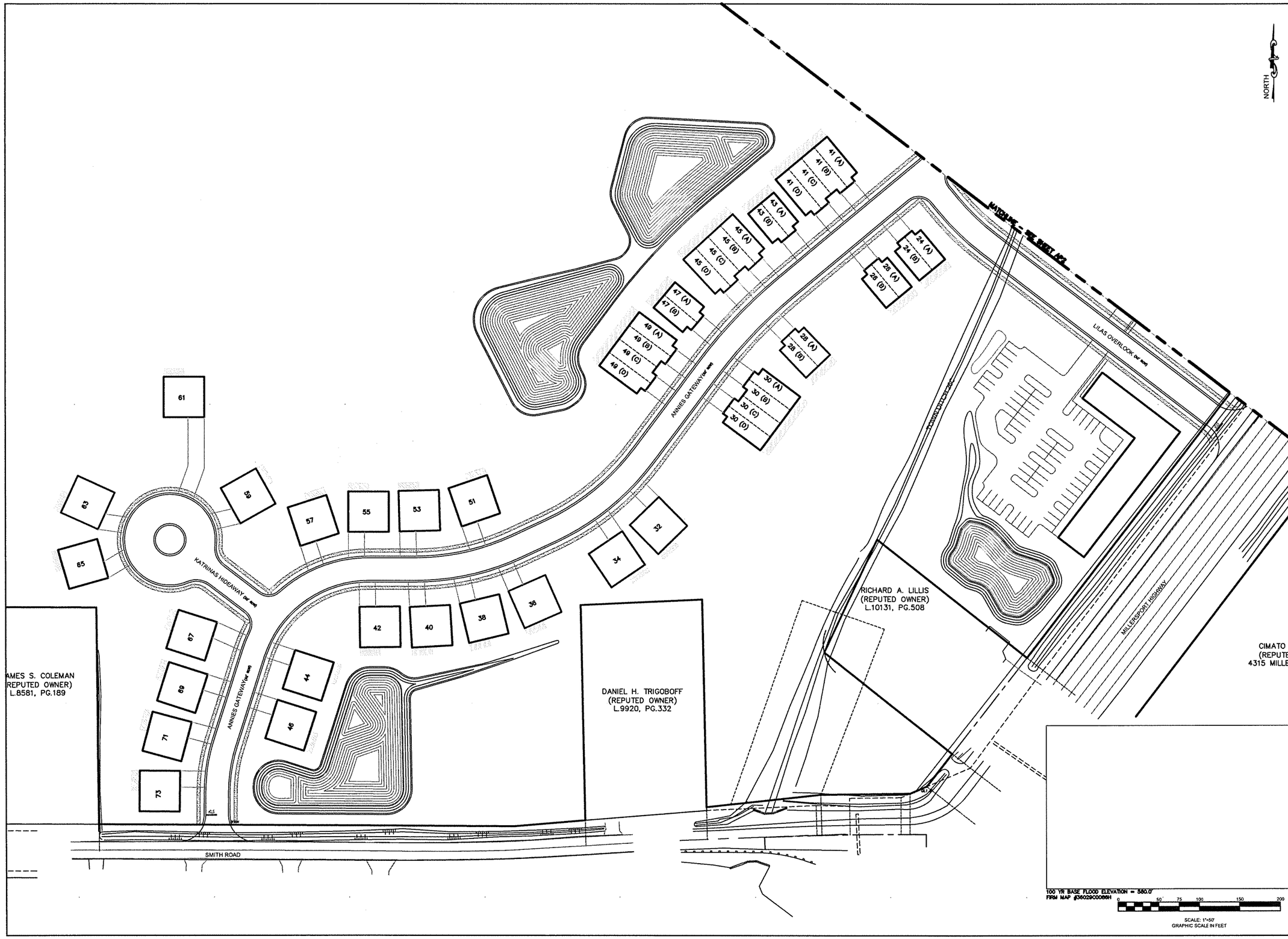
THIS SHEET ISSUED APRIL 18, 2024

TRUCK3

DRAWINGS SCALE: 1"=40'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A, drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

DESIGNED BY: PMB
DRAWN BY: DLS
CHECKED BY: WES
DATE:

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4300 MILLERSPORT DEVELOPMENT
TOWN OF AMHERST
ERIE COUNTY - NEW YORK

ADDRESS PLAN

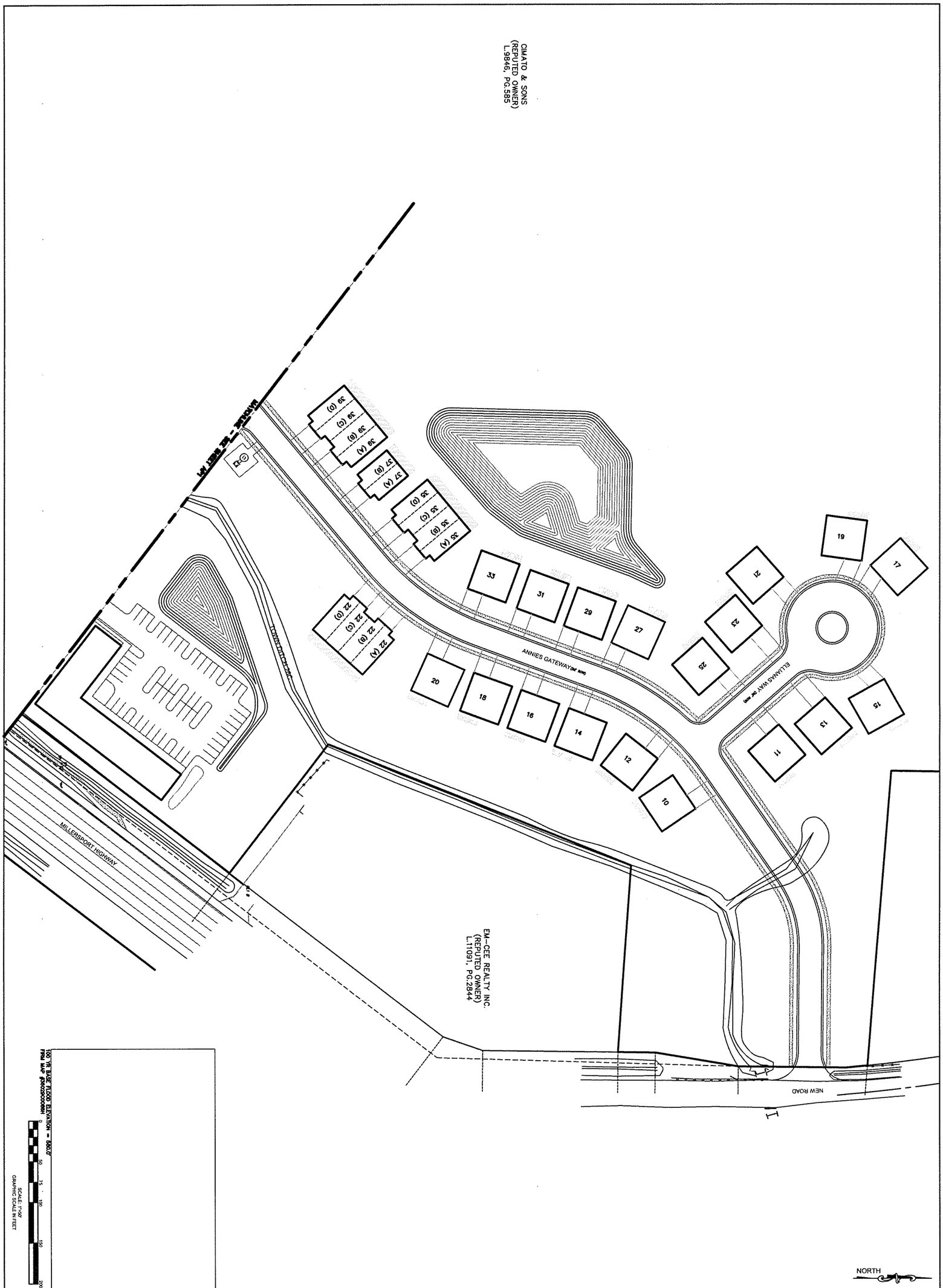
THIS SHEET ISSUED APRIL 18, 2024

AP1

DRAWING SCALE: 1"=50'

WSA PROJECT NO. 13027C

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)



4300 MILLERSPORT DEVELOPMENT

TOWN OF AMHERST
ERIE COUNTY - NEW YORK

ADDRESS PLAN

THIS SHEET ISSUED APRIL 16, 2024

AP2

DRAWING SCALE: 1"=50'

WSA PROJECT NO. 13972TC

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STATE OF NEW YORK · LICENSED PROFESSIONAL ENGINEER · WILLIAM E. SCHUTT

DESIGNED BY:	PMB
DRAWN BY:	DLS
CHECKED BY:	WES
DATE:	

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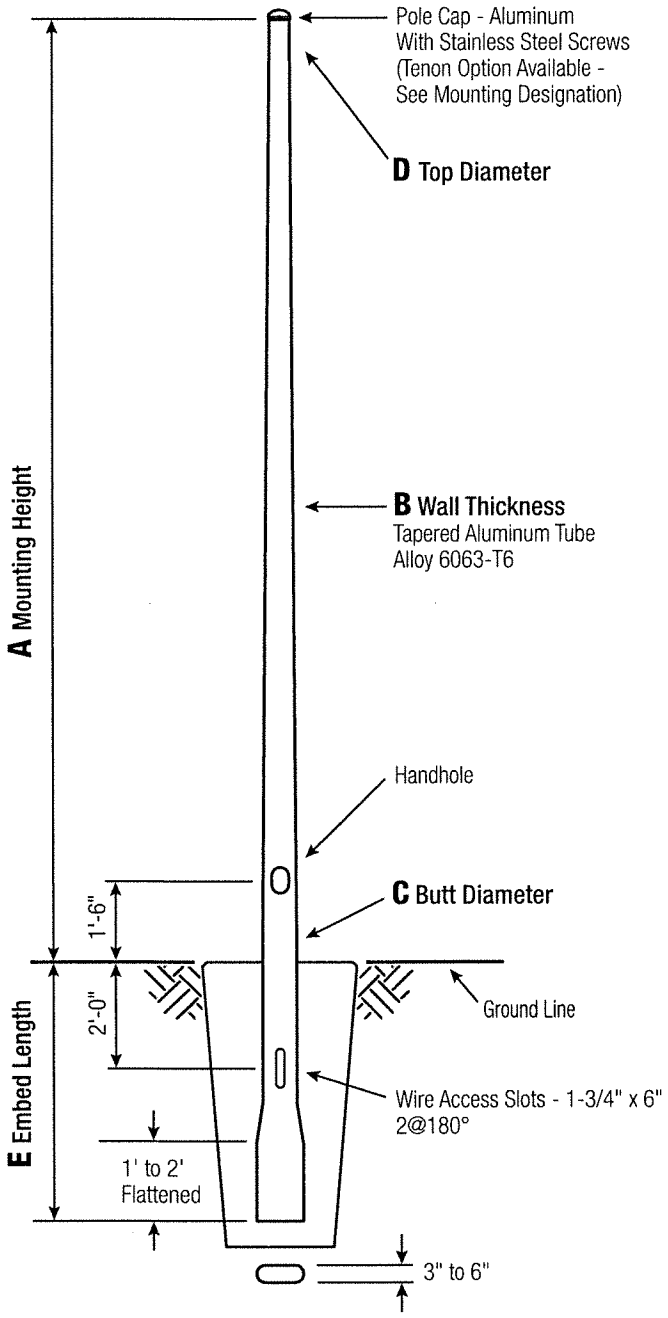
DRAWING REVISIONS

ITEM	DATE	DESCRIPTION

RTA

Round Tapered Aluminum Pole
No Arm — Direct Buried



Satin Aluminum or Powder Coated Finish per Customer Specification.

C Butt Dia.	D Top Dia.	E Embed
5	3	3'
6	4.5	4'
7	4.5	5'
8	4.5	5'
9	4.5	6'
10	6	6'

C and D Dimensions in Inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated to produce a T6 temper.

Handhole

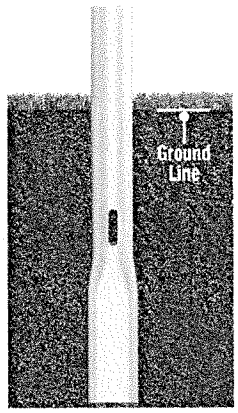
5" Butt Diameter - *2-1/2" x 5" Handhole with curved Lap Style Aluminum Door and two (2) SS Self-Tapping Attaching Screws. A Grounding Provision is provided as part of the handhole.*

6" Butt Diameter - *Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.*

7"+ Butt Diameters - *Reinforced, 4" x 6" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. Reinforced Frame will contain a tapped 3/8"-16NC Grounding Provision.*

Embed Detail

Direct Buried Pole bottom section on 6"+ butt diameter poles will be partially flattened into an anti-rotational, oval cross section. Wire access will be provided 24" below ground line. Soil conditions vary by site. Foundation requirements should be determined by a qualified Structural Engineer with knowledge of jobsite soil conditions.



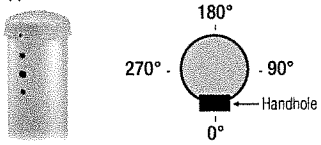
Vibration Damper

When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

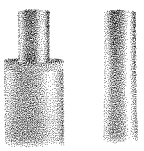
Side Drill Mount

For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.



Tenon Mount - Welded or Spun

For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.). Tenon style is factory option. Welded Tenon can be specified.



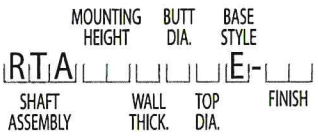
WARNING: *Do not install light pole without luminaire.*

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

A Mtg. Hgt.	B Wall Thickness	C Butt Diameter	Total Lum. Weight	Maximum EPA 90	100	110	120	130	Old Cat. Number	Catalog Number
10	0.125"	5	100	16.6	13.0	12.2	10.0	8.2	87907-0310X	RTA10B5AE-**
12	0.125"	5	100	12.6	10.0	9.2	7.4	6.0	87907-0312X	RTA12B5AE-**
14	0.125"	5	90	10.0	7.6	7.0	5.6	4.4	87907-0314X	RTA14B5AE-**
16	0.125"	5	60	8.0	6.0	5.4	4.2	3.2	87907-0316X	RTA16B5AE-**
18	0.125"	5	35	6.4	4.6	4.2	3.0	2.2	87907-0318X	RTA18B5AE-**
18	0.156"	5	60	8.2	6.2	5.6	4.2	3.2		RTA18C5AE-**
20	0.125"	5	30	4.8	3.4	3.0	2.0	1.4		RTA20B5AE-**
20	0.125"	6	100	12.0	9.2	8.4	6.8	5.6	50-001	RTA20B6BE-**
20	0.156"	6	100	16.0	12.2	11.2	9.2	7.6	50-002	RTA20C6BE-**
20	0.188"	6	100	20.0	15.4	14.2	11.6	9.8	50-003	RTA20D6BE-**
20	0.156"	7	100	24.0	18.8	17.4	14.2	12.0	50-004	RTA20C7BE-**
20	0.188"	7	100	29.4	23.2	21.4	17.8	15.0	50-005	RTA20D7BE-**
20	0.156"	8	100	33.0	26.2	24.2	20.2	17.0	50-006	RTA20C8BE-**
20	0.188"	8	100	40.4	32.0	29.8	24.8	21.0	50-007	RTA20D8BE-**
22	0.125"	5	25	3.6	2.4	2.0	1.2	-		RTA22B5AE-**
25	0.156"	6	80	10.0	7.2	6.6	5.2	4.2	50-062	RTA25C6BE-**
25	0.188"	6	100	12.8	9.6	8.8	7.0	5.8	50-063	RTA25D6BE-**
25	0.156"	7	100	16.0	12.2	11.2	9.0	7.4	50-064	RTA25C7BE-**
25	0.188"	7	100	20.2	15.6	14.2	11.6	9.6	50-065	RTA25D7BE-**
25	0.156"	8	100	22.8	17.8	16.4	13.4	11.2	50-066	RTA25C8BE-**
25	0.188"	8	100	28.4	22.4	20.6	17.0	14.2	50-067	RTA25D8BE-**
25	0.219"	8	100	33.6	26.6	24.6	20.4	17.2	50-068	RTA25E8BE-**
25	0.250"	8	100	38.8	30.8	28.4	23.6	19.8	50-069	RTA25F8BE-**
30	0.156"	7	85	10.6	7.6	6.8	5.2	4.2	50-124	RTA30C7BE-**
30	0.188"	7	100	13.8	10.2	9.2	7.4	6.0	50-125	RTA30D7BE-**
30	0.156"	8	100	16.0	12.0	11.0	8.8	7.2	50-126	RTA30C8BE-**
30	0.188"	8	100	20.4	15.8	14.4	11.6	9.6	50-127	RTA30D8BE-**
30	0.219"	8	100	24.6	19.0	17.6	14.4	12.0	50-128	RTA30E8BE-**
30	0.250"	8	100	28.6	22.4	20.6	17.0	14.2	50-129	RTA30F8BE-**
30	0.188"	9	100	28.0	21.8	20.4	16.6	14.0	50-131	RTA30D9BE-**
30	0.250"	9	100	38.8	30.6	28.4	23.6	19.8	50-133	RTA30F9BE-**
30	0.188"	10	100	36.6	29.2	27.2	22.6	19.0	50-139	RTA30D1CE-**
35	0.156"	8	85	11.0	7.8	7.0	5.4	4.4	50-186	RTA35C8BE-**
35	0.188"	8	100	14.6	10.8	9.8	7.8	6.2	50-187	RTA35D8BE-**
35	0.219"	8	100	18.0	13.6	12.4	10.0	8.2	50-188	RTA35E8BE-**
35	0.250"	8	100	21.4	16.4	15.0	12.0	10.0	50-189	RTA35F8BE-**
35	0.188"	9	100	20.8	15.8	14.6	11.8	9.8	50-191	RTA35D9BE-**
35	0.250"	9	100	29.6	23.2	21.4	17.6	14.6	50-193	RTA35F9BE-**
35	0.188"	10	100	28.0	22.0	20.6	16.8	14.0	50-199	RTA35D1CE-**
35	0.219"	10	100	33.6	26.6	24.8	20.4	17.0	50-200	RTA35E1CE-**
35	0.250"	10	100	39.0	31.2	29.0	24.0	20.0	50-201	RTA35F1CE-**
35	0.312"	10	100	49.2	39.8	37.0	30.8	25.8	50-202	RTA35G1CE-**
40	0.188"	8	70	10.2	7.0	6.4	4.8	3.6	50-247	RTA40D8BE-**
40	0.219"	8	100	12.8	9.2	8.4	6.4	5.2	50-248	RTA40E8BE-**
40	0.250"	8	100	15.8	11.6	10.4	8.2	6.6	50-249	RTA40F8BE-**
40	0.188"	9	100	15.0	11.2	10.2	8.2	6.6	50-251	RTA40D9BE-**
40	0.250"	9	100	22.6	17.4	16.0	13.0	10.6	50-253	RTA40F9BE-**
40	0.188"	10	100	21.2	16.6	15.4	12.6	10.2	50-259	RTA40D1CE-**
40	0.219"	10	100	26.0	20.4	19.0	15.6	12.8	50-260	RTA40E1CE-**
40	0.250"	10	100	30.6	24.2	22.4	18.6	15.4	50-261	RTA40F1CE-**
40	0.312"	10	100	39.8	31.4	29.4	24.2	20.2	50-262	RTA40G1CE-**

Catalog Number System

The catalog number for Hapco poles utilizes the following identification system.



Catalog Number Example -

RTA 30 D 8 B E – 01

Round Tapered Aluminum, 30' Mounting Height, .188" Wall Thickness, 8" Butt Diameter, 4.5" Top Diameter, Direct Buried, Satin Aluminum Finish.

Wall Thickness
B = .125"
C = .156"
D = .188"
E = .219"
F = .250"
G = .312"

Butt Diameter
5 = 5"
6 = 6"
7 = 7"
8 = 8"
9 = 9"
1 = 10"

Top Diameter
A = 3"
B = 4.5"
C = 6"

Base Style
E = Direct Buried

Finish
01 = Satin Aluminum
BA = Black Powder Coat
BH = White Powder Coat
BM = Dark Bronze Powder Coat
BV = Dark Green Powder Coat
GC = Gray Powder Coat
** = Specify Finish

EPA Notes:

Effective Projected Area (EPA) in square feet. EPA's calculated using wind velocity (mph) indicated in accordance with 2009 AASHTO LTS-5 using a 25 year design life. Maximum EPA is based on the luminaire weight shown. Increased luminaire weight may reduce the maximum EPA. If weight is exceeded, or if other design life or code is required, please consult the factory..

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

HADCO by signify

Urban

TownView

TVPC/TVPR

Post top and arm mount luminaire



The Hadco **TownView LED post top luminaires** were designed to eliminate the compromises of performance, comfort, style options and value when choosing the right lighting solution for residential street and pedestrian area. The horizontal lens option reduces glare to enhance a sense of security with increased visual comfort. TownView offers design flexibility with a variety of style options, lumen packages, a range of control options and more at exceptional value.

Project:

Location:

Cat No:

Type:

Lamps: Qty:

Notes:

Ordering guide: Luminaire

example: TVPC-S3-S-32-G1-7-3S-730-A-N-R7-N-SP1-T-N-N-BKS

Series	Mounting	Roof option	LED module	Generation	Drive current	Distribution	Color temp.	Voltage	Integral Controls [3]
TVPC TownView with visual comfort panels **TVPR** TownView with vertical ribbed panels	**A** [1] Arm Mt **L4** Large Post Top Fitter 4" (tool less entry) **L3** Large Post Top Fitter 3" (tool less entry) **S2** Small Post Fitter 2-3/8" **S3** Small Post Fitter 3" **S4** Small Post Fitter 4"	**S** Square Roof **C** [1] Curved Roof	**16** 16 LEDs **32** 32 LEDs **48** 48 LEDs	**G1** Gen 1	**5** 530 mA **7** 700 mA **9** 900 mA **1** 1050 mA **8** 800 mA	**2S** Type 2 Short **3S** Type 3 Short **3W** Type 3 Wide **5** Type 5 **2H** Type 2 House-side shield **3SH** Type 3 Short House-side shield **3WH** Type 3 Wide House-side shield	**730** 3000K (70 CRI) **740** 4000K (70 CRI) **827** [2] 2700K (80 CRI)	**A** 120-277 Volt **J** 480V **K** 347V	**DA** [5] 4 Hrs 25% Reduction **DB** [5] 4 Hrs 50% Reduction **DC** [5] 4 Hrs 75% Reduction **DD** [5] 6 Hrs 25% Reduction **DE** [5] 6 Hrs 50% Reduction **DF** [5] 6 Hrs 75% Reduction **DG** [5] 8 Hrs 25% Reduction **DH** [5] 8 Hrs 50% Reduction **DJ** [5] 8 Hrs 75% Reduction **DL** [4,5] DALI (default: logarithmic) **SRD** [4,5] SR Driver **CLO** [5] Constant light output **AST** [5] Adjustable startup time **OTL** [5] Over the life (default: L70 hrs) **S** [10] FAWS Field adjustable wattage selector **SRD** Sensor ready driver (standard configuration) **SRD1** Sensor ready driver (alternative configuration) **N** None

Ordering guide (continued)

Receptacle	Sensor Receptacle [8]	Surge Protection	Term Block	Decorative Option	Bird Guard	Finish [9]
R7 7 Pin tooless rotatable standard - no photocell **PH8** [7] 7 Pin tooless rotatable standard - with photocell **PH9** 7 Pin tooless rotatable standard - with shorting cap **PHX** [5] 7 Pin tooless rotatable standard - with long life photocell	**N** None	**SP1** Parallel 10kV standard **SP2** Parallel 20kV	**T** Terminal Block **N** None	**L** [6] Ladder Rest **N** None	**N** None	**BKS** Black Smooth **WHS** White Smooth **BZS** Bronze Smooth **GNS** Green Smooth **BK** Black Texture **WH** White Texture **BZ** Bronze Texture **GN** Green Texture

Footnotes see page 2.

TVPR-S3-S16-G1-7-3W-730-A-N-R7-N-SP1-N-N-N-BKS

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TVPC/TVPR TownView

Post top and arm mount luminaire

Ordering Guide: Arm mount

Must be ordered as a separate line item (if Arm Mount option is chosen for fixture).

Code	Mount	Width	Options	Finish
TV	A	55	S	
TV TownView	**A** Arm Mount	**55** 55.5" wide	**S** Decorative Scroll	**BKS** Black Smooth **WHS** White Smooth **BZS** Bronze Smooth **GNS** Green Smooth **BK** Black Texture **WH** White Texture **BZ** Bronze Texture **GN** Green Texture

Only available with Square roof

Footnotes

1. Only **S** Square roof available with **A** Arm Mount
2. Consult factory for information and lead time
3. Only pick one option from the Control list - for multiple control options consult the factory
4. This option requires more information contact factory
5. Only available with **120-277 V**
6. Ladder rest option not available with Arm Mount
7. Not available with **347V**
8. Order a **TVLN** (no panel version if you want the SR Receptacle option) Or consult factory to review sensor compatibility with panels.
9. When any finish other than **BKS** or **BK** is selected cupola will be metal and painted to match finish. Cupola supplied with **BKS** or **BK** finish option may be used with Interact City Astro-Clock node. If using Interact City with other finishes, cupola must be removed and Astro-Clock node is not required.
10. Position 10 is open for receptacle control, must use one or the other not BOTH.
11. **SR** Receptacle only available with 32 LED (receptacle is mounted in the middle of the boards) and **SRD** Driver is required if you choose this receptacle

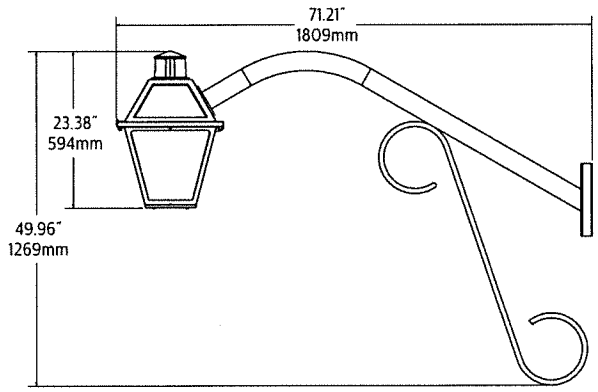
Dimensions: Arm mount

TVPx-A-S

Arm: Made of aluminum tubing

Decorative Element: Bent aluminum decorative channel scroll mechanically assembled.

Mounting Plate: Made of aluminum, mechanically fastened to the pole.



EPA Values

	Weight	EPA
TVPx-A-S	14 lbs	1.98 ft².

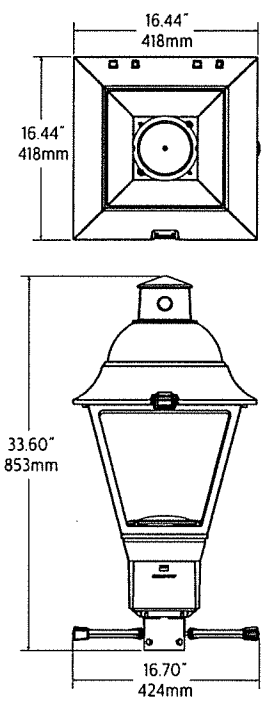
Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TVPC/TVPR TownView

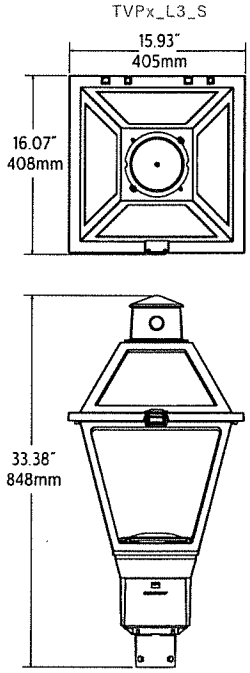
Post top and arm mount luminaire

Dimensions: Luminaire

TVPx_L3_C



TVPx_L3_S



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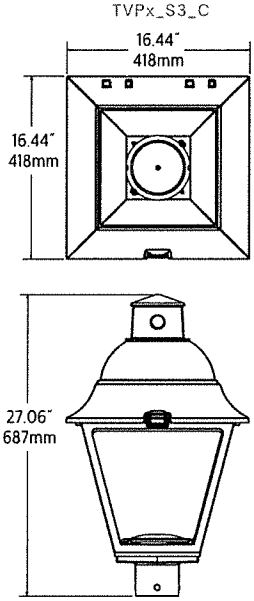

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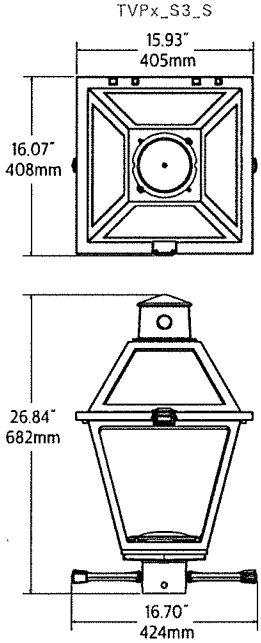

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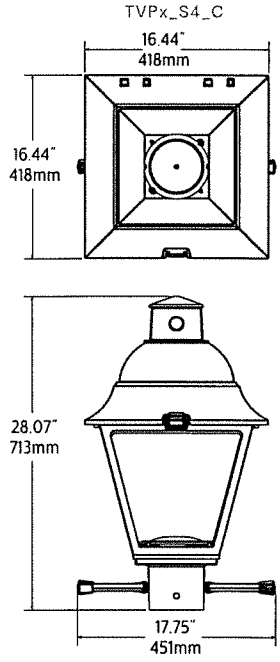

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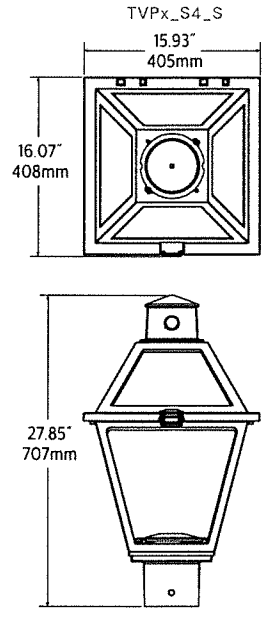


EPA Values

	Weight	EPA
TVPx-L3-C	24.75 lbs	1.75 sq. ft.
TVPx-L3-S		
TVPx-S2/S3-C	23.50 lbs	1.49 sq. ft.
TVPx-S2/S3-S		
TVPx-S4-C	24.38 lbs	1.54 sq. ft.
TVPx-S4-S		
TVPx-A-S	22.13 lbs	1.39 sq. ft.

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TVPC/TVPR TownView

Post top and arm mount luminaire

Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L_{70} is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L_{70} hours limited to 6 times actual LED test hours.

Ambient Temperature °C	Driver mA	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	up to 1050 mA	>100,000 hours	>54,000 hours	>96%

Field Adjustable Wattage (FAWS) Multiplier Chart

FAWS Position	Typical Delivered Lumens Multiplier	Typical System wattage
1	0.31	0.28
2	0.53	0.50
3	0.62	0.58
4	0.70	0.67
5	0.78	0.75
6	0.83	0.81
7	0.89	0.87
8	0.92	0.91
9	0.96	0.95
10	1.00	1.00

Note: Typical value accuracy +/- 15%

LED Lumen values – TVPC (Visual Comfort Panels)

Ordering Code	LED qty.	System Current (mA).	Color Temp.	Avg. System Wattage (W)	Type 2S			Type 3S			Type 3W			Type 5		
					Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
TVPC-16-G1-5-x-730	16	530	3000	29	2,621	91	B1-U2-G1	2,788	96	B1-U2-G1	2,779	96	B1-U2-G1	2,930	101	B1-U2-G1
TVPC-16-G1-7-x-730	16	700	3000	38	3,316	87	B1-U2-G1	3,527	93	B1-U3-G1	3,516	92	B1-U3-G1	3,707	97	B1-U3-G1
TVPC-16-G1-9-x-730	16	900	3000	49	4,069	83	B1-U3-G1	4,328	89	B1-U3-G1	4,314	88	B1-U3-G2	4,548	93	B1-U3-G1
TVPC-16-G1-1-x-730	16	1050	3000	57	4,586	81	B1-U2-G1	4,878	86	B1-U3-G1	4,862	85	B1-U3-G1	5,126	90	B1-U3-G1
TVPC-32-G1-5-x-730	32	530	3000	53	5,103	96	B1-U3-G1	5,342	100	B1-U3-G1	5,390	101	B2-U3-G2	5,617	105	B1-U3-G2
TVPC-32-G1-7-x-730	32	700	3000	70	6,443	92	B2-U3-G2	6,744	96	B2-U3-G2	6,805	97	B2-U3-G2	7,091	101	B1-U3-G2
TVPC-32-G1-8-x-730	32	800	3000	80	7,170	89	B1-U3-G1	7,505	93	B1-U3-G1	7,572	94	B1-U3-G2	7,892	98	B1-U3-G2
TVPC-32-G1-1-x-730	32	1050	3000	108	9,006	83	B2-U3-G2	9,427	87	B2-U3-G2	9,512	88	B2-U3-G2	9,913	91	B1-U3-G2
TVPC-48-G1-5-x-730	48	530	3000	81	7,780	96	B2-U3-G2	8,144	101	B1-U3-G2	8,217	102	B2-U3-G2	8,564	106	B1-U3-G2
TVPC-48-G1-7-x-730	48	700	3000	105	9,766	93	B2-U3-G2	10,223	98	B2-U3-G2	10,315	98	B2-U3-G2	10,750	103	B2-U3-G2
TVPC-16-G1-5-x-740	16	530	4000	29	2,882	99	B1-U2-G1	3,065	105	B1-U2-G1	3,055	105	B1-U2-G1	3,221	110	B1-U2-G1
TVPC-16-G1-7-x-740	16	700	4000	39	3,646	95	B1-U2-G1	3,878	101	B1-U3-G1	3,865	100	B1-U3-G1	4,075	106	B1-U3-G1
TVPC-16-G1-9-x-740	16	900	4000	49	4,473	90	B1-U3-G1	4,758	96	B1-U3-G1	4,743	96	B1-U3-G2	5,001	101	B1-U3-G1
TVPC-16-G1-1-x-740	16	1050	4000	58	5,042	88	B1-U2-G1	5,363	93	B1-U3-G1	5,345	93	B1-U3-G1	5,636	98	B1-U3-G1
TVPC-32-G1-5-x-740	32	530	4000	54	5,611	104	B1-U3-G1	5,873	109	B1-U3-G1	5,926	110	B2-U3-G2	6,176	114	B1-U3-G2
TVPC-32-G1-7-x-740	32	700	4000	71	7,083	100	B2-U3-G2	7,414	104	B2-U3-G2	7,481	105	B2-U3-G2	7,797	110	B1-U3-G2
TVPC-32-G1-8-x-740	32	800	4000	81	7,883	97	B1-U3-G1	8,251	102	B1-U3-G1	8,326	102	B1-U3-G2	8,677	107	B1-U3-G2
TVPC-32-G1-1-x-740	32	1050	4000	110	9,902	90	B2-U3-G2	10,365	95	B2-U3-G2	10,458	95	B2-U3-G2	10,899	99	B1-U3-G2
TVPC-48-G1-5-x-740	48	530	4000	82	8,554	105	B2-U3-G2	8,954	110	B1-U3-G2	9,034	111	B2-U3-G2	9,415	115	B1-U3-G2
TVPC-48-G1-7-x-740	48	700	4000	106	10,738	101	B2-U3-G2	11,240	106	B2-U3-G2	11,341	107	B2-U3-G2	11,819	112	B2-U3-G2

Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout - contact Applications at outdoorlighting.applications@philips.com. Consult DLC QPL to confirm your specific fixture selection is DLC approved.

Note: Some data may be scaled based on tests of similar but not identical luminaries.

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TVPC/TVPR TownView

Post top and arm mount luminaire

LED Lumen values - TVPC (Visual Comfort Panels and House-side shield)

Ordering Code	LED qty.	System Current (mA).	Color Temp.	Avg. System Wattage (W)	Type 2SH			Type 3SH			Type 3WSH		
					Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
TVPC-16-G1-5-x-730	16	530	3000	29	2,094	72	B0-U2-G1	2,322	80	B0-U2-G1	2,155	75	B1-U2-G1
TVPC-16-G1-7-x-730	16	700	3000	38	2,649	70	B1-U2-G1	2,938	77	B1-U2-G1	2,726	72	B1-U3-G1
TVPC-16-G1-9-x-730	16	900	3000	49	3,251	66	B1-U2-G1	3,605	74	B1-U3-G1	3,345	68	B1-U3-G1
TVPC-16-G1-1-x-730	16	1050	3000	57	3,664	64	B1-U2-G1	4,062	71	B1-U2-G1	3,770	66	B1-U3-G1
TVPC-32-G1-5-x-730	32	530	3000	53	4,018	75	B1-U3-G1	4,362	82	B1-U3-G1	4,291	80	B1-U3-G1
TVPC-32-G1-7-x-730	32	700	3000	70	5,073	72	B1-U3-G1	5,507	78	B1-U3-G1	5,417	77	B1-U3-G2
TVPC-32-G1-8-x-730	32	800	3000	80	5,645	70	B1-U3-G1	6,128	76	B1-U3-G1	6,028	75	B1-U3-G1
TVPC-32-G1-1-x-730	32	1050	3000	108	7,091	65	B1-U3-G1	7,698	71	B1-U3-G2	7,572	70	B1-U3-G2
TVPC-48-G1-5-x-730	48	530	3000	81	6,126	76	B1-U3-G1	6,650	82	B1-U3-G1	6,541	81	B1-U3-G2
TVPC-48-G1-7-x-730	48	700	3000	105	7,690	73	B1-U3-G2	8,348	80	B1-U3-G2	8,211	78	B1-U3-G2
TVPC-16-G1-5-x-740	16	530	4000	29	2,302	79	B0-U2-G1	2,553	87	B0-U2-G1	2,369	81	B1-U2-G1
TVPC-16-G1-7-x-740	16	700	4000	39	2,913	76	B1-U2-G1	3,230	84	B1-U2-G1	2,997	78	B1-U3-G1
TVPC-16-G1-9-x-740	16	900	4000	49	3,574	72	B1-U2-G1	3,963	80	B1-U3-G1	3,678	74	B1-U3-G1
TVPC-16-G1-1-x-740	16	1050	4000	58	4,028	70	B1-U2-G1	4,466	78	B1-U2-G1	4,145	72	B1-U3-G1
TVPC-32-G1-5-x-740	32	530	4000	54	4,418	82	B1-U3-G1	4,796	89	B1-U3-G1	4,718	87	B1-U3-G1
TVPC-32-G1-7-x-740	32	700	4000	71	5,577	79	B1-U3-G1	6,055	85	B1-U3-G1	5,955	84	B1-U3-G2
TVPC-32-G1-8-x-740	32	800	4000	81	6,207	76	B1-U3-G1	6,738	83	B1-U3-G1	6,628	82	B1-U3-G1
TVPC-32-G1-1-x-740	32	1050	4000	110	7,796	71	B1-U3-G1	8,464	77	B1-U3-G2	8,325	76	B1-U3-G2
TVPC-48-G1-5-x-740	48	530	4000	82	6,735	82	B1-U3-G1	7,312	89	B1-U3-G1	7,192	88	B1-U3-G2
TVPC-48-G1-7-x-740	48	700	4000	106	8,454	80	B1-U3-G2	9,178	87	B1-U3-G2	9,028	85	B1-U3-G2

LED Lumen values - TVPR (Vertical Ribbed Panels)

Ordering Code	LED qty.	System Current (mA).	Color Temp.	Avg. System Wattage (W)	Type 2S			Type 3S			Type 3W			Type 5		
					Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
TVPR-16-G1-5-x-730	16	530	3000	29	2,750	95	B1-U2-G1	2,940	102	B1-U2-G1	2,920	101	B1-U3-G1	3,096	107	B2-U3-G1
TVPR-16-G1-7-x-730	16	700	3000	38	3,479	91	B1-U2-G1	3,719	98	B1-U2-G1	3,694	97	B1-U3-G1	3,917	103	B2-U3-G1
TVPR-16-G1-9-x-730	16	900	3000	49	4,269	87	B1-U3-G1	4,564	93	B1-U3-G1	4,533	93	B1-U3-G1	4,806	98	B3-U3-G1
TVPR-16-G1-1-x-730	16	1050	3000	57	4,811	85	B1-U3-G1	5,144	90	B1-U3-G1	5,109	90	B1-U3-G1	5,417	95	B3-U3-G1
TVPR-32-G1-5-x-730	32	530	3000	53	5,380	101	B1-U3-G1	5,602	105	B1-U3-G1	5,611	105	B1-U3-G1	5,884	110	B3-U3-G2
TVPR-32-G1-7-x-730	32	700	3000	70	6,792	97	B2-U3-G2	7,071	101	B1-U3-G2	7,083	101	B1-U3-G2	7,428	106	B3-U3-G2
TVPR-32-G1-8-x-730	32	800	3000	80	7,558	94	B2-U3-G2	7,869	98	B1-U3-G2	7,882	98	B2-U3-G2	8,266	103	B3-U3-G2
TVPR-32-G1-1-x-730	32	1050	3000	108	9,494	88	B2-U3-G2	9,885	91	B2-U3-G2	9,901	91	B2-U3-G2	10,383	96	B4-U3-G2
TVPR-48-G1-5-x-730	48	530	3000	81	8,202	102	B2-U3-G2	8,539	106	B2-U3-G2	8,553	106	B2-U3-G2	8,970	111	B4-U3-G2
TVPR-48-G1-7-x-730	48	700	3000	105	10,296	98	B2-U3-G2	10,720	102	B2-U3-G2	10,737	102	B2-U3-G2	11,260	107	B4-U3-G2
TVPR-16-G1-5-x-740	16	530	4000	29	3,023	103	B1-U2-G1	3,232	111	B1-U2-G1	3,210	110	B1-U3-G1	3,404	116	B2-U3-G1
TVPR-16-G1-7-x-740	16	700	4000	39	3,825	99	B1-U2-G1	4,089	106	B1-U2-G1	4,062	105	B1-U3-G1	4,306	112	B2-U3-G1
TVPR-16-G1-9-x-740	16	900	4000	49	4,693	95	B1-U3-G1	5,018	101	B1-U3-G1	4,984	101	B1-U3-G1	5,284	107	B3-U3-G1
TVPR-16-G1-1-x-740	16	1050	4000	58	5,290	92	B1-U3-G1	5,655	98	B1-U3-G1	5,617	98	B1-U3-G1	5,955	104	B3-U3-G1
TVPR-32-G1-5-x-740	32	530	4000	54	5,915	110	B1-U3-G1	6,159	114	B1-U3-G1	6,169	114	B1-U3-G1	6,469	120	B3-U3-G2
TVPR-32-G1-7-x-740	32	700	4000	71	7,467	105	B2-U3-G2	7,775	110	B1-U3-G2	7,787	110	B1-U3-G2	8,166	115	B3-U3-G2
TVPR-32-G1-8-x-740	32	800	4000	81	8,310	102	B2-U3-G2	8,652	106	B2-U3-G2	8,666	107	B2-U3-G2	9,088	112	B3-U3-G2
TVPR-32-G1-1-x-740	32	1050	4000	110	10,438	95	B2-U3-G2	10,868	99	B2-U3-G2	10,886	99	B2-U3-G2	11,416	104	B4-U3-G2
TVPR-48-G1-5-x-740	48	530	4000	82	9,017	110	B2-U3-G2	9,389	115	B2-U3-G2	9,404	115	B2-U3-G2	9,862	121	B4-U3-G2
TVPR-48-G1-7-x-740	48	700	4000	106	11,319	107	B2-U3-G2	11,786	111	B2-U3-G2	11,805	111	B2-U3-G2	12,379	117	B4-U3-G2

Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout - contact Applications at outdoorlighting.applications@philips.com. Consult DLC QPL to confirm your specific fixture selection is DLC approved.

Note: Some data may be scaled based on tests of similar but not identical luminaries.

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TVPC/TVPR TownView

Post top and arm mount luminaire

LED Lumen values – TVPR (Vertical Ribbed Panels and House-side shield)

Ordering Code	LED qty.	System Current (mA).	Color Temp.	Avg. System Wattage (W)	Type 2SH			Type 3SH			Type 3WSH		
					Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating	Lumen Output	Efficacy (LPW)	BUG Rating
TVPR-16-G1-5-x-730	16	530	3000	29	2,210	76	B1-U2-G1	2,457	85	B1-U2-G1	2,265	78	B1-U3-G1
TVPR-16-G1-7-x-730	16	700	3000	38	2,796	73	B1-U2-G1	3,108	82	B1-U2-G1	2,865	75	B1-U3-G1
TVPR-16-G1-9-x-730	16	900	3000	49	3,431	70	B1-U3-G1	3,814	78	B1-U3-G1	3,516	72	B1-U3-G1
TVPR-16-G1-1-x-730	16	1050	3000	57	3,866	68	B1-U3-G1	4,299	76	B1-U3-G1	3,963	70	B1-U3-G1
TVPR-32-G1-5-x-730	32	530	3000	53	4,265	80	B1-U3-G1	4,610	86	B1-U3-G1	4,476	84	B1-U3-G1
TVPR-32-G1-7-x-730	32	700	3000	70	5,385	77	B1-U3-G1	5,820	83	B1-U3-G1	5,651	80	B1-U3-G2
TVPR-32-G1-8-x-730	32	800	3000	80	5,992	75	B1-U3-G1	6,476	81	B1-U3-G1	6,288	78	B1-U3-G2
TVPR-32-G1-1-x-730	32	1050	3000	108	7,527	69	B2-U3-G2	8,135	75	B2-U3-G2	7,899	73	B2-U3-G2
TVPR-48-G1-5-x-730	48	530	3000	81	6,502	80	B1-U3-G2	7,028	87	B1-U3-G2	6,824	84	B1-U3-G2
TVPR-48-G1-7-x-730	48	700	3000	105	8,162	78	B2-U3-G2	8,822	84	B2-U3-G2	8,566	82	B2-U3-G2
TVPR-16-G1-5-x-740	16	530	4000	29	2,430	83	B1-U2-G1	2,701	92	B1-U2-G1	2,490	85	B1-U3-G1
TVPR-16-G1-7-x-740	16	700	4000	39	3,074	80	B1-U2-G1	3,418	89	B1-U2-G1	3,150	82	B1-U3-G1
TVPR-16-G1-9-x-740	16	900	4000	49	3,772	76	B1-U3-G1	4,193	85	B1-U3-G1	3,866	78	B1-U3-G1
TVPR-16-G1-1-x-740	16	1050	4000	58	4,251	74	B1-U3-G1	4,726	82	B1-U3-G1	4,357	76	B1-U3-G1
TVPR-32-G1-5-x-740	32	530	4000	54	4,690	87	B1-U3-G1	5,068	94	B1-U3-G1	4,921	91	B1-U3-G1
TVPR-32-G1-7-x-740	32	700	4000	71	5,920	83	B1-U3-G1	6,398	90	B1-U3-G1	6,213	88	B1-U3-G2
TVPR-32-G1-8-x-740	32	800	4000	81	6,588	81	B1-U3-G1	7,120	88	B1-U3-G1	6,914	85	B1-U3-G2
TVPR-32-G1-1-x-740	32	1050	4000	110	8,276	76	B2-U3-G2	8,944	82	B2-U3-G2	8,685	79	B2-U3-G2
TVPR-48-G1-5-x-740	48	530	4000	82	7,149	88	B1-U3-G2	7,727	95	B1-U3-G2	7,502	92	B1-U3-G2
TVPR-48-G1-7-x-740	48	700	4000	106	8,974	85	B2-U3-G2	9,699	92	B2-U3-G2	9,418	89	B2-U3-G2

Actual performance may vary due to installation variables including optics, mounting/ceiling height, dirt depreciation, light loss factor, etc.; highly recommended to confirm performance with a layout - contact Applications at outdoorlighting.applications@philips.com. Consult DLC QPL to confirm your specific fixture selection is DLC approved.

Note: Some data may be scaled based on tests of similar but not identical luminaries.

Specifications

Housing

Roof and Cage: Two Style options
C: Curved Roof and **S:** Square Roof. Tool-less latch made of stainless steel allows for quick access inside of the hinged roof to locate the driver, surge protector and optional FAWs (field adjustable wattage solution). Roof and Cage made of 360 low-copper die-cast. aluminum alloy. Decorative Cupola on top of roof covers the 7 pin NEMA socket.

Panels: Two panel options made of U.V. Stabilized Acrylic.
C: Visual Comfort panels help to eliminate glare and pixelization and give a soft glow at night
R: Vertical Ribbed panels, for a clear look during the day and performance at night
All panels have tool-less removal for ease of cleaning or replacement. (exception for arm mount)

Fitter: Two fitter options. **L:** Large Utility Fitter with tool-less door to access the terminal block and wiring. Available in 3" or 4"
Or **S:** Small Fitter. Small fitter available in 2" 3/8, 3" or 4". Large 4" fitter uses a secondary adaptor to achieve 4" opening.

Light Engine

Composed of 4 main components: **LED Module / Optical System / Heat Sink / Driver.** Electrical components are RoHS compliant, IP66 sealed light engine LEDs tested by ISO 17025-2005 accredited lab in accordance with IESNA LM-80 guidelines, extrapolations in accordance with IESNA TM-21. Metal core board ensures greater heat transfer and longer lifespan.

LED Module

Composed of high-performance white LEDs. Color temperature as per ANSI/NEMA bin 2700 Kelvin nominal (2725 ±145K) CRI 80 min, 3000 Kelvin nominal (3045K +/- 175K) or 4000 Kelvin nominal (3985K +/- 275K), CRI 70 Min. 75 Typical. Other CCT/CRI also available, consult factory.

Heat Sink

Made of die cast aluminum optimizing the LEDs efficiency and life. Product does not use any cooling device with moving parts (only passive cooling device). Entire luminaire is rated for operation in ambient temperature of -40°C / -40°F up to +40°C / +104°F.

Optical System

Composed of high performance UV stabilized optical grade polymer refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. System is rated IP66. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance. Type **2S, 3S, 3W** and **Type 5** Street side indicated. House side shield optional (can be field installed) **2SH:** Type 2 with House Side Shield, **3SH:** Type 3 short with house side shield, **3WH:** Type 3 Wide with House side shield

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TVPC/TVPR TownView

Post top and arm mount luminaire

Specifications (continued)

Driver:

Driver comes standard with 0-10V dimming capability. High power factor of 95%. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277, 347 and 480 VAC rated for both application line to line or line to neutral, Class I, THD of 20% max. Maximum ambient operating temperature from 40°F (4°C) to 130°F (55°C). Certified in compliance to UL1310 cULus requirement (dry and damp location).] The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built in driver surge protection of 2.5kV (min).

Integrated Features

R7*: Tool less rotatable receptacle with 7 pins enabling dimming and additional functionality (to be determined), can be used with a twist lock Interact City node or photoelectric cell or a shorting cap.

SP1: Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with DOE MSSLC Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA.

SP2: Optional 20kV / 10kA surge protection device that provides extra protection beyond the SP1 10kV/10kA level.

NEMA Labels: Installed NEMA label, ANSI C136.15-2015 compliant. Consult factory for other labeling needs.

Please note that these integrated features always come with the luminaire.

** Use of photoelectric cell or shorting cap is required to ensure proper illumination.*

Driver and Luminaire Options

Dimming Options:

DA: 4 Hrs 25% reduction
DB: 4 Hrs 50% reduction
DC: 4 Hrs 75% reduction
DD: 6 Hrs 25% reduction
DE: 6 Hrs 50% reduction
DF: 6 Hrs 75% reduction
DG: 8 Hrs 25% reduction
DH: 8 Hrs 50% reduction
DJ: 8 Hrs 75% reduction

DL: Pre-set driver compatible with the DALI control system. Logarithmic standard

SRD: Sensor Ready Driver including SR communication (used for dimming and other functionalities), 24V auxiliary supply and a logical signal input (LSI) connected to the top NEMA twist lock receptacle and bottom **TLRSR** receptacle, if this option included/ chosen. This configuration is compatible with Interact City controllers.

AST: Pre-set driver for progressive start-up of the LED module(s) to optimize energy management and enhance visual comfort at start-up.

CLO: Pre-set driver to manage the lumen depreciation by adjusting the power given to the LEDs offering the same lighting intensity during the entire lifespan of the LED module.

OTL: Pre-set driver to signal end of life of the LED module(s) for better fixture management.

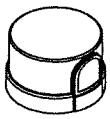
FAWS: Field Adjustable Wattage Selector, pre-set to the highest position, can be easily switched in the field to the required position. This reduces total luminaire wattage consumption and reduces the light level – see the FAWS multiplier chart for more details.

Note: It is not recommended to use FAWS with other dimming or controls; if you do, set the switch to position 10 (maximum output) to enable the other dimming or controls. Switching FAWS to any position other than 10 will disable the other dimming or controls.

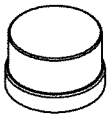
DALI: Pre-set driver compatible with DALI contorl system.

SRD: Sensor Ready Driver including SR communication (used for dimming and other functionalities), 24V auxiliary supply and a logical signal input (LSI) connected to the top NEMA twist lock receptacle. SRD1: Sensor Ready Driver including SR communication (used for dimming and other functionalities) but with 24V auxiliary supply and a logical signal input (LSI) not connected to the top NEMA twist lock.

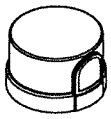
PH8: 7 Pin Tooless rotatable standard - with photocell. Photocell has dimensional limits: 3" dia x 2" tall (for non black finishes only)



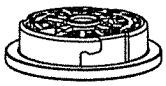
PH9: 7 Pin Tooless rotatable standard - with shorting cap



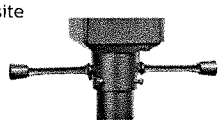
PHX: 7 Pin Tooless rotatable standard - with long life photocell. Photocell has dimensional limits: 3" dia x 2" tall (for non black finishes only)



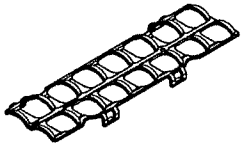
SR: Sensor ready receptacle located on the heat sink between two LED boards. Cannot be combined With 16 or 48 LED's or horizontal lens. Contact factory for use with panel **TVP** options.



L: Decorative Ladder Rest. Ships in the box, install on site



2H, 3SH, 3WH: House side shield option



Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

TVPC/TVPR TownView

Post top and arm mount luminaire

Specifications (continued)

Luminaire Useful Life

Refer to IES files for energy consumption and delivered lumens for each option. Based on ISTMT in situ thermal testing in accordance with UL1598 and UL8750, System Reliability Tool, Philips Advance data and LED manufacturer LM-80/TM-21 data, expected to reach 100,000 + hours (72W32LED and 108W48LED at 700mA) or 94,500 hours (108W32LED and 160W48LED at 1050mA) with >L70 lumen maintenance @ 25°C. Luminaire Useful Life accounts for LED lumen maintenance AND all of these additional factors including: LED life, driver life, PCB substrate, solder joints, on/off cycles, burning hours and corrosion.

Wiring

18AWG wire, 6" (15mm) minimum extending from luminaire.

Optional Terminal block

Terminal block connector 600V, 85A for use with #14-2 AWG wires from the primary circuit, located inside the housing. Due to the inrush current that occurs with electronic drivers, recommend using a 10Amp time-delay fuse to avoid unwanted fuse blowing (false tripping) that can occur with normal or fast acting fuses. Fuses and holders by others or consult factory

Hardware

All non-ferrous fasteners prevent corrosion and ensure longer life. All seals and sealing devices are made and/or lined with EPDM silicone rubber.

Finish

Color in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (4 mils/100 microns) with 1 mils / 24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard. The surface treatment achieves a minimum of 2000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.

BKS: Black Smooth
WHS: White Smooth
BZS: Bronze Smooth
GNS: Green Smooth
BK: Black Texture
WH: White Texture
BZ: Bronze Texture
GN: Green Texture

LED products manufacturing standard

The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340-5-1 and ANSI/ESD S20.20 standards to eliminate ESD events that could decrease the useful life of the product.

Vibration Resistance

S2, S3, S4 Fitter and A Arm Mount Meets the ANSI C136.31, American National Standard for Roadway Luminaire Vibration specifications for Bridge/overpass applications (Tested for 3G over 100,000 cycles).

Certifications and Compliance

cETL listed to Canadian safety standards for wet locations. Manufactured to ISO 9001:2008 Standards. UL8750 and UL1598 compliant. ETL listed to U.S. safety standards for wet locations. cETL listed to Canadian safety standards for wet locations. LM80 & LM79 tested. Listed on the DesignLights TM Consortium (DLC) Qualified Products List (QPL).ANSI C136 standards: .2, .3, .10, .14, .15, .22, .25, .31, .37, .41.

Service Tag

Each individual luminaire is uniquely identifiable, thanks to the Service tag application. With a simple scan of a QR code, placed on the inside of the mast door, you gain instant access to the luminaire configuration, making installation and maintenance operations faster and easier, no matter what stage of the luminaire's lifetime. Just download the APP and register your product right away.
For more details visit: philips.com/servicetag

Limited Warranty

5 year standard warranty. Options available for extended warranties – contact factory.
See signify.com/warranties for details and restrictions.

Brackets and Poles

Visit the website for pole and post top bracket options.

Attachment: SP-2022-03_A_drawings_051624 (28829 : SP-2022-03_A, 4300 Millersport Hwy)

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Telephone 800-668-9009

www.hadco.com

Amherst Planning Board
5583 Main Street
Williamsville, NY 14221

ADOPTED

Meeting: 05/16/24 06:30 PM
Department: Planning
Category: Site Plan and Relief from Conditions of Site Plan
Prepared By: Amy Carrato
Initiator: Dan Howard
Sponsors:
DOC ID: 28830

PLANNING BOARD ITEM (ID # 28830)

Proposed Commercial/Apartment Building, SP-2024-03

Property located at 6812, 6814 & 6832 Main Street and 29 & 37 Tennyson Terrace
6812 Main Street LLC, Petitioner

Proposed demolition of an existing single-family home and an existing commercial building and construction of a commercial/apartment building consisting of 13,500± sf of commercial space and 34 residential apartments for lease.

Sean Hopkins, Esq., Hopkins Sorgi & McCarthy, represented the petitioner, explained the proposal and was available to answer questions from the Board. Pat Sheedy, Carmina Wood Design, Dave Sutton, Sutton Architecture, and Paul Bliss were also present.

In response to the Board's questions, Mr. Hopkins stated the exterior of the buildings will be consist to the neighboring buildings.

Kathleen McHugh, 64 Tennyson Terrace, and Jane & Wayne Dietz, 61 Tennyson Terrace, spoke in opposition of the proposal. Sean Brennan, 43 Caesar Boulevard, spoke in favor of the proposal.

No further comments were heard on this proposal. The hearing was closed.

Following discussion, Ms. Kahn moved to approve the Negative Declaration. The motion was seconded by Mr. Raffaele and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

Following the approval of the Negative Declaration, Mr. Gill moved to approve the request based on the resolution. The motion was seconded by Mr. Raffaele and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

ATTACHMENTS:

- SP-2024-03_application_051624 (PDF)
- SP-2024-03_drawings_051624 (PDF)
- SP-2024-03 signed neg dec 051624 (PDF)
- SP-2024-03 signed resolution 051624 (PDF)

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Harbinder Gill, Board Member
SECONDER:	Joseph P. Raffaele Jr., Board Member
AYES:	Chmiel, Gill, Kahn, Penberthy, Raffaele Jr.
ABSENT:	John B. Davis, Dal Giuliani

Major Site Plan Application & Supporting Documentation - Proposed Mixed-Use Redevelopment Project - 6812, 6814 & 6832 Main Street and 29 & 37 Tennyson Terrace
Applicant: 6812 Main Street, LLC
Date: March 25, 2024

TOWN OF AMHERST PLANNING DEPARTMENT

Application for Major Site Plan Review

For Official Use

File #: _____ **Acreage** _____ **Fee $** _____

Address Verified by Assessor's Office _____ (VERIFIED BY / DATE)

Materials Received by Planning Department _____ (RECEIVED BY / DATE)

Fee Paid to Town Clerk _____ (RECEIVED BY / DATE)

Site Plan Review		**Fill In Applicable Fees**
1 acre or less	$1,250.00	_____
Each additional acre or fraction thereof	$ 650.00/acre	_____
Amendments to Site Plans	$1,200.00	_____
Request for Relief of / Change to Conditions of Site Plan Approval	$1,200.00	_____
Request for Extension of Site Plan Approval	$ 450.00	_____
Stormwater Pollution Prevention Plan		
1 - 4.99 Acres	$ 500.00	_____
5 - 10 Acres	$ 750.00	_____
>10 Acres	$1,000.00	_____
Affidavit Fee for Public Hearing	$ 15.00	_____
	TOTAL FEE:	**$**_____

To Be Completed By Applicant

Petitioner:

Name: 6812 Main Street, LLC c/o Sean Hopkins, Esq.

Address: 5500 Main Street, Suite 343

Williamsville (city) NY (state) 14221 (zip code)

Phone: 716-510-4338 Fax: _____

E Mail: shopkins@hsmlegal.com

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

MAJOR SITE PLAN APPLICATION (con't) ***Page 2***

Representative (Architect, Engineer, Landscape Architect, Surveyor, or Attorney)**:**

Name: Carmina Wood Design - Patrick Sheedy Jr, PE

Address: 487 Main Street, Suite 500

Buffalo (city) NY (state) 14203 (zip code)

Phone: 716-842-3165 Fax:

E Mail: psheedy@carminawooddesign.com

Project Location (must be verified by Town Assessor's Office)**:**

Address: 6812, 6814 & 6832 Main Street and 29 & 37 Tennyson Terrace

SBL No(s): 70.17-3-11, 70.17-3-12, 70.17-3-13, 70.17-3-14, 70.17-3-15

Project Name: Mixed-Use Redevelopment Project

Project Description: Proposed 4/5 story mixed use building consisting of approximately 13,500 sf of commercial space and 34 residential multi-family units with associated site, lighting and landscaping improvements. The Project Site is currently developed with a commercial use building and associated parking lot, and a single family residential house all of which are to be demolished.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

If this petition is an amendment to a previously approved site plan, please describe the proposed changes (include type and size of existing structures and number of existing parking spaces):

	existing	proposed	total
Gross Floor Area (non-residential):	15,150 sf	14,748 sf	14,748 sf
Gross Floor Area Residential:	n/a	51,618 sf	51,618 sf
Number of Residential Units:	n/a	34	34
Number of Parking Spaces:	57	117	117

Acreage of Parcel:
(list each parcel separately)
6812 Main St - 0.28 ac, 6814 Main St - 0.44 ac, 6832 Main St - 0.41 ac
29 Tennyson Terr. - 0.63 ac, 37 Tennyson Terr. - 0.47 ac

Frontage on Public Roads:
(list each road separately)
Main St - 227.40'
Tennyson Terrace - 410.07'

Existing Zoning District(s)
GB & MFR-5

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Exhibit 1 – Part 1 of Full Environmental Assessment Form with Attached Page 5[a] and Attachments "A" to "C"

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Full Environmental Assessment Form
Part 1 - Project and Setting

Prepared By: Sean Hopkins, Es
Hopkins Sorgi & McCarthy PL
5500 Main Street, Suite 343
Williamsville, NY 14221
Tel: 510-4338
E-mail: shopkins@hsmlegal.com

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Mixed-Use Redevelopment Project		
Project Location (describe, and attach a general location map): 6812, 6814 & 6832 Main Street and 29 & 37 Tennyson Terrance - Town of Amherst		
Brief Description of Proposed Action (include purpose or need): The proposed project ("action") consists of the redevelopment of the five parcels comprising the Project Site at 6812, 6814 & 6832 Main Street and 29 and 37 Tennyson Terrance (the "Project Site") to accommodate the proposed mixed-use redevelopment project consisting of 13,500 sq. ft. of first floor commercial space and 34 upper floor apartments along with all proposed site improvements and the demolition of the existing structures. The project layout is depicted on the Site Plan [Drawing C-100] prepared by Carmina Wood Design. The proposed action has been defined broadly to include all required discretionary approvals and permits as well as all proposed site improvements including proposed mixed-use building, detached garage buildings, access aisles and parking spaces, lighting, storm water management improvements and all required utility improvements. The project purpose is to redevelop the Project Site for a mixed-use project per the recommended land use in the Town's adopted Comprehensive Plan. The Project Sponsor believes the project will not result in any potentially significant adverse environmental impacts and that the issuance of a negative declaration by the Planning Board is both appropriate and justified. Copies of the negative declarations issued by the Zoning Board of Appeals pursuant to SEQRA on February 13, 2024 and December 19, 2023 are provided at Attachments "A" and "B" of this Part 1 of the Full EAF.		
Name of Applicant/Sponsor: 6812 Main Street, LLC c/o Sean Hopkins, Esq.	Telephone: 716.510-4338 E-Mail: shopkins@hsmlegal.com	
Address: 5500 Main Street, Suite 343		
City/PO: Williamsville	State: NY	Zip Code: 14221
Project Contact (if not same as sponsor; give name and title/role): Same as above	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): Same as above.	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☐Yes ☑No		
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	Planning Board - Site Plan Approval	March 25, 2024
c. City, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☑Yes ☐No	Town of Amherst IDA - PILOT, Eng. Dept - Stormwater Permit; High. Dept. - Curt Cut Permit	TBD
e. County agencies ☑Yes ☐No	ECDOH & ECWA [Water]	TBD
f. Regional agencies ☐Yes ☐No		
g. State agencies ☑Yes ☐No	NYSDOT, NYSDEC - DSCA	TBD
h. Federal agencies ☐Yes ☐No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☐No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☐No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☐Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

NYS Heritage Areas:West Erie Canal Corridor

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes ☐No

If Yes, identify the plan(s):

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
General Business District ("GB") and Multifamily Residential District Five ("MFR-5")

b. Is the use permitted or allowed by a special or conditional use permit? ☐ Yes ☑ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☐ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Williamsville Central School District

b. What police or other public protection forces serve the project site?
Town of Amherst Police Department

c. Which fire protection and emergency medical services serve the project site?
Main-Transit Fire Department

d. What parks serve the project site?
There are various Town parks that will be accessible to the residents of the mixed-use project.

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Mixed-use project consisting of 1st floor commercial space and upper floor apartments.

b. a. Total acreage of the site of the proposed action? 2.16 acres
b. Total acreage to be physically disturbed? 2.16 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 2.16 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☐ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☐ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☐ No
i. If No, anticipated period of construction: _____ months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

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3.a

f. Does the project include new residential uses? ☑ Yes ☐ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				34
At completion of all phases				34

g. Does the proposed action include new non-residential construction (including expansions)? ☑ Yes ☐ No

If Yes,

i. Total number of structures 1

ii. Dimensions (in feet) of largest proposed structure: 13 height; 65 width; and 215 length

iii. Approximate extent of building space to be heated or cooled: 13,500 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐ Yes ☐ No

If Yes,

i. Purpose of the impoundment: Stormwater management

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☑ Other specify: Stormwater runoff generated from onsite facilites

iii. If other than water, identify the type of impounded/contained liquids and their source.

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: 0.15 acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐ Yes ☐ No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)

If Yes:

i .What is the purpose of the excavation or dredging?

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards):
- Over what duration of time?

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No
If yes, describe.

v. What is the total area to be dredged or excavated? _____acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐ Yes ☐ No

ix. Summarize site reclamation goals and plan:

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐ Yes ☐ No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description):

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres: _____

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No
If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☐ No
If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

c. Will the proposed action use, or create a new demand for water? ☑ Yes ☐ No
If Yes:

i. Total anticipated water usage/demand per day: 11,154 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑ Yes ☐ No
If Yes:

- Name of district or service area: Erie County Water Authority
- Does the existing public water supply have capacity to serve the proposal? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No
- Do existing lines serve the project site? ☑ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☐ No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____
- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☐ No
If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑ Yes ☐ No
If Yes:

i. Total anticipated liquid waste generation per day: 10,140 gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____
sanitary wastewater

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑ Yes ☐ No
If Yes:

- Name of wastewater treatment plant to be used: Town of Amherst Wastewater Treatment Facility
- Name of district: Town of Amherst
- Does the existing wastewater treatment plant have capacity to serve the project? ☑ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

- Do existing sewer lines serve the project site? ☑ Yes ☐ No
- Will a line extension within an existing district be necessary to serve the project? ☐ Yes ☑ No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐ Yes ☐ No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

_____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑ Yes ☐ No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 1.35 acres (impervious surface)

_____ Square feet or 2.16 acres (parcel size)

ii. Describe types of new point sources. building roofs, parking surfaces

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

on site stormwater management facility

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐ Yes ☐ No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐ Yes ☐ No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐ Yes ☐ No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐ Yes ☐ No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐ Yes ☐ No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☐No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

_____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☐No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☐No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

_____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

To be determined.

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

National Grid

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☑No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7 am - 5 pm
- Saturday: as needed
- Sunday: n/a
- Holidays: n/a

ii. During Operations:

- Monday - Friday: based on tenant
- Saturday: based on tenant
- Sunday: based on tenant
- Holidays: based on tenant

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

The project will result in short-term unavoidable noise impacts during construction resulting from construction activities during hours as listed above previously.

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☑ No

Describe: _____

n. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

All lighting to be dark sky compliant and shall meet the Town's stringent lighting standards.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☐ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☐ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☐ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: 2-5 tons per week (unit of time)
- Operation : 1 tons per week (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: Not applicable
- Operation: Town of Amherst recycling program.

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: To be handled by site contractor
- Operation: Contract with waste disposal company

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☐

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☐ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	1.20	1.35	+ 0.15
• Forested	0.0	0.0	0.0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0.0	0.0	0.0
• Agricultural (includes active orchards, field, greenhouse etc.)	0.0	0.0	0.0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.0	0.0	0.0
• Wetlands (freshwater or tidal)	0.0	0.0	0.0
• Non-vegetated (bare rock, earth or fill)	0.0	0.0	0.0
• Other Describe: grass/landscape areas	0.96	0.81	- 0.15

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☐ No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐ Yes ☐ No
If Yes,
i. Identify Facilities:
_____
_____

e. Does the project site contain an existing dam? ☐ Yes ☐ No
If Yes:
i. Dimensions of the dam and impoundment:
- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection:
_____
_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☐ No
If Yes:
i. Has the facility been formally closed? ☐ Yes ☐ No
- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:
_____
_____
iii. Describe any development constraints due to the prior solid waste activities: _____
_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☐ No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:
_____
_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐ Yes ☐ No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐ Yes ☐ No
☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____
☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____
☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures:_____
_____
_____
iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐ Yes ☑ No
If yes, provide DEC ID number(s): _____
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):
_____
_____

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☐ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 2 feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☐ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____%

c. Predominant soil type(s) present on project site:

Newstead Loam	68 %
Wassaic silt loam	32 %
	%

d. What is the average depth to the water table on the project site? Average: 2 feet

e. Drainage status of project site soils:
☐ Well Drained: _____% of site
☑ Moderately Well Drained: 100 % of site
☐ Poorly Drained _____% of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 100 % of site
☐ 10-15%: _____% of site
☐ 15% or greater: _____% of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☐ Yes ☑ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☐ Yes ☑ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☐ Yes ☑ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100-year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500-year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:

i. Name of aquifer: _____

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

m. Identify the predominant wildlife species that occupy or use the project site: _____
Typical suburban species _____ _____ _____
_____ _____ _____

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation): _____
_____
ii. Source(s) of description or evaluation: _____
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐ Yes ☑ No

If Yes:
i. Species and listing (endangered or threatened): _____
_____
_____

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

If Yes:
i. Species and listing: _____
_____

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☐ No
If yes, give a brief description of how the proposed action may affect that use: _____
_____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No
If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☐ No
i. If Yes: acreage(s) on project site? _____
ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____
_____
_____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No
If Yes:
i. CEA name: _____
ii. Basis for designation: _____
iii. Designating agency and date: _____

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☑ Yes ☐ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: Eligible property:M&T Bank Branch

iii. Brief description of attributes on which listing is based:

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

[Copy of the No Impact Determination Letter issued by SHPO on March 11, 2024 is provided at Attachment "C"].

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☐ No

If Yes:

i. Describe possible resource(s):

ii. Basis for identification:

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☑ Yes ☐ No

If Yes:

i. Identify resource: Glen Park

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): Local Park

iii. Distance between project and resource: 2.15 miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation:

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name 6812 Main Street, LLC Date March 25, 2024

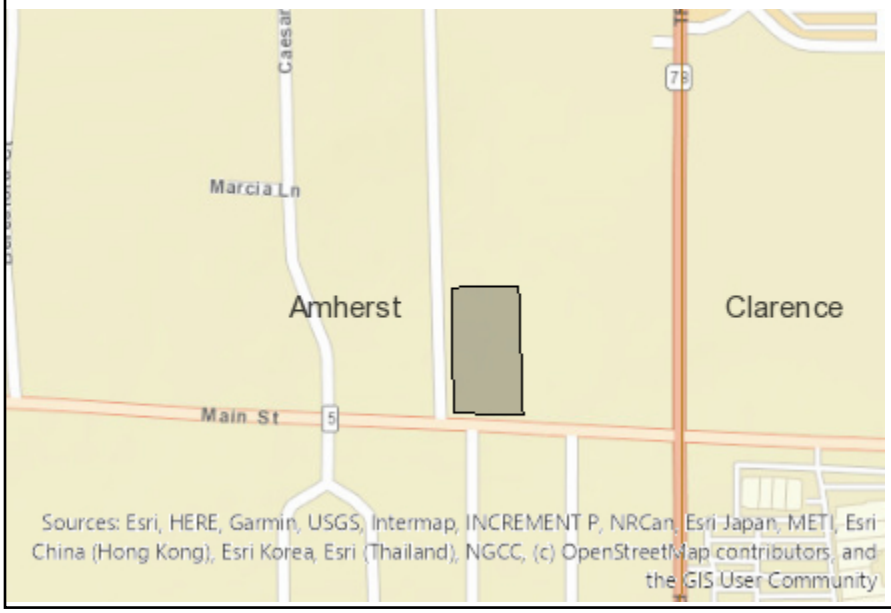
Signature Sean Hopkins Title Attorney for Applicant/Project Sponsor

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

PRINT FORM

EAF Mapper Summary Report

Friday, August 11, 2023 11:41 AM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYS Heritage Areas:West Erie Canal Corridor
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	No
E.2.h.iii [Surface Water Features]	No
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
E.2.p. [Rare Plants or Animals]	No

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National or State Register of Historic Places or State Eligible Sites - Name]	Eligible property:M&T Bank Branch
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

3.a

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

TOWN OF AMHERST ATTACHMENT
State Environmental Quality Review
ENVIRONMENTAL ASSESSMENT FORM

1. For each applicable category of proposed new structures, including additions to existing structures, provide the following information for all soil types on the project site (*according to Soil Survey of Erie County, NY; Table 11, Building Site Development, pp 294-305):*

Soil Name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Newstead Loam	✔				
Wassaic silt loam	✔				

2. If the Soil survey indicates either "severe" or "moderate" suitability for the proposed types of construction, a geotechnical and hydrological analysis based on one test per 3.5 acres of project area must be provided (per Town Board resolution, 3/17/03, amended 6/16/03).

[to be submitted at a later date] ✔ Geotechnical report attached _____ Not applicable

3. Is your property located: On Youngs Road between Dodge and Klein Roads? ☐ Yes ☑ No
On Wehrle Dr. between Spindrift Dr. and Oakwood Rd? ☐ Yes ☑ No

If so, the property may be within an area of the Town that is affected by a moratorium on connections to the sanitary sewer system.

4. Are there alternative locations on the site for this project? ☐ Yes ☑ No

5. Location and size of real property owned by petitioner within one (1) mile of subject proposal:
6790 Main Street - 2.6 ac; project site: 6812-6832 Main Street, 29 & 37 Tennyson Terrace: 2.2 ac
portions of 6842 & 6846 Main Street - 2.6 ac

6. Are you aware of current or future plans or intentions by others in the Town of Amherst to develop property within 1000± ft. of the present project request: ☐ Yes ☑ No

Describe _____

(Potential environmental impacts from adjacent or nearby projects undergoing the approval process will receive a coordinated environmental review to determine cumulative effects on common receivers (e.g. traffic and drainage corridors) and other relevant environmental concerns.)

7. Maximum number of vehicular trips to be generated per hour upon completion of project 43
Source: ITE Trip Generator

8. Will blasting occur during construction? ☐ Yes ☑ No

9. Does the project propose to connect and be tributary to the public sanitary sewer system? ☑ Yes ☐ No

10. Proposed net additional gallons per day (gpd) of sanitary sewer discharge upon completion of project:

10,140 average flow 43,013 peak flow.

(Please note that average flows of 2,500 gpd or greater will require an Engineer's Report that includes a detailed downstream sewer capacity analysis and the identification of and commitment to required I/I offset work during peak wastewater flow conditions.)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Attachment A of Part 1 of Full EAF – Negative Declaration Issued by the Planning Board on February 13, 2024

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Amherst

Town of Amherst Planning Department *Erie County, New York*

Brian J. Kulpa
Supervisor

Daniel C. Howard,
Planning Direct

Daniel J. Ulatowski,
Assistant Planning D

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

SEQR

NEGATIVE DECLARATION

NOTICE OF DETERMINATION OF NON-SIGNIFICANCE

Lead Agency:	Town of Amherst Zoning Board of Appeals	**Action**:	Special Use Permit
Address:	5583 Main Street Williamsville, NY 14221 (716) 631-7051	**Date**:	February 13, 2024

This notice is issued pursuant to Part 617 and Local Law #3-82, as amended, of the implementing regulations pertaining to Article 8 (State Environmental Quality Review) of the Environmental Conservation Law.

The Lead Agency has determined that the proposed action described below will not have a significant adverse effect on the environment.

Title of Action:	Special Use Permit
SEQR Status:	Unlisted action
Description of Action:	Granting a Special Use Permit for an accessory parking lot within a multifamily residential zoning district.
Location:	29 Tennyson Terrace, Town of Amherst, Erie County, New York
Petitioner:	6812 Main Street, LLC

Reasons Supporting This Determination

Based on information submitted by the applicant, including a complete ZBA application, Short Environmental Assessment Form and supporting documentation, a preliminary staff analysis was undertaken. Compared to the criteria listed in Section 617.7, all indications are that the proposed request will not have a significant impact on the environment, as follows:

1. The action is not expected to cause a substantial adverse change in existing air quality, ground or surface water quality or quantity; a substantial increase in solid waste production; or a substantial increase in the potential for erosion, flooding, leaching or drainage problems. The NYS storm water drainage requirements for both quality and quantity, will be met at time of site plan approval, thus minimizing any impacts associated with flooding, erosion, leaching and drainage. Significant changes in existing air quality are not anticipated.

2. The action will not result in the removal or destruction of large quantities of vegetation or fauna; or in significant adverse impacts to fish or wildlife species, habitats or other natural resources. The site is currently unimproved residential vacant land. The site is not known to contain protected wildlife species or habitat.

3. The proposed accessory parking lot, accessory to a proposed mixed-use building is consistent with the community's current comprehensive plan. The premises is currently zoned MFR-5, which permits multifamily residences. The proposed mixed-use building on the southerly adjacent lands, zoned GB- General Business will be for multifamily apartments with ground floor commercial uses.

4. The site is within an area identified by the State as potentially containing significant cultural or archeological resources. The NYS Office of Parks Recreation and Historic Preservation will been solicited for its comments pursuant to a pending site plan application. No site disturbances will occur until such time that such state agency provides the Town of Amherst with a letter of no impact/concern.

5. The action will not impair the character or quality of important aesthetic resources, or existing community or neighborhood character. The site is adjacent to an existing retail plaza and mixed-use building similar to what is being proposed. The developer has committed to a protective covenant, restricting the northerly adjacent 90 feet of lands to open/green space with no buildings.

6. The action will not cause a significant change in the use or the quantity of energy.

7. Potential hazards to human health are not anticipated.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

8. The action is will change the intensity of the land use on this site from its current use as a undeveloped residential parcel.

9. The action will increase the number of people using the site over its current level of use.

10. Significant negative traffic impacts are not expected to result from the proposed action. During site plan review traffic impacts will be evaluated and the project will be coordinated with the NYSDOT. Any required mitigation will be required as part of a future site plan approval application.

11. Issues not specifically mentioned above and/or those not specifically reviewed were not raised by Town departments, outside agencies or the public and are not determined to be causing significant negative environmental impacts.

Daniel J. Ulatowski, AICP
Principal Planner/ZEO

2/13/2024
date

Brian Bray, ZBA Chairperson

2/27/24
date

DU/du
X:\ZBA\ZBA REVIEWS\SEQR NEG Dec attachments\29 Tennyson Terrace_SUP restricted parking lot_02_13_2024.docx
cc: Amherst Town Clerk
Amherst Building Department
Erie County DEP
Sean Hopkins, Esq.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Attachment B of Part 1 of Full EAF – Negative Declaration Issued by the Planning Board on December 19, 2023

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Amherst

Town of Amherst Planning Department *Erie County, New York*

Brian J. Kulpa
Supervisor

Daniel C. Howard,
Planning Direct

Daniel J. Ulatowski,
Assistant Planning D r

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

SEQR

NEGATIVE DECLARATION

NOTICE OF DETERMINATION OF NON-SIGNIFICANCE

Lead Agency:	Town of Amherst Zoning Board of Appeals	**Action**:	Area Variance
Address:	5583 Main Street Williamsville, NY 14221 (716) 631-7051	**Date**:	December 19, 2023

This notice is issued pursuant to Part 617 and Local Law #3-82, as amended, of the implementing regulations pertaining to Article 8 (State Environmental Quality Review) of the Environmental Conservation Law.

The Lead Agency has determined that the proposed action described below will not have a significant adverse effect on the environment.

Title of Action:	Area Variance
SEQR Status:	Unlisted action
Description of Action:	Granting area variances parking percentage and access drive limits.
Location:	6812, 6814 & 6832 Main Street, Town of Amherst, Erie County, New York
Petitioner:	6812 Main Street, LLC

Reasons Supporting This Determination

Based on information submitted by the applicant, including a complete ZBA application, Short Environmental Assessment Form and supporting documentation, a preliminary staff analysis was undertaken. Compared to the criteria listed in Section 617.7, all indications are that the proposed request will not have a significant impact on the environment, as follows:

1. The action is not expected to cause a substantial adverse change in existing air quality, ground or surface water quality or quantity; a substantial increase in solid waste production; or a substantial increase in the potential for erosion, flooding, leaching or drainage problems. The NYS storm water drainage requirements for both quality and quantity, will be met at time of site plan approval, thus minimizing any impacts associated with flooding, erosion, leaching and drainage. Significant changes in existing air quality are not anticipated.

2. The action will not result in the removal or destruction of large quantities of vegetation or fauna; or in significant adverse impacts to fish or wildlife species, habitats or other natural resources. The site is currently improved with a commercial retail building and a single-family dwelling. The site is not known to contain protected wildlife species or habitat.

3. The proposed mixed-use building is consistent with the community's current comprehensive plan. The premises is currently zoned GB- General Business and MFR-5, which permits mixed-use buildings and multifamily residences.

4. The site is within an area identified by the State as potentially containing significant cultural or archeological resources. The NYS Office of Parks Recreation and Historic Preservation will been solicited for its comments pursuant to a pending site plan application. No site disturbances will occur until such time that such state agency provides the Town of Amherst with a letter of no impact/concern.

5. The action will not impair the character or quality of important aesthetic resources, or existing community or neighborhood character. The site is adjacent to an existing retail plaza and mixed-use building similar to what is being proposed.

6. The action will not cause a significant change in the use or the quantity of energy.

7. Potential hazards to human health are not anticipated.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

8. The action is will change the intensity of the land use on this site from its current use as a retail plaza and single-family dwelling building.

9. The action is not anticipated to significantly increase the number of people using the site over its current level of use.

10. Significant negative traffic impacts are not expected to result from the proposed action. During site plan review traffic impacts will be evaluated and the project will be coordinated with the NYSDOT. Any required mitigation will be required as part of a future site plan approval application.

11. Issues not specifically mentioned above and/or those not specifically reviewed were not raised by Town departments, outside agencies or the public and are not determined to be causing significant negative environmental impacts.

Daniel J. Ulatowski, AICP
Principal Planner/ZEO

12/19/2023
date

Zoning Board, Chairperson

2/27/24
date

DU/du
X:\ZBA\ZBA REVIEWS\SEQR NEG Dec attachments\5226_5228 Main Street_area variance_12_19_2023.docx
cc: Amherst Town Clerk
Amherst Building Department
Erie County DEP
Sean Hopkins, Esq.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Attachment C of Part 1 of Full EAF –SHPO Letter dated March 11, 2024

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

New York State Parks, Recreation and Historic Preservation

KATHY HOCHUL
Governor

RANDY SIMONS
Commissioner Pro Tempore

March 11, 2024

Scott Marshall
Principal Planner
Town of Amherst
5583 Main Street
Williamsville, NY 14221

Re: DEC
Proposed Mixed Use "The Chuck"
6812 Main St, Town of Amherst, Erie County, NY
24PR02011

Dear Scott Marshall:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the OPRHP and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

Based upon this review, it is the opinion of OPRHP that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact Sydney Snyder at the following email address:

Sydney.Snyder@parks.ny.gov

Sincerely,

R. Daniel Mackay

Deputy Commissioner for Historic Preservation
Division for Historic Preservation

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Exhibit 2 – Reduced-Size Copies of the Site Plan [Drawing C-100] as Prepared by Carmina Wood Design

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Exhibit 3 – Reduced-Size Copy of the Landscape Plan [Drawing L-100] as Prepared by Carmina Wood Design

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Full Environmental Assessment Form
Part 1 - Project and Setting

Prepared By: Sean Hopkins, Es
Hopkins Sorgi & McCarthy PL
5500 Main Street, Suite 343
Williamsville, NY 14221
Tel: 510-4338
E-mail: shopkins@hsmlegal.com

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Mixed-Use Redevelopment Project		
Project Location (describe, and attach a general location map): 6812, 6814 & 6832 Main Street and 29 & 37 Tennyson Terrance - Town of Amherst		
Brief Description of Proposed Action (include purpose or need): The proposed project ("action") consists of the redevelopment of the five parcels comprising the Project Site at 6812, 6814 & 6832 Main Street and 29 and 37 Tennyson Terrance (the "Project Site") to accommodate the proposed mixed-use redevelopment project consisting of 13,500 sq. ft. of first floor commercial space and 34 upper floor apartments along with all proposed site improvements and the demolition of the existing structures. The project layout is depicted on the Site Plan [Drawing C-100] prepared by Carmina Wood Design. The proposed action has been defined broadly to include all required discretionary approvals and permits as well as all proposed site improvements including proposed mixed-use building, detached garage buildings, access aisles and parking spaces, lighting, storm water management improvements and all required utility improvements. The project purpose is to redevelop the Project Site for a mixed-use project per the recommended land use in the Town's adopted Comprehensive Plan. The Project Sponsor believes the project will not result in any potentially significant adverse environmental impacts and that the issuance of a negative declaration by the Planning Board is both appropriate and justified. Copies of the negative declarations issued by the Zoning Board of Appeals pursuant to SEQRA on February 13, 2024 and December 19, 2023 are provided at Attachments "A" and "B" of this Part 1 of the Full EAF.		
Name of Applicant/Sponsor: 6812 Main Street, LLC c/o Sean Hopkins, Esq.	Telephone: 716.510-4338 E-Mail: shopkins@hsmlegal.com	
Address: 5500 Main Street, Suite 343		
City/PO: Williamsville	State: NY	Zip Code: 14221
Project Contact (if not same as sponsor; give name and title/role): Same as above	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): Same as above.	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☐Yes ☑No		
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	Planning Board - Site Plan Approval	March 25, 2024
c. City, Town or Village Zoning Board of Appeals ☐Yes ☑No		
d. Other local agencies ☑Yes ☐No	Town of Amherst IDA - PILOT, Eng. Dept - Stormwater Permit; High. Dept. - Curt Cut Permit	TBD
e. County agencies ☑Yes ☐No	ECDOH & ECWA [Water]	TBD
f. Regional agencies ☐Yes ☐No		
g. State agencies ☑Yes ☐No	NYSDOT, NYSDEC - DSCA	TBD
h. Federal agencies ☐Yes ☐No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? [Note: Answer to Question Bi(ii) is Yes - EAF Mapper automatically checked as "No"] ☐Yes ☐No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☐No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

NYS Heritage Areas:West Erie Canal Corridor

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes ☐No

If Yes, identify the plan(s):

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
General Business District ("GB") and Multifamily Residential District Five ("MFR-5")

b. Is the use permitted or allowed by a special or conditional use permit? ☐ Yes ☑ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☐ No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? Williamsville Central School District

b. What police or other public protection forces serve the project site?
Town of Amherst Police Department

c. Which fire protection and emergency medical services serve the project site?
Main-Transit Fire Department

d. What parks serve the project site?
There are various Town parks that will be accessible to the residents of the mixed-use project.

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Mixed-use project consisting of 1st floor commercial space and upper floor apartments.

b. a. Total acreage of the site of the proposed action? 2.16 acres
b. Total acreage to be physically disturbed? 2.16 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 2.16 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☐ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☐ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? ☐ Yes ☐ No
i. If No, anticipated period of construction: _____ months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

3.a

f. Does the project include new residential uses? ☑ Yes ☐ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				34
At completion of all phases				34

g. Does the proposed action include new non-residential construction (including expansions)? ☑ Yes ☐ No

If Yes,

i. Total number of structures 1

ii. Dimensions (in feet) of largest proposed structure: 13 height; 65 width; and 215 length

iii. Approximate extent of building space to be heated or cooled: 13,500 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☑ Yes ☐ No

If Yes,

i. Purpose of the impoundment: Stormwater management

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☑ Other specify: Stormwater runoff generated from onsite facilites

iii. If other than water, identify the type of impounded/contained liquids and their source.

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: 0.15 acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): Earth fill and does not consitute a regulated NYSDEC dam.

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐ Yes ☐ No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)

If Yes:

i .What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No
If yes, describe. _____

v. What is the total area to be dredged or excavated? _____acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐ Yes ☐ No

ix. Summarize site reclamation goals and plan: _____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐ Yes ☐ No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No
If Yes, describe:

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☐ No
If Yes:

- acres of aquatic vegetation proposed to be removed:
- expected acreage of aquatic vegetation remaining after project completion:
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access):
- proposed method of plant removal:
- if chemical/herbicide treatment will be used, specify product(s):

v. Describe any proposed reclamation/mitigation following disturbance:

c. Will the proposed action use, or create a new demand for water? ☑ Yes ☐ No
If Yes:

i. Total anticipated water usage/demand per day: 11,154 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑ Yes ☐ No
If Yes:

- Name of district or service area: Erie County Water Authority
- Does the existing public water supply have capacity to serve the proposal? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No
- Do existing lines serve the project site? ☑ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☐ No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project:
- Source(s) of supply for the district:

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☐ No
If, Yes:

- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑ Yes ☐ No
If Yes:

i. Total anticipated liquid waste generation per day: 10,140 gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):
Sanitary wastewater

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑ Yes ☐ No
If Yes:

- Name of wastewater treatment plant to be used: Town of Amherst Wastewater Treatment Facility
- Name of district: Town of Amherst
- Does the existing wastewater treatment plant have capacity to serve the project? ☑ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

- Do existing sewer lines serve the project site? ☑ Yes ☐ No
- Will a line extension within an existing district be necessary to serve the project? ☐ Yes ☑ No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐ Yes ☐ No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

_____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑ Yes ☐ No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 1.35 acres (impervious surface)

_____ Square feet or 2.16 acres (parcel size)

ii. Describe types of new point sources. Building roofs, parking surfaces

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

On-site stormwater management facility

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐ Yes ☐ No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐ Yes ☐ No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐ Yes ☐ No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐ Yes ☐ No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐ Yes ☐ No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes☐No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

_____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes☐No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes☐No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

_____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑Yes☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

To be determined.

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

National Grid

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes☑No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7 am - 5 pm
- Saturday: as needed
- Sunday: n/a
- Holidays: n/a

ii. During Operations:

- Monday - Friday: based on tenant
- Saturday: based on tenant
- Sunday: based on tenant
- Holidays: based on tenant

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

The project will result in short-term unavoidable noise impacts during construction resulting from construction activities during hours as listed above previously.

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☑ No

Describe: _____

n. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

All lighting to be dark sky compliant and shall meet the Town's stringent lighting standards.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☐ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☐ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☐ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: 2-5 tons per week (unit of time)
- Operation : 1 tons per week (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: Not applicable
- Operation: Town of Amherst recycling program.

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: To be handled by site contractor
- Operation: Contract with waste disposal company

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☐

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☐ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

Mixture of uses consisting of commercial uses on Main Street and Transit Road and residential uses on Tennyson Terrace.

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	1.20	1.35	+ 0.15
• Forested	0.0	0.0	0.0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	0.0	0.0	0.0
• Agricultural (includes active orchards, field, greenhouse etc.)	0.0	0.0	0.0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.0	0.0	0.0
• Wetlands (freshwater or tidal)	0.0	0.0	0.0
• Non-vegetated (bare rock, earth or fill)	0.0	0.0	0.0
• Other Describe: grass/landscape areas	0.96	0.81	- 0.15

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☐ No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐ Yes ☐ No
If Yes,
i. Identify Facilities:
_____
_____

e. Does the project site contain an existing dam? ☐ Yes ☐ No
If Yes:
i. Dimensions of the dam and impoundment:
- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection:
_____
_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☐ No
If Yes:
i. Has the facility been formally closed? ☐ Yes ☐ No
- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:
_____
_____
iii. Describe any development constraints due to the prior solid waste activities: _____
_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☐ No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:
_____
_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐ Yes ☐ No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐ Yes ☐ No
☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____
☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____
☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures:_____
_____
_____
iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐ Yes ☑ No
If yes, provide DEC ID number(s): _____
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):
_____
_____

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☐ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 2 feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☐ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____%

c. Predominant soil type(s) present on project site:

Newstead Loam	68 %
Wassaic silt loam	32 %
	%

d. What is the average depth to the water table on the project site? Average: 2 feet

e. Drainage status of project site soils:
☐ Well Drained: _____% of site
☑ Moderately Well Drained: 100 % of site
☐ Poorly Drained _____% of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 100 % of site
☐ 10-15%: _____% of site
☐ 15% or greater: _____% of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☐ Yes ☑ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☐ Yes ☑ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☐ Yes ☑ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100-year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500-year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:

i. Name of aquifer: _____

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

m. Identify the predominant wildlife species that occupy or use the project site:
Typical suburban species

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation): _____
ii. Source(s) of description or evaluation: _____
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐ Yes ☑ No

If Yes:
i. Species and listing (endangered or threatened): _____

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

If Yes:
i. Species and listing: _____

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☐ No
If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No
If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☐ No
i. If Yes: acreage(s) on project site? _____
ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No
If Yes:
i. CEA name: _____
ii. Basis for designation: _____
iii. Designating agency and date: _____

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☑ Yes ☐ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: Eligible property:M&T Bank Branch

iii. Brief description of attributes on which listing is based:

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

[Copy of the No Impact Determination Letter issued by SHPO on March 11, 2024 is provided at Attachment "C"].

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☐ No

If Yes:

i. Describe possible resource(s):

ii. Basis for identification:

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☑ Yes ☐ No

If Yes:

i. Identify resource: Glen Park

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): Local Park

iii. Distance between project and resource: 2.15 miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation:

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name 6812 Main Street, LLC Date April 8, 2024

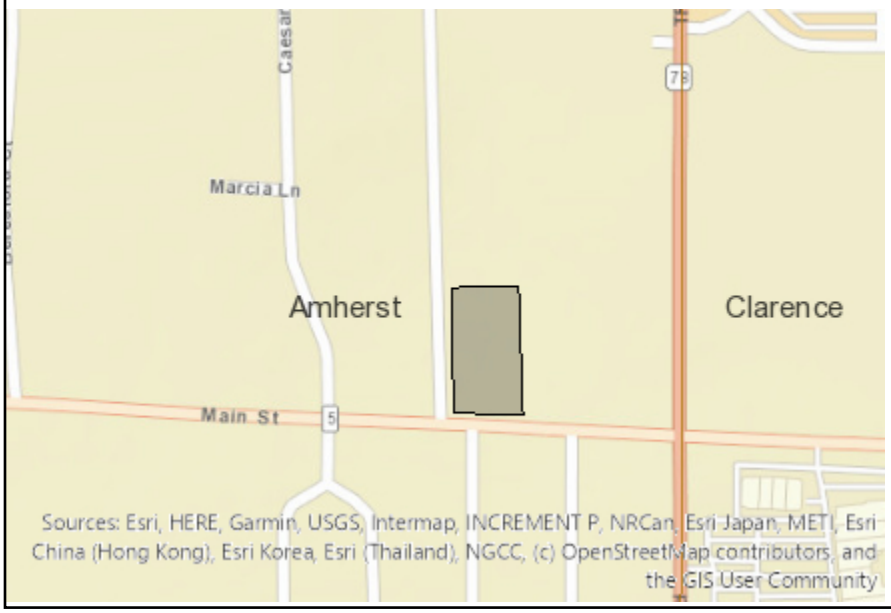
Signature Sean Hopkins Title Attorney for Applicant/Project Sponsor

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

PRINT FORM

EAF Mapper Summary Report

Friday, August 11, 2023 11:41 AM



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYS Heritage Areas:West Erie Canal Corridor
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	No
E.2.h.ii [Surface Water Features]	No
E.2.h.iii [Surface Water Features]	No
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
E.2.p. [Rare Plants or Animals]	No

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Yes - Digital mapping data for archaeological site boundaries are not available. Refer to EAF Workbook.
E.3.e.ii [National or State Register of Historic Places or State Eligible Sites - Name]	Eligible property:M&T Bank Branch
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

3.a

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

TOWN OF AMHERST ATTACHMENT
State Environmental Quality Review
ENVIRONMENTAL ASSESSMENT FORM

1. For each applicable category of proposed new structures, including additions to existing structures, provide the following information for all soil types on the project site (*according to Soil Survey of Erie County, NY; Table 11, Building Site Development, pp 294-305):*

Soil Name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Newstead Loam	✔				
Wassaic silt loam	✔				

2. If the Soil survey indicates either "severe" or "moderate" suitability for the proposed types of construction, a geotechnical and hydrological analysis based on one test per 3.5 acres of project area must be provided (per Town Board resolution, 3/17/03, amended 6/16/03).

[to be submitted at a later date] ✔ Geotechnical report attached _____ Not applicable

3. Is your property located: On Youngs Road between Dodge and Klein Roads? ☐ Yes ☑ No
On Wehrle Dr. between Spindrift Dr. and Oakwood Rd? ☐ Yes ☑ No

If so, the property may be within an area of the Town that is affected by a moratorium on connections to the sanitary sewer system.

4. Are there alternative locations on the site for this project? ☐ Yes ☑ No

5. Location and size of real property owned by petitioner within one (1) mile of subject proposal:
6790 Main Street - 2.6 ac; project site: 6812-6832 Main Street, 29 & 37 Tennyson Terrace: 2.2 ac
portions of 6842 & 6846 Main Street - 2.6 ac

6. Are you aware of current or future plans or intentions by others in the Town of Amherst to develop property within 1000± ft. of the present project request: ☐ Yes ☑ No

Describe _____

(Potential environmental impacts from adjacent or nearby projects undergoing the approval process will receive a coordinated environmental review to determine cumulative effects on common receivers (e.g. traffic and drainage corridors) and other relevant environmental concerns.)

7. Maximum number of vehicular trips to be generated per hour upon completion of project 43
Source: ITE Trip Generator

8. Will blasting occur during construction? ☐ Yes ☑ No

9. Does the project propose to connect and be tributary to the public sanitary sewer system? ☑ Yes ☐ No

10. Proposed net additional gallons per day (gpd) of sanitary sewer discharge upon completion of project:

10,140 average flow 43,013 peak flow.

(Please note that average flows of 2,500 gpd or greater will require an Engineer's Report that includes a detailed downstream sewer capacity analysis and the identification of and commitment to required I/I offset work during peak wastewater flow conditions.)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Attachment A of Part 1 of Full EAF – Negative Declaration Issued by the Planning Board on February 13, 2024

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Amherst

Town of Amherst Planning Department *Erie County, New York*

Brian J. Kulpa
Supervisor

Daniel C. Howard,
Planning Direct

Daniel J. Ulatowski,
Assistant Planning D

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

SEQR

NEGATIVE DECLARATION

NOTICE OF DETERMINATION OF NON-SIGNIFICANCE

Lead Agency:	Town of Amherst Zoning Board of Appeals	**Action**:	Special Use Permit
Address:	5583 Main Street Williamsville, NY 14221 (716) 631-7051	**Date**:	February 13, 2024

This notice is issued pursuant to Part 617 and Local Law #3-82, as amended, of the implementing regulations pertaining to Article 8 (State Environmental Quality Review) of the Environmental Conservation Law.

The Lead Agency has determined that the proposed action described below will not have a significant adverse effect on the environment.

Title of Action:	Special Use Permit
SEQR Status:	Unlisted action
Description of Action:	Granting a Special Use Permit for an accessory parking lot within a multifamily residential zoning district.
Location:	29 Tennyson Terrace, Town of Amherst, Erie County, New York
Petitioner:	6812 Main Street, LLC

Reasons Supporting This Determination

Based on information submitted by the applicant, including a complete ZBA application, Short Environmental Assessment Form and supporting documentation, a preliminary staff analysis was undertaken. Compared to the criteria listed in Section 617.7, all indications are that the proposed request will not have a significant impact on the environment, as follows:

1. The action is not expected to cause a substantial adverse change in existing air quality, ground or surface water quality or quantity; a substantial increase in solid waste production; or a substantial increase in the potential for erosion, flooding, leaching or drainage problems. The NYS storm water drainage requirements for both quality and quantity, will be met at time of site plan approval, thus minimizing any impacts associated with flooding, erosion, leaching and drainage. Significant changes in existing air quality are not anticipated.

2. The action will not result in the removal or destruction of large quantities of vegetation or fauna; or in significant adverse impacts to fish or wildlife species, habitats or other natural resources. The site is currently unimproved residential vacant land. The site is not known to contain protected wildlife species or habitat.

3. The proposed accessory parking lot, accessory to a proposed mixed-use building is consistent with the community's current comprehensive plan. The premises is currently zoned MFR-5, which permits multifamily residences. The proposed mixed-use building on the southerly adjacent lands, zoned GB- General Business will be for multifamily apartments with ground floor commercial uses.

4. The site is within an area identified by the State as potentially containing significant cultural or archeological resources. The NYS Office of Parks Recreation and Historic Preservation will been solicited for its comments pursuant to a pending site plan application. No site disturbances will occur until such time that such state agency provides the Town of Amherst with a letter of no impact/concern.

5. The action will not impair the character or quality of important aesthetic resources, or existing community or neighborhood character. The site is adjacent to an existing retail plaza and mixed-use building similar to what is being proposed. The developer has committed to a protective covenant, restricting the northerly adjacent 90 feet of lands to open/green space with no buildings.

6. The action will not cause a significant change in the use or the quantity of energy.

7. Potential hazards to human health are not anticipated.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

8. The action is will change the intensity of the land use on this site from its current use as a undeveloped residential parcel.

9. The action will increase the number of people using the site over its current level of use.

10. Significant negative traffic impacts are not expected to result from the proposed action. During site plan review traffic impacts will be evaluated and the project will be coordinated with the NYSDOT. Any required mitigation will be required as part of a future site plan approval application.

11. Issues not specifically mentioned above and/or those not specifically reviewed were not raised by Town departments, outside agencies or the public and are not determined to be causing significant negative environmental impacts.

Daniel J. Ulatowski, AICP
Principal Planner/ZEO

2/13/2024
date

Brian Bray, ZBA Chairperson

2/27/24
date

DU/du
X:\ZBA\ZBA REVIEWS\SEQR NEG Dec attachments\29 Tennyson Terrace_SUP restricted parking lot_02_13_2024.docx
cc: Amherst Town Clerk
Amherst Building Department
Erie County DEP
Sean Hopkins, Esq.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Attachment B of Part 1 of Full EAF – Negative Declaration Issued by the Planning Board on December 19, 2023

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Amherst

Town of Amherst Planning Department *Erie County, New York*

Brian J. Kulpa
Supervisor

Daniel C. Howard,
Planning Direct

Daniel J. Ulatowski,
Assistant Planning D r

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

SEQR

NEGATIVE DECLARATION

NOTICE OF DETERMINATION OF NON-SIGNIFICANCE

Lead Agency:	Town of Amherst Zoning Board of Appeals	**Action**:	Area Variance
Address:	5583 Main Street Williamsville, NY 14221 (716) 631-7051	**Date**:	December 19, 2023

This notice is issued pursuant to Part 617 and Local Law #3-82, as amended, of the implementing regulations pertaining to Article 8 (State Environmental Quality Review) of the Environmental Conservation Law.

The Lead Agency has determined that the proposed action described below will not have a significant adverse effect on the environment.

Title of Action:	Area Variance
SEQR Status:	Unlisted action
Description of Action:	Granting area variances parking percentage and access drive limits.
Location:	6812, 6814 & 6832 Main Street, Town of Amherst, Erie County, New York
Petitioner:	6812 Main Street, LLC

Reasons Supporting This Determination

Based on information submitted by the applicant, including a complete ZBA application, Short Environmental Assessment Form and supporting documentation, a preliminary staff analysis was undertaken. Compared to the criteria listed in Section 617.7, all indications are that the proposed request will not have a significant impact on the environment, as follows:

1. The action is not expected to cause a substantial adverse change in existing air quality, ground or surface water quality or quantity; a substantial increase in solid waste production; or a substantial increase in the potential for erosion, flooding, leaching or drainage problems. The NYS storm water drainage requirements for both quality and quantity, will be met at time of site plan approval, thus minimizing any impacts associated with flooding, erosion, leaching and drainage. Significant changes in existing air quality are not anticipated.

2. The action will not result in the removal or destruction of large quantities of vegetation or fauna; or in significant adverse impacts to fish or wildlife species, habitats or other natural resources. The site is currently improved with a commercial retail building and a single-family dwelling. The site is not known to contain protected wildlife species or habitat.

3. The proposed mixed-use building is consistent with the community's current comprehensive plan. The premises is currently zoned GB- General Business and MFR-5, which permits mixed-use buildings and multifamily residences.

4. The site is within an area identified by the State as potentially containing significant cultural or archeological resources. The NYS Office of Parks Recreation and Historic Preservation will been solicited for its comments pursuant to a pending site plan application. No site disturbances will occur until such time that such state agency provides the Town of Amherst with a letter of no impact/concern.

5. The action will not impair the character or quality of important aesthetic resources, or existing community or neighborhood character. The site is adjacent to an existing retail plaza and mixed-use building similar to what is being proposed.

6. The action will not cause a significant change in the use or the quantity of energy.

7. Potential hazards to human health are not anticipated.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

8. The action is will change the intensity of the land use on this site from its current use as a retail plaza and single-family dwelling building.

9. The action is not anticipated to significantly increase the number of people using the site over its current level of use.

10. Significant negative traffic impacts are not expected to result from the proposed action. During site plan review traffic impacts will be evaluated and the project will be coordinated with the NYSDOT. Any required mitigation will be required as part of a future site plan approval application.

11. Issues not specifically mentioned above and/or those not specifically reviewed were not raised by Town departments, outside agencies or the public and are not determined to be causing significant negative environmental impacts.

Daniel J. Ulatowski, AICP
Principal Planner/ZEO

12/19/2023
date

Zoning Board, Chairperson

2/27/24
date

DU/du
X:\ZBA\ZBA REVIEWS\SEQR NEG Dec attachments\5226_5228 Main Street_area variance_12_19_2023.docx
cc: Amherst Town Clerk
Amherst Building Department
Erie County DEP
Sean Hopkins, Esq.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Attachment C of Part 1 of Full EAF –SHPO Letter dated March 11, 2024

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

New York State Parks, Recreation and Historic Preservation

KATHY HOCHUL
Governor

RANDY SIMONS
Commissioner Pro Tempore

March 11, 2024

Scott Marshall
Principal Planner
Town of Amherst
5583 Main Street
Williamsville, NY 14221

Re: DEC
Proposed Mixed Use "The Chuck"
6812 Main St, Town of Amherst, Erie County, NY
24PR02011

Dear Scott Marshall:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the OPRHP and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

Based upon this review, it is the opinion of OPRHP that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact Sydney Snyder at the following email address:

Sydney.Snyder@parks.ny.gov

Sincerely,

R. Daniel Mackay

Deputy Commissioner for Historic Preservation
Division for Historic Preservation

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

CARMINA WOOD
DESIGN

ENGINEER'S REPORT

for

Mixed-Use Project

6812, 6814, 6832 Main Street, 29, 37 Tennyson Terrace
Town of Amherst, Erie County, New York

Prepared for

6812 Main Street, LLC

6790 Main Street, Suite 100
Williamsville, NY 14221

Prepared by

Carmina Wood Design

487 Main Street, Suite 500
Buffalo, NY 14203

Telephone: (716) 842-3165
Fax: (716) 842-0263

March 2024



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Table of Contents

Written Engineer's Report

Section 1 - Location & Description
Section 2 - Water Service
Section 3 - Sanitary Sewer Service
Section 4 - Storm Sewer Service

Appendices

Appendix A Sanitary Sewer and Water Demand Calculations

Appendix B Storm Sewer System Drainage Calculations

- Existing Runoff
- Proposed Runoff
    - Green Infrastructure & Water Quality Calculations

Appendix C Storm Pipe Sizing Calculations

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Section 1 - Location & Description

This project is a development of a 2.2 acre site located at the northeast corner of the intersection at Main Street and Tennyson Terrace in the Town of Amherst. Construction will consist of a four/five story mixed-use building and detached garage buildings to include associated utility, lighting, and landscaping improvements. Currently the site is developed consisting of a commercial use building with associated parking lot and a single-family house, all of which are to be demolished. The proposed site development area to be disturbed for this project is approximately 2.2 acres when construction is completed.

Section 2 - Water Service

Water service for the building will be tapped off the existing 6" ECWA water main in the center of Tennyson Terrace. The service will be a 6" Class 52 DI combined water service, then split into a 6" PVC fire service and a 4" polyethylene domestic service at the ROW line. Both services will continue into an internal mechanical room where the 4" domestic service will have a meter and RPZ and the 6" fire service will have a RPDA. Proper heat and lighting will be provided to the enclosure, drainage due to testing or failure of the RPZ will be to the outside grade. The owner will be responsible for keeping the drainage ports clear of snow and debris. Water inside the building will be used for typical domestic uses.

The proposed mixed use building is to be sprinklered, interior fire protection system to be designed by others. Existing public hydrants along Main Street will ensure fire hose coverage not exceeding 600' for the building.

Domestic Summary:	
Peak Operating Demand:	27.89 gpm
Water Main:	6" on Tennyson Terrace
Static Pressure:	40 psi (ECWA)
Friction Loss:	0.0 psi
Loss through meter/RPZ:	13.0 psi
Elevation Loss:	0.0 psi
Pressure after RPZ:	27.0 psi

Repairs to all devices will be made during off hours, dual backflow preventers are not required. The site is not located in a 100-year flood plain. Disinfection of the water service following installation will be continuous feed, according to AWWA C-651, latest revision.

Section 3 - Sanitary Sewer Service

The proposed building will have a 6" SDR-35 PVC sanitary lateral at 1.0% minimum slope. This lateral will connect to a private on-site pump station, which will have a 2" PVC SCH-40 forcemain installed across Main Street and connect to the public sanitary sewer at the intersection of Main Street and Harding Road.

Design Parameters

Commercial Space:	0.1 gal/day/sf x 5,00 sf = 500 gpd
Office Space:	15 gal/day/emp x 205 emp = 300 gpd
Restaurant:	35 gal/day/seat x 72 seats = 2,520 gpd
1-bedroom unit:	110 gal/day/units x 6 units = 660 gpd
2-bedroom unit:	220 gal/day/units x 28 units = 6,160 gpd
	Total = 10,140 gpd

10,140 gpd * 4.24 = 43,013 gpd *use peaking factor of 4.24

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

The hydraulic loading rate is per "Design Standards for Intermediate Sized Wastewater Treatment Systems" 2014, NYSDEC.

Section 4 - Storm Sewer Service

The existing site currently sheet drains in multiple directions, a portion along Main Street drains south towards the existing storm sewer system along Main Street, it is unknown where the existing storm sewer system within the existing parking area. The northern portion of the property drains towards a natural low spot on site with no direct connection to an existing storm sewer system.

The proposed onsite storm sewer system consists of smooth interior HDPE pipes connected by a series of catch basins and yard drains, then a bioretention area incorporated with a dry detention basin and an outlet drainage well. Stormwater runoff will be collected on site by the structure and pipe network that will drain to the detention basin controlled by the proposed drainage well. The bioretention area located on site is designed to provide 100% of the required Runoff Reduction volume (RRv) for the site. The soils in the vicinity of the bioretention areas are mainly USDA hydrologic group 'C' and therefore the system will be installed with underdrains per NYSDEC requirements. The bioretention area will consist of 6" perforated HDPE underdrains in 8" of drainage gravel, followed by filter fabric and then finally 18" minimum of planting soil.

Chapter 9 of the NYSDEC Stormwater Management Design Manual details design requirements for redevelopment projects, which this project is categorized as. Runoff reduction, water quality and quantity control is not required for the currently developed areas, but the above are required for the areas of the site that are currently undeveloped. Runoff reduction, water quality and volume attenuation for the undeveloped areas are designed in accordance with Chapter 4 of the manual. The total undeveloped area within the project limits is 1.0 acre. A bioretention area will be provided as a "green infrastructure" practice to provide runoff reduction and water quality to meet the Chapter 4 requirements for the currently undeveloped areas. Runoff from the site was looked at as a whole for the calculation of volume attenuation requirements (undeveloped plus developed areas). The existing site has a total of 1.20 acres of impervious cover. The amount of impervious cover post development is 1.35 acres, an increase of 0.15 acres in impervious area.

Town of Amherst Requirement:
The Town of Amherst requires that the 25-year proposed storm event be attenuated with detention and that the outlet flowrate be restricted to the 10-year existing storm event. This volume of 2,980 cf is accommodated in the dry detention basin at elevation 702.55. At this elevation, the outlet discharge will be restricted to 0.90 cfs, which is less than the existing 10-year peak runoff outflow of 7.93 cfs of the project area which drains to the proposed detention area.

Water Quality Summary:
WQv req'd = 1,869 cf (0.043 ac-ft)
RRv min. req'd = 310 cf (0.007 ac-ft)
RRv provided - bioretention area = 749 cf (0.017 ac-ft)
WQv provided – bioretention area = 1,121 cf (0.026 ac-ft)
Total RRv + WQv provided = 749 cf + 1,121 cf = 1,869 cf (0.043 ac-ft)

Bioretention: 100% of minimum post-development Runoff Reduction volume (RRv) & Water Quality Volume Treatment (WQv)
Area: 1,404 sf (total)
Bottom Elevation: 701.00

Detention: Comparison of the existing 1-year vs. the proposed 1-year runoff
Comparison of the existing 10-year vs. the proposed 10-year runoff
Comparison of the existing 10-year vs. the proposed 25-year runoff
Comparison of the existing 100-year vs. the proposed 100-year runoff

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Runoff Summary (Well):

Event	Ex. Runoff (cfs)*	Pro. Runoff (cfs)*	Result (cfs)
1-year	4.01	0.90	-3.11
10-year	7.93	0.90	-7.03
25-year	10.16	0.90	-9.26
100-year	14.66	0.90	-13.76

* Proposed Runoff discharge rate is the rate of discarded outflow via the drainage well at an estimated rate of 400 gpm. See attached storm drainage calculations and drainage well test report of previously referenced nearby drainage well in Appendix B for additional information.

Runoff Summary (MAIN STREET):

Event	Ex. Runoff (cfs)*	Pro. Runoff (cfs)*	Result (cfs)
1-year	0.32	0.14	-0.18
10-year	0.54	0.36	-0.18
25-year	0.66	0.50	-0.16
100-year	0.91	0.77	-0.14

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix A

Sanitary Sewer and Water Demand Calculations

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

CARMINA WOOD DESIGN
487 MAIN STREET, SUITE 500
BUFFALO, NEW YORK, 14203
(716) 842-3165
FAX (716) 842-0263

Project No.: 24-4006 Date: 3/25/2024
Project Name: Mixed Use Project
Project Address: 6812-6834 Main Street Amherst, NY
Subject: Sanitary Sewer & Water Demand Calcs
Sheet: 1 of 3

Sanitary Sewage Demand Calculations:

0.1	gal/d/sf	x	5,000	sf	=	500	gpd	*use 0.1 gallons per sq. ft. per day (retail)
35	gal/d/seat	x	72	seat	=	2,520	gpd	*use 35 gallons per seat per day (restaurant)
110	gal/d/unit	x	6	unit	=	660	gpd	*use 110 gallons per unit per day (1 bdrm)
220	gal/d/unit	x	28	unit	=	6,160	gpd	*use 220 gallons per unit per day (2 bdrm)
15	gal/d/emp	x	20	emp	=	300	gpd	*use 15 gallons per employee per day

Total Site Sanitary Demand: = 10,140 gpd

Find Peak Sanitary Demand:

Peaking Factor based on Population:

Total demand: 10,140 gpd / 100 gpcd = 101 per capita

Population (P) = 101 people

Peaking Factor : (18 +/P) / (4 + /P) where P is in thousands

Peaking Factor = 4.24

Peak Sanitary Demand = 10,140 x 4.24 = 43,013 gpd
= 0.043 MGD
= 0.067 cfs

Required Infiltration and Inflow Mitigation:

Peak Sanitary Flow = 43,013 gpd = 29.87 gpm

4:1 offset flow per NYSDEC requirements = 29.87 x 4 = 119.48 gpm req'd

Mitigation Credit = $250 / gpm

Mitigation Agreement Amount = $29,870.16

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

CARMINA WOOD DESIGN
487 MAIN STREET, SUITE 500
BUFFALO, NEW YORK, 14203
(716) 842-3165
FAX (716) 842-0263

Project No.: 24-4006 Date: 3/25/2024
Project Name: Mixed Use Project
Project Address: 6812-6832 Main Street Amherst, NY
Subject: Sanitary Sewer & Water Demand Calcs
Sheet: 2 of 3

Water Demand Calculations (domestic):

Proposed Mixed Use

10,140 gpd x 1.1 = 11,154 gpd *use 110% of sewage demand

*use 1.8 peaking factor and assume a 12 hour day

11,154 gpm x 1day/12hr x 1hr/60min = 15.49 gpm

15.49 gpm x 1.8 = 27.89 gpm Q_{peak}

Headlosses:

Q_{peak} = 27.89 gpm
Pipe = 6 inch Polyethylene C = 140
Length = 60 LF (approx. distance from tap to RPZ)

$$H_L = \frac{10.44\ L\ Q^{1.85}}{C^{1.85}\ D^{4.866}} = \frac{10.44(60)(27.89)^{1.85}}{(140)^{1.85}\ (6)^{4.866}} = 0.01 \text{ ft} = 0.00 \text{ psi}$$

Δ elev = 0 ft = 0.00 psi
Loss through meter = 1 psi
Loss through RPZ = 12 psi
Total Losses = 13.0 psi
Static Pressure = 40 psi (per ECWA)
Residual Pressure Following RPZ = 40 - 13.0 = 27.0 psi (available after rpz & meter)

Residual Pressure 30" above 5th Floor
Δ elev = 52 ft = 22.30 psi
Residual Pressure 30" above 4th Floor = 4.7 psi *

*booster pump to be installed, designed by others

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

CARMINA WOOD DESIGN
487 MAIN STREET, SUITE 500
BUFFALO, NEW YORK, 14203
(716) 842-3165
FAX (716) 842-0263

Project No.: 24-4006 Date: 3/25/2024
Project Name: Mixed Use Project
Project Address: 6812-6832 Main Street Amherst, NY
Subject: Sanitary Sewage Pump Station Design
Sheet: 3 of 3

3.a

Sanitary Sewage Demand Calculations:

0.1	gal/d/sf	x	5,000	sf	=	500	gpd	*use 0.1 gallons per sq. ft. per day (retail)
35	gal/d/seat	x	72	seat	=	2,520	gpd	*use 35 gallons per seat per day (restaurant)
110	gal/d/unit	x	6	unit	=	660	gpd	*use 110 gallons per unit per day (1 bdrm)
220	gal/d/unit	x	28	unit	=	6,160	gpd	*use 220 gallons per unit per day (2 bdrm)
15	gal/d/emp	x	20	emp	=	300	gpd	*use 15 gallons per employee per day

Average Site Sanitary Flow: = 10,140 gpd

Peak Site Sanitary Flow: = 40,560 gpd
PF = 4.0

* assume flow over 12 hour period

Peak Site Sanitary Flow: = 56.3 gpm

6" inlet into pump station invert: 699.90

Forcemain invert at tie into downstream sewer: 700.30

Pump chamber diameter: 5 ft (147 gal/ft)

Storge required:

* use filling time of 15 minutes @ 56.3 gpm (peak flow)

Storage required = 56.3 gpm x 15 mins / 147 gal = 5.8 ft

Top of pump station:	705.35	
Inlet & Alarm:	699.90	
2 pumps on:	699.40	(inlet minus 0.5 ft)
1 pump on:	698.90	(2 pumps on minus 0.5 ft)
pumps off:	693.15	(1 pump on minus storage required)
Bottom of station:	691.90	(pumps off minus 1.25 ft)
Total depth:	**13.45**	ft

Cleansing velocity:

Using a 2 inch forcemain, find flow for min 2 fps cleansing velocity

A = 0.02 sf

Q = V x A = 2 ft/s x 0.02 sf = 0.0436 cfs = **19.6** gpm

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix B

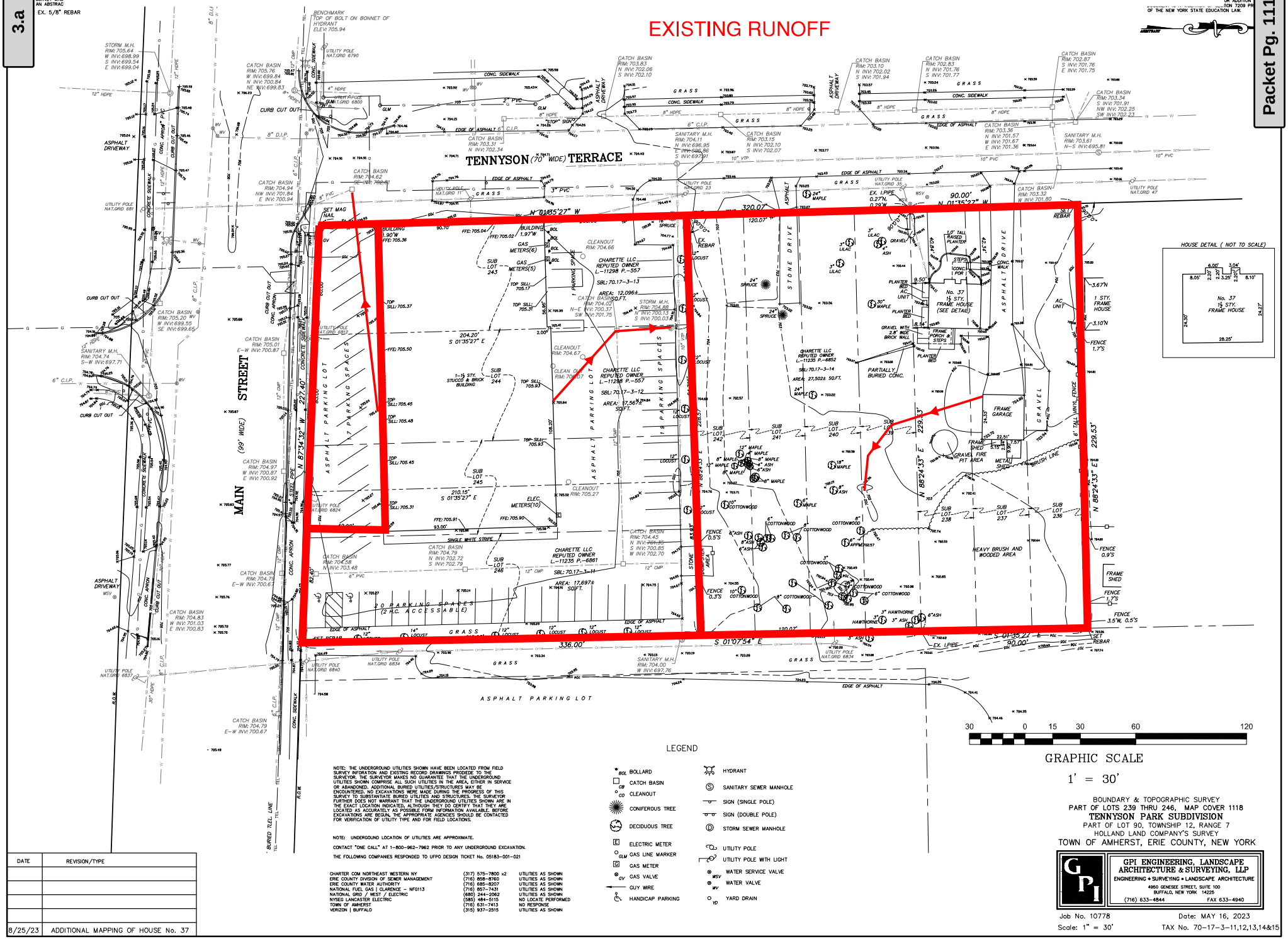
Storm Sewer System Drainage Calculations

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Existing Runoff

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Attachment: SP-2024-03_application_051624 (2883O : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



DATE	REVISION/TYPE
8/25/23	ADDITIONAL MAPPING OF HOUSE No. 37

BOUNDARY & TOPOGRAPHIC SURVEY
PART OF LOTS 239 THRU 246, MAP COVER 1118
TENNYSON PARK SUBDIVISION
PART OF LOT 90, TOWNSHIP 12, RANGE 7
HOLLAND LAND COMPANY'S SURVEY
TOWN OF AMHERST, ERIE COUNTY, NEW YORK

GPI ENGINEERING, LANDSCAPE ARCHITECTURE & SURVEYING, LLP
ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE
4960 GENESEE STREET, SUITE 100
BUFFALO, NEW YORK 14225
(716) 633-4844 FAX 633-4940

Job No. 10778 Date: MAY 16, 2023
Scale: 1" = 30' TAX No. 70-17-3-11,12,13,14&15

Events for Subcatchment 1S: Main Street

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-Year	1.87	0.32	657	1.65
2-Year	2.20	0.38	788	1.97
5-Year	2.69	0.46	982	2.46
10-Year	3.14	0.54	1,161	2.91
25-Year	3.84	0.66	1,440	3.61
50-Year	4.48	0.78	1,695	4.24
100-Year	**5.23**	**0.91**	**1,994**	**4.99**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Events for Subcatchment 2S: South

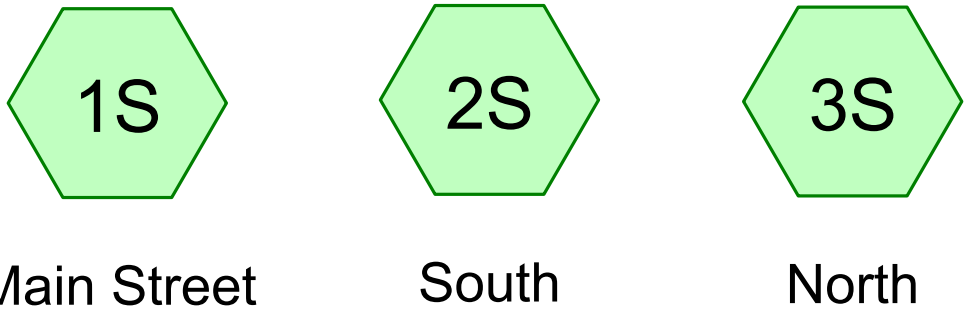
Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-Year	1.87	3.01	5,717	1.54
2-Year	2.20	3.60	6,916	1.87
5-Year	2.69	4.45	8,706	2.35
10-Year	3.14	5.24	10,357	2.80
25-Year	3.84	6.45	12,930	3.49
50-Year	4.48	7.56	15,288	4.13
100-Year	**5.23**	**8.85**	**18,055**	**4.88**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Events for Subcatchment 3S: North

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-Year	1.87	1.00	2,193	0.56
2-Year	2.20	1.41	3,045	0.78
5-Year	2.69	2.06	4,426	1.14
10-Year	3.14	2.69	5,787	1.49
25-Year	3.84	3.71	8,028	2.07
50-Year	4.48	4.67	10,171	2.62
100-Year	**5.23**	**5.81**	**12,762**	**3.29**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



Subcat Reach Pond Link

Routing Diagram for 24-4006 existing
Prepared by Carmina Wood Morris, PC, Printed 3/24/2024
HydroCAD® 10.20-2g s/n 05019 © 2022 HydroCAD Software Solutions LLC

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	Type II 24-hr		Default	24.00	1	1.87	2
2	10-Year	Type II 24-hr		Default	24.00	1	3.14	2
3	25-Year	Type II 24-hr		Default	24.00	1	3.84	2
4	100-Year	Type II 24-hr		Default	24.00	1	5.23	2

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
43,560	80	>75% Grass cover, Good, HSG D (2S, 3S)
34,848	98	Paved parking, HSG D (1S, 2S, 3S)
17,424	98	Roofs, HSG D (2S, 3S)
95,832	**90**	**TOTAL AREA**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
0	HSG C	
95,832	HSG D	1S, 2S, 3S
0	Other	
95,832		**TOTAL AREA**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	0	0	43,560	0	43,560	>75% Grass cover, Good
0	0	0	34,848	0	34,848	Paved parking
0	0	0	17,424	0	17,424	Roofs
0	**0**	**0**	**95,832**	**0**	**95,832**	**TOTAL AREA**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	2S	0.00	0.00	28.0	0.0120	0.025	0.0	12.0	0.0

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Main Street Runoff Area=0.110 ac 100.00% Impervious Runoff Depth=1.65"
Flow Length=115' Slope=0.0050 '/' Tc=2.7 min CN=98 Runoff=0.32 cfs 657 cf

Subcatchment2S: South Runoff Area=1.020 ac 95.10% Impervious Runoff Depth=1.54"
Flow Length=78' Tc=0.8 min CN=97 Runoff=3.01 cfs 5,717 cf

Subcatchment3S: North Runoff Area=1.070 ac 11.21% Impervious Runoff Depth=0.56"
Flow Length=70' Slope=0.0250 '/' Tc=7.6 min CN=82 Runoff=1.00 cfs 2,193 cf

Total Runoff Area = 95,832 sf Runoff Volume = 8,567 cf Average Runoff Depth = 1.07"
45.45% Pervious = 43,560 sf 54.55% Impervious = 52,272 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Main Street

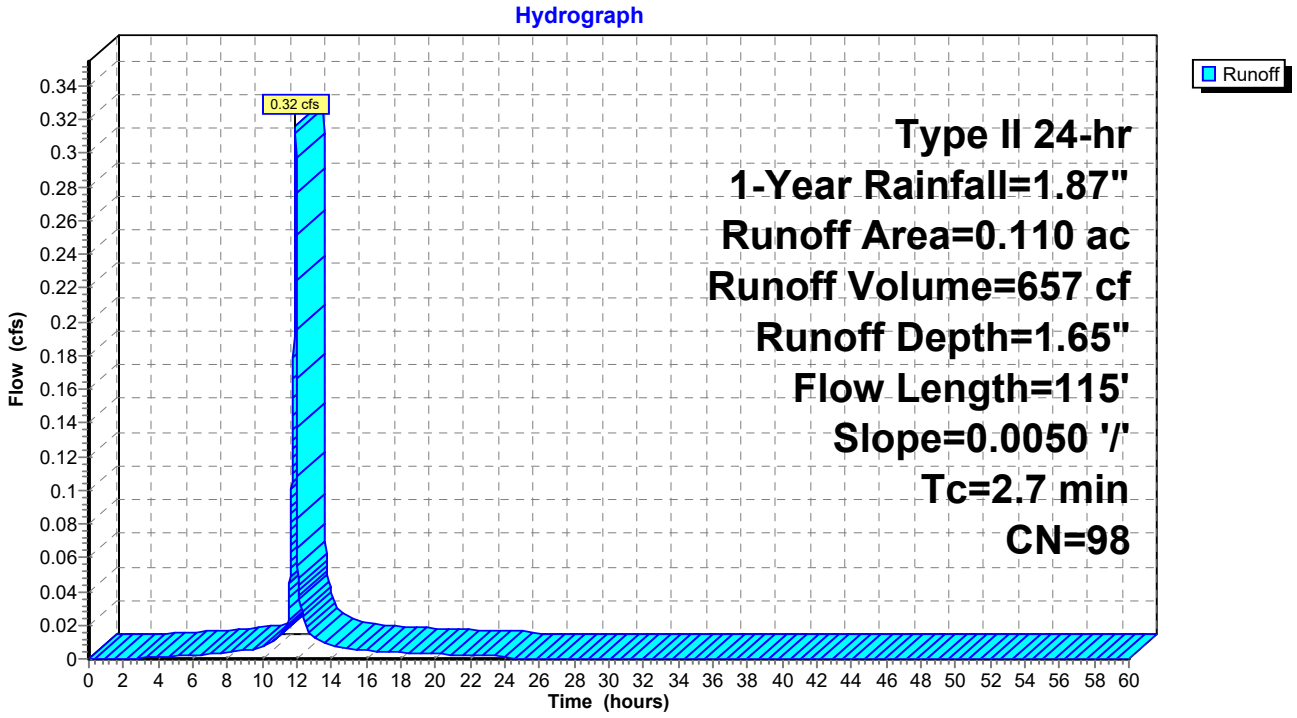
Runoff = 0.32 cfs @ 11.93 hrs, Volume= 657 cf, Depth= 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.87"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG D
0.110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	115	0.0050	0.72		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"

Subcatchment 1S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: South

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 148% of capacity of segment #2

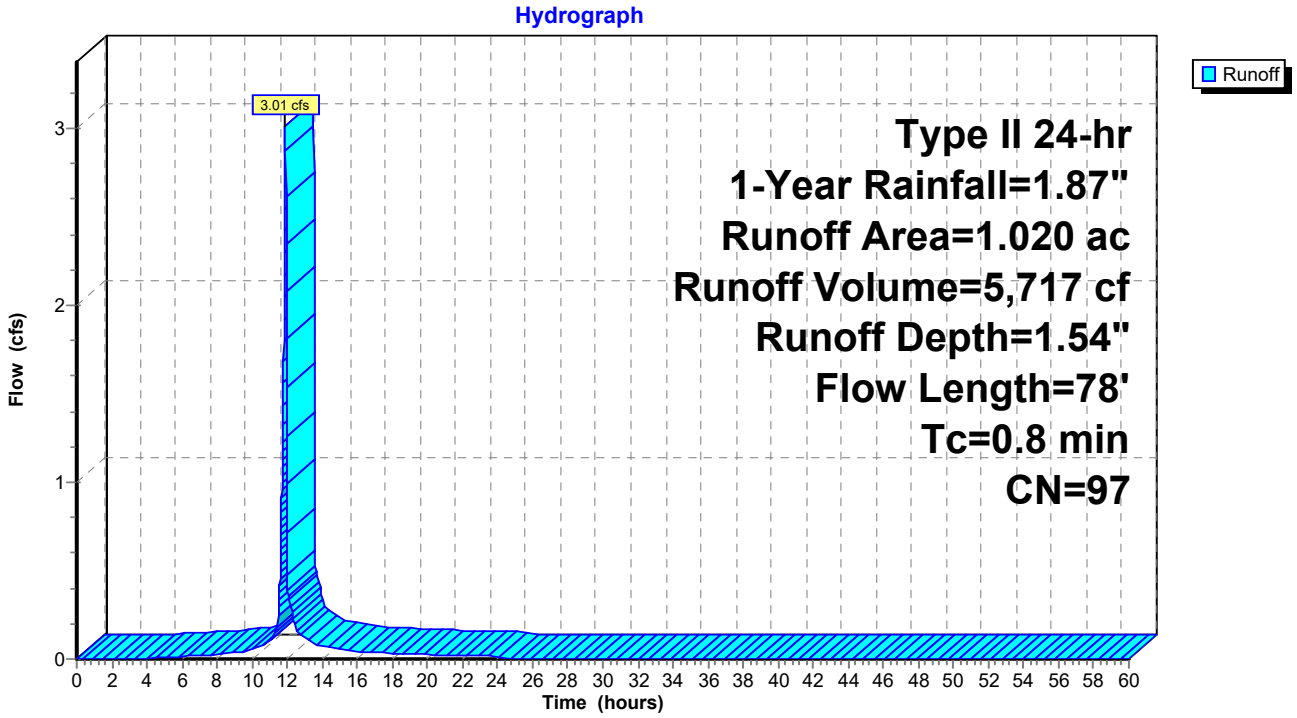
Runoff = 3.01 cfs @ 11.91 hrs, Volume= 5,717 cf, Depth= 1.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.87"

Area (ac)	CN	Description
0.620	98	Paved parking, HSG D
0.350	98	Roofs, HSG D
0.050	80	>75% Grass cover, Good, HSG D
1.020	97	Weighted Average
0.050		4.90% Pervious Area
0.970		95.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0360	1.34		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
0.2	28	0.0120	2.58	2.03	**Pipe Channel, 12" pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.025 Corrugated metal
0.8	78	Total			

Subcatchment 2S: South



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 3S: North

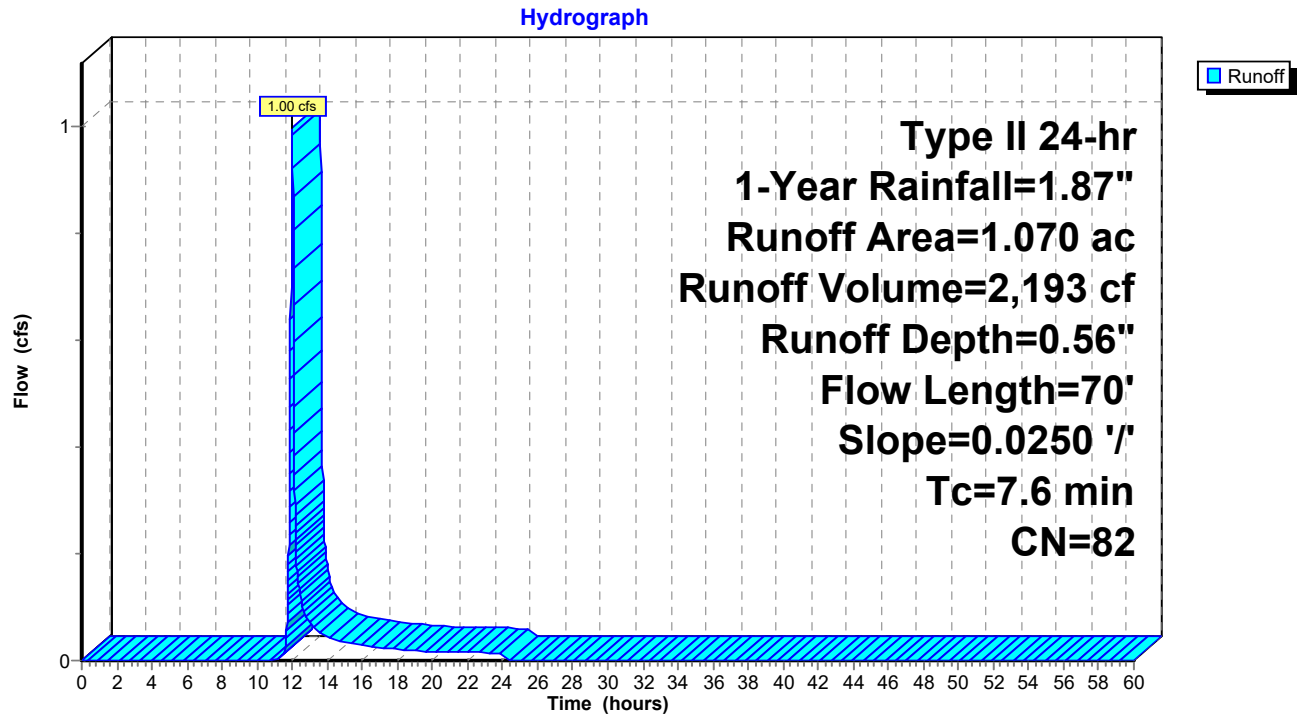
Runoff = 1.00 cfs @ 12.00 hrs, Volume= 2,193 cf, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.87"

Area (ac)	CN	Description
0.070	98	Paved parking, HSG D
0.050	98	Roofs, HSG D
0.950	80	>75% Grass cover, Good, HSG D
1.070	82	Weighted Average
0.950		88.79% Pervious Area
0.120		11.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	70	0.0250	0.15		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 3S: North



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Main Street Runoff Area=0.110 ac 100.00% Impervious Runoff Depth=2.91"
Flow Length=115' Slope=0.0050 '/' Tc=2.7 min CN=98 Runoff=0.54 cfs 1,161 cf

Subcatchment2S: South Runoff Area=1.020 ac 95.10% Impervious Runoff Depth=2.80"
Flow Length=78' Tc=0.8 min CN=97 Runoff=5.24 cfs 10,357 cf

Subcatchment3S: North Runoff Area=1.070 ac 11.21% Impervious Runoff Depth=1.49"
Flow Length=70' Slope=0.0250 '/' Tc=7.6 min CN=82 Runoff=2.69 cfs 5,787 cf

Total Runoff Area = 95,832 sf Runoff Volume = 17,305 cf Average Runoff Depth = 2.17"
45.45% Pervious = 43,560 sf 54.55% Impervious = 52,272 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Main Street

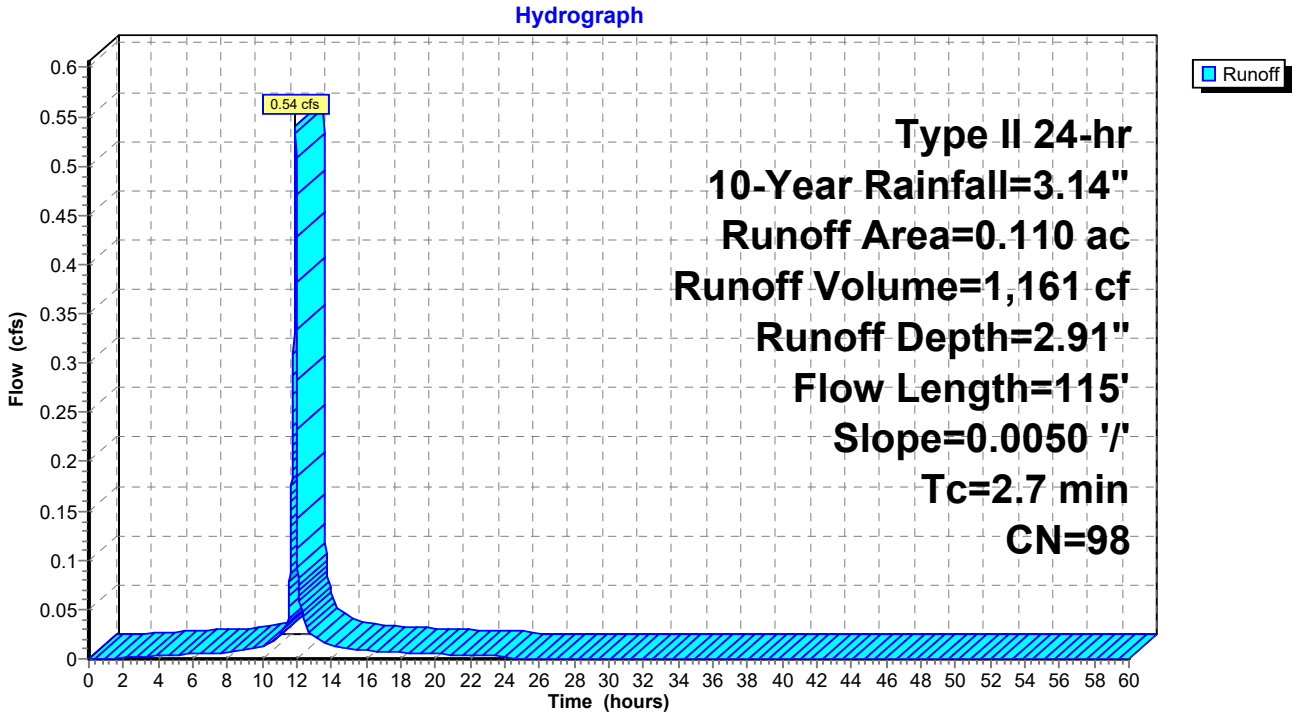
Runoff = 0.54 cfs @ 11.93 hrs, Volume= 1,161 cf, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG D
0.110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	115	0.0050	0.72		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"

Subcatchment 1S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: South

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 258% of capacity of segment #2

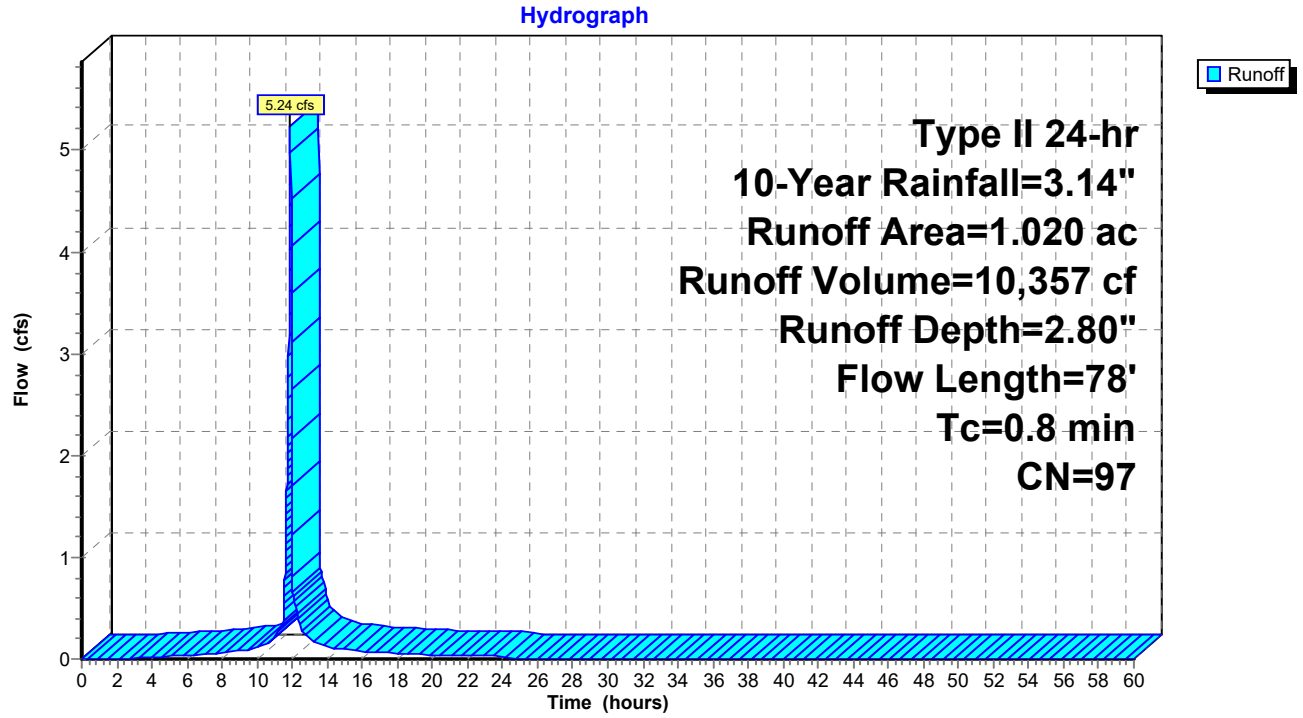
Runoff = 5.24 cfs @ 11.91 hrs, Volume= 10,357 cf, Depth= 2.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (ac)	CN	Description
0.620	98	Paved parking, HSG D
0.350	98	Roofs, HSG D
0.050	80	>75% Grass cover, Good, HSG D
1.020	97	Weighted Average
0.050		4.90% Pervious Area
0.970		95.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0360	1.34		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
0.2	28	0.0120	2.58	2.03	**Pipe Channel, 12" pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.025 Corrugated metal
0.8	78	Total			

Subcatchment 2S: South



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 3S: North

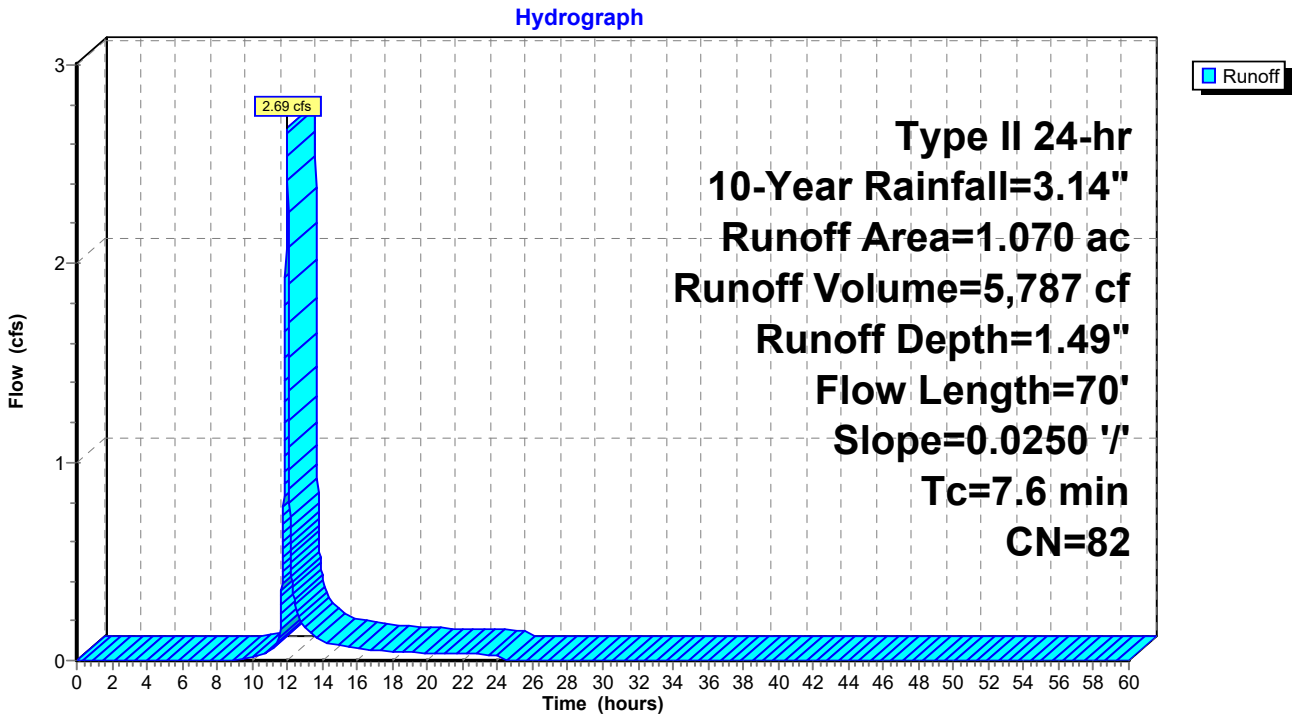
Runoff = 2.69 cfs @ 11.99 hrs, Volume= 5,787 cf, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (ac)	CN	Description
0.070	98	Paved parking, HSG D
0.050	98	Roofs, HSG D
0.950	80	>75% Grass cover, Good, HSG D
1.070	82	Weighted Average
0.950		88.79% Pervious Area
0.120		11.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	70	0.0250	0.15		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 3S: North



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Main Street Runoff Area=0.110 ac 100.00% Impervious Runoff Depth=3.61"
Flow Length=115' Slope=0.0050 '/' Tc=2.7 min CN=98 Runoff=0.66 cfs 1,440 cf

Subcatchment2S: South Runoff Area=1.020 ac 95.10% Impervious Runoff Depth=3.49"
Flow Length=78' Tc=0.8 min CN=97 Runoff=6.45 cfs 12,930 cf

Subcatchment3S: North Runoff Area=1.070 ac 11.21% Impervious Runoff Depth=2.07"
Flow Length=70' Slope=0.0250 '/' Tc=7.6 min CN=82 Runoff=3.71 cfs 8,028 cf

Total Runoff Area = 95,832 sf Runoff Volume = 22,398 cf Average Runoff Depth = 2.80"
45.45% Pervious = 43,560 sf 54.55% Impervious = 52,272 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Main Street

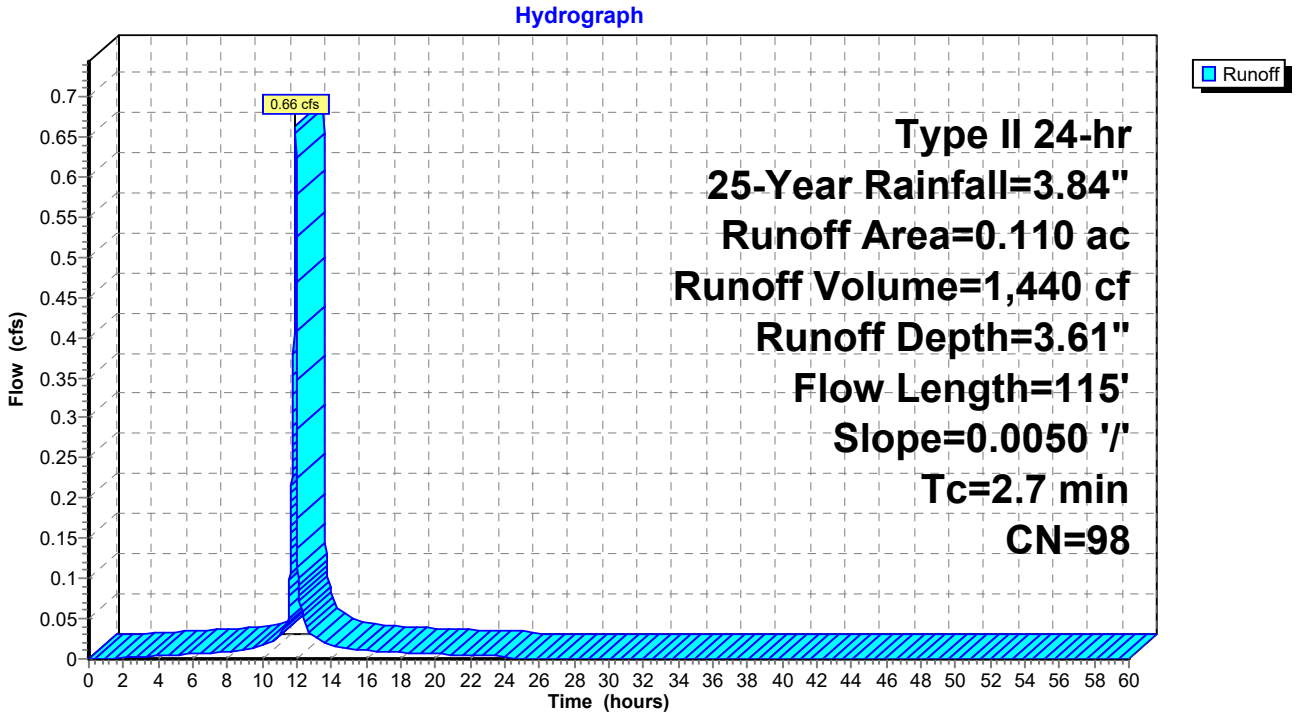
Runoff = 0.66 cfs @ 11.93 hrs, Volume= 1,440 cf, Depth= 3.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG D
0.110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	115	0.0050	0.72		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"

Subcatchment 1S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: South

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 318% of capacity of segment #2

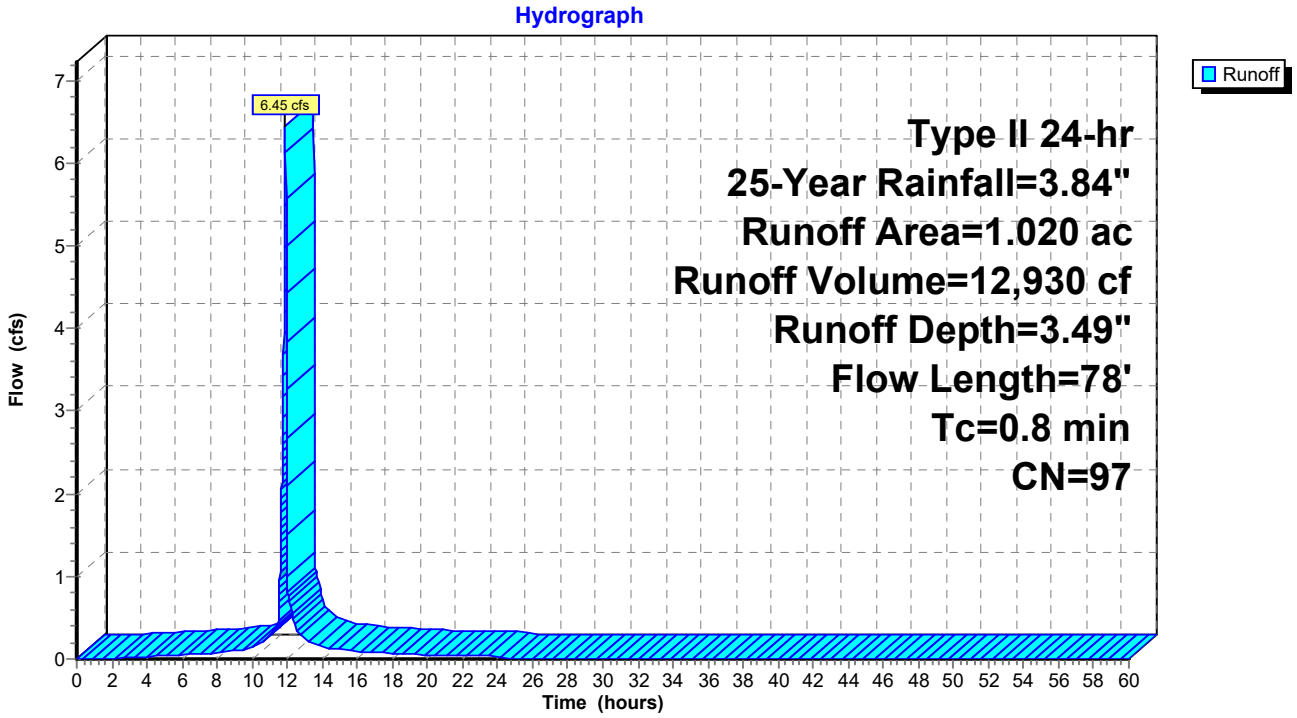
Runoff = 6.45 cfs @ 11.91 hrs, Volume= 12,930 cf, Depth= 3.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (ac)	CN	Description
0.620	98	Paved parking, HSG D
0.350	98	Roofs, HSG D
0.050	80	>75% Grass cover, Good, HSG D
1.020	97	Weighted Average
0.050		4.90% Pervious Area
0.970		95.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0360	1.34		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
0.2	28	0.0120	2.58	2.03	**Pipe Channel, 12" pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.025 Corrugated metal
0.8	78	Total			

Subcatchment 2S: South



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 3S: North

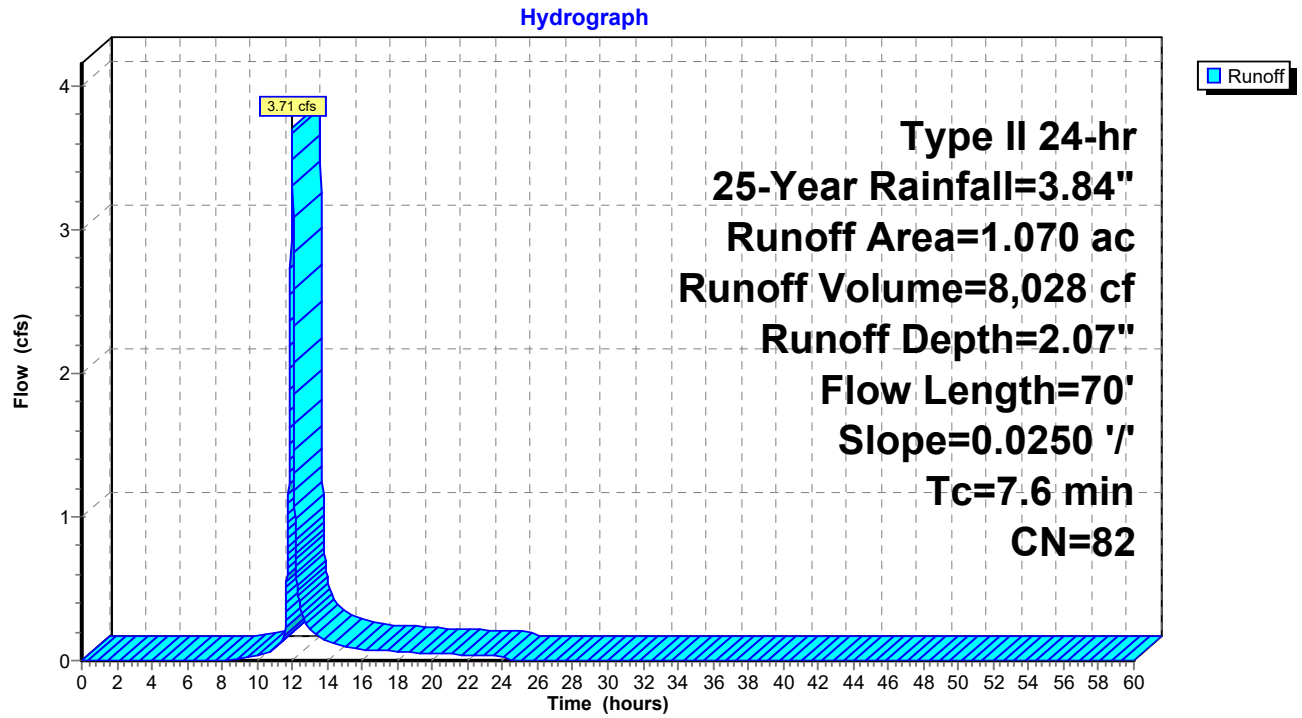
Runoff = 3.71 cfs @ 11.99 hrs, Volume= 8,028 cf, Depth= 2.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (ac)	CN	Description
0.070	98	Paved parking, HSG D
0.050	98	Roofs, HSG D
0.950	80	>75% Grass cover, Good, HSG D
1.070	82	Weighted Average
0.950		88.79% Pervious Area
0.120		11.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	70	0.0250	0.15		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 3S: North



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Main Street Runoff Area=0.110 ac 100.00% Impervious Runoff Depth=4.99"
Flow Length=115' Slope=0.0050 '/' Tc=2.7 min CN=98 Runoff=0.91 cfs 1,994 cf

Subcatchment2S: South Runoff Area=1.020 ac 95.10% Impervious Runoff Depth=4.88"
Flow Length=78' Tc=0.8 min CN=97 Runoff=8.85 cfs 18,055 cf

Subcatchment3S: North Runoff Area=1.070 ac 11.21% Impervious Runoff Depth=3.29"
Flow Length=70' Slope=0.0250 '/' Tc=7.6 min CN=82 Runoff=5.81 cfs 12,762 cf

Total Runoff Area = 95,832 sf Runoff Volume = 32,810 cf Average Runoff Depth = 4.11"
45.45% Pervious = 43,560 sf 54.55% Impervious = 52,272 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Main Street

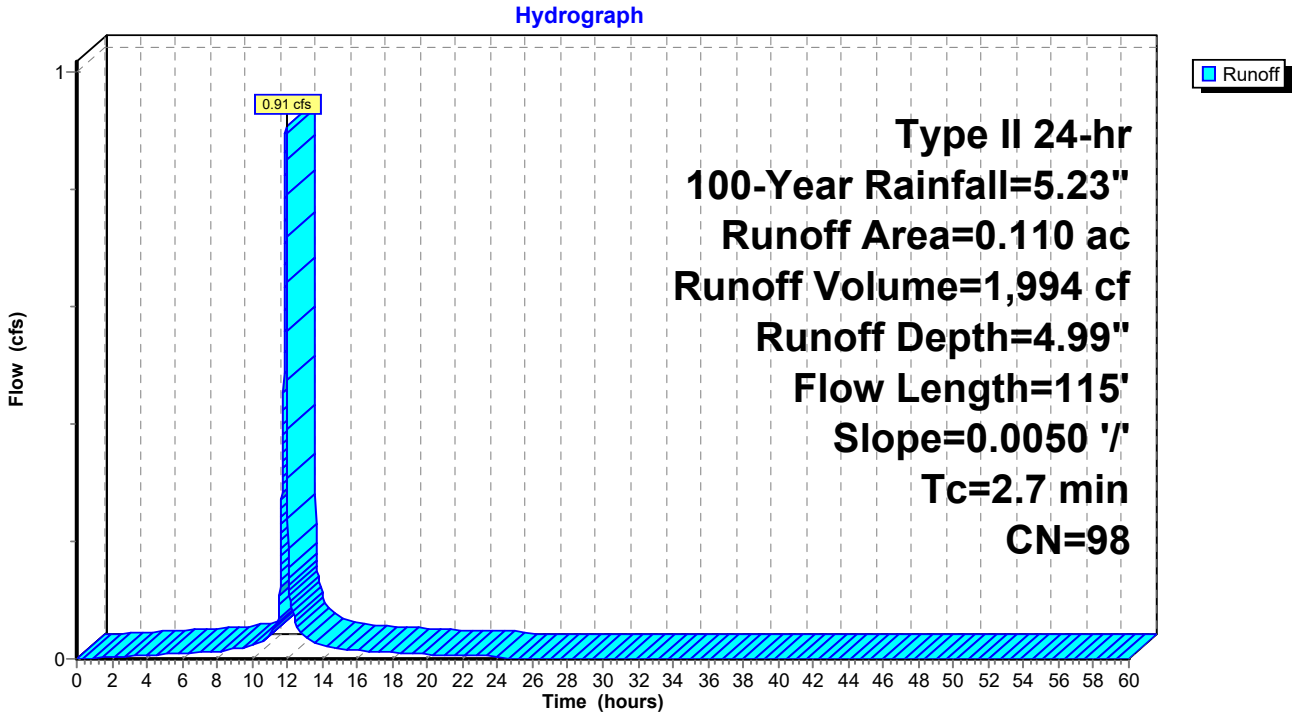
Runoff = 0.91 cfs @ 11.93 hrs, Volume= 1,994 cf, Depth= 4.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.23"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG D
0.110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	115	0.0050	0.72		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"

Subcatchment 1S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: South

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 436% of capacity of segment #2

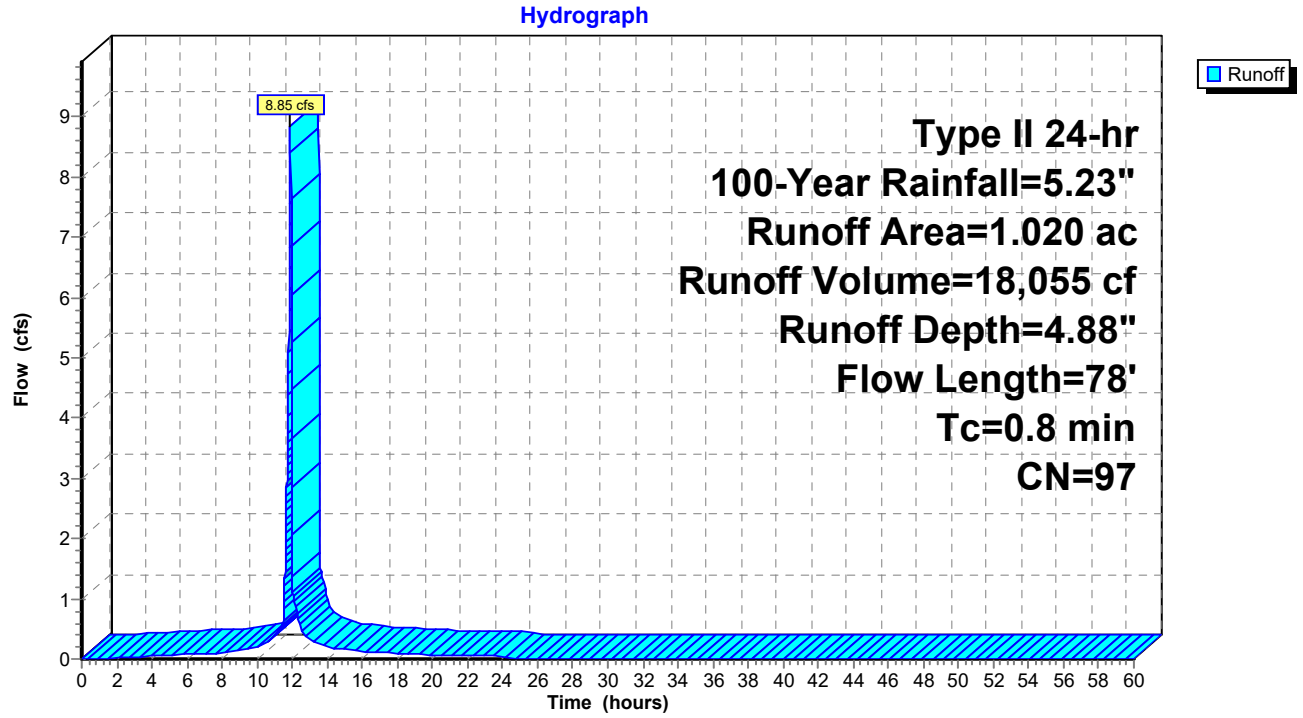
Runoff = 8.85 cfs @ 11.91 hrs, Volume= 18,055 cf, Depth= 4.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.23"

Area (ac)	CN	Description
0.620	98	Paved parking, HSG D
0.350	98	Roofs, HSG D
0.050	80	>75% Grass cover, Good, HSG D
1.020	97	Weighted Average
0.050		4.90% Pervious Area
0.970		95.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0360	1.34		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
0.2	28	0.0120	2.58	2.03	**Pipe Channel, 12" pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.025 Corrugated metal
0.8	78	Total			

Subcatchment 2S: South



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 3S: North

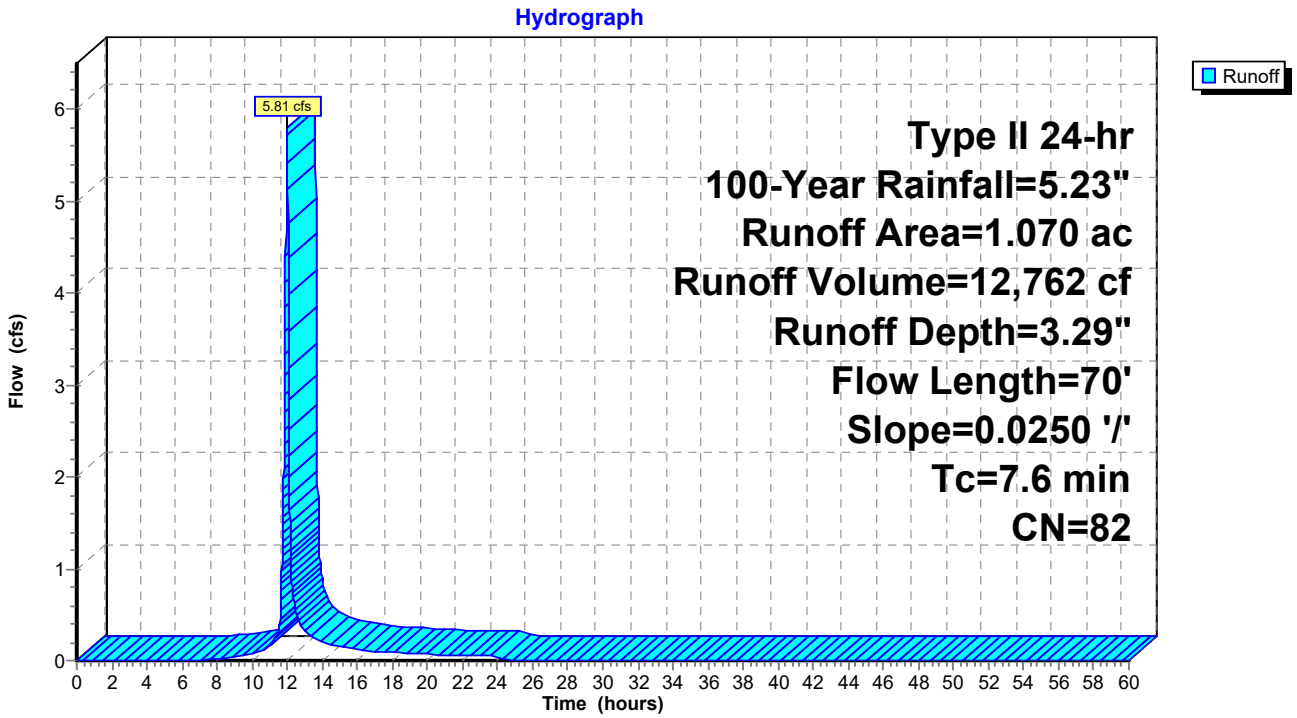
Runoff = 5.81 cfs @ 11.99 hrs, Volume= 12,762 cf, Depth= 3.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.23"

Area (ac)	CN	Description
0.070	98	Paved parking, HSG D
0.050	98	Roofs, HSG D
0.950	80	>75% Grass cover, Good, HSG D
1.070	82	Weighted Average
0.950		88.79% Pervious Area
0.120		11.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	70	0.0250	0.15		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 3S: North



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Proposed Runoff

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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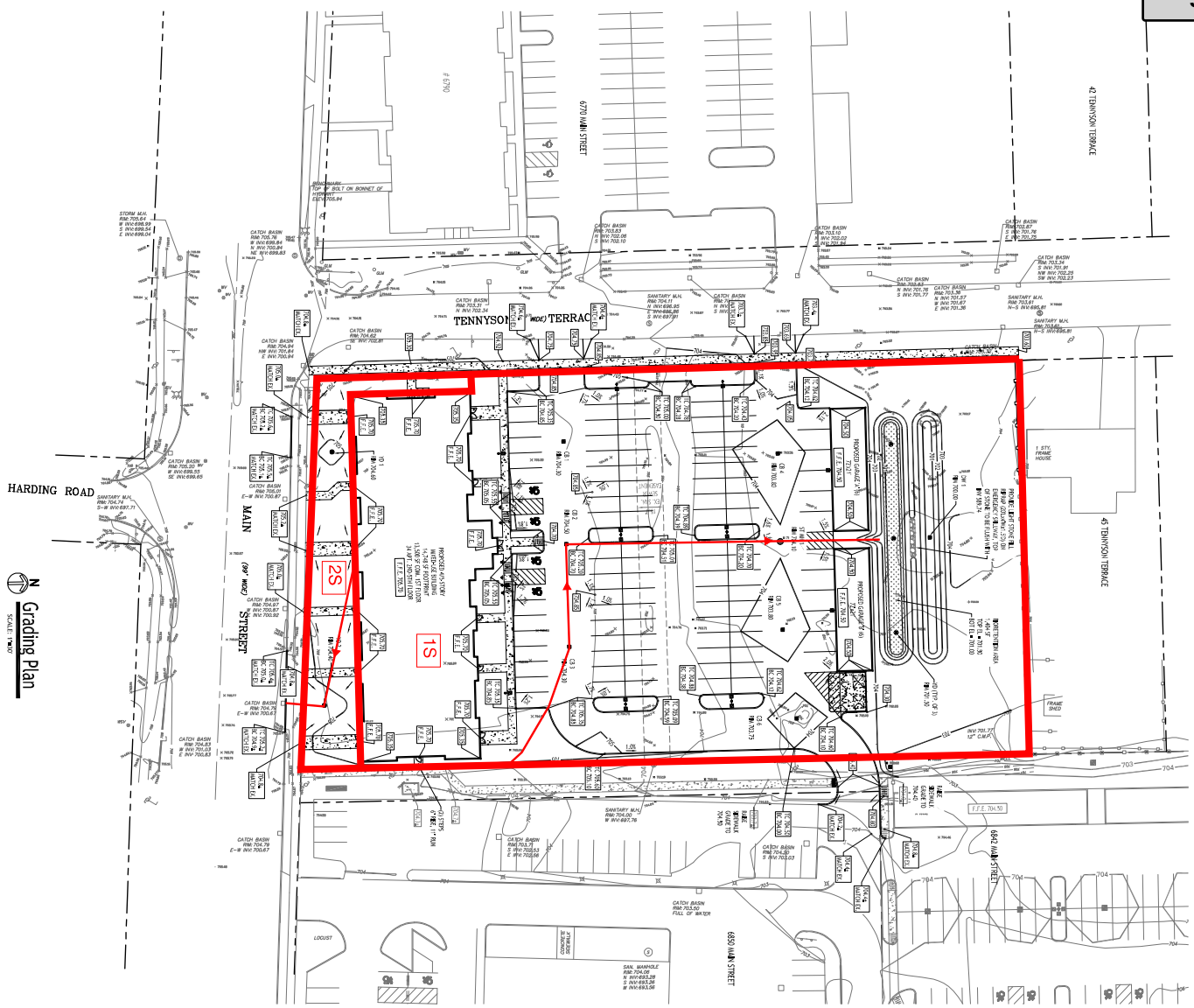


PROPOSED RUNOFF

PROPOSED GRADING LEGEND

PROPOSED CONTOUR

PROPOSED SPOT ELEVATION

PROPOSED TOP BOTTOM OF CURB

PROPOSED CATCH BASIN

PROPOSED GARAGE FLOOR

PROPOSED MANHOLE

PROPOSED SWALE

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30 0 30 60 MI.

DRAWING NAME: Grading Plan

DRAWING NO. C-200

Project No: 24-4006

Date: 3/25/24
Drawn By: P. Sheedy
Scale: As Noted

REVISIONS:

No.	Description	Date

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

CARMINAWOOD DES

Buffalo | Utica

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Events for Pond 2P: Dry Pond

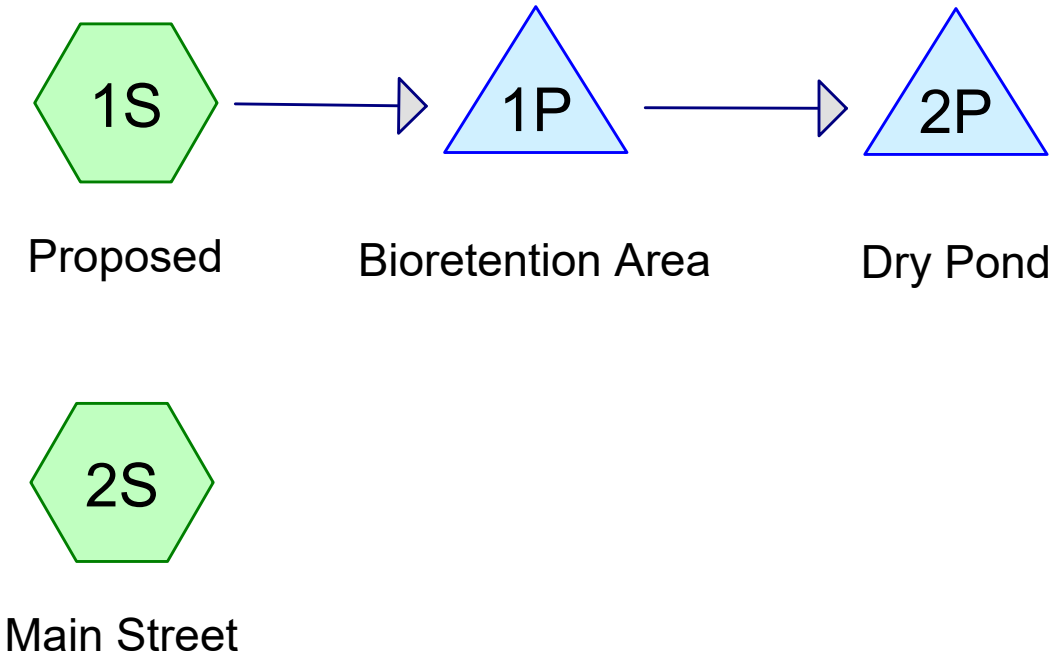
Event	Inflow (cfs)	Discarded (cfs)	Elevation (feet)	Storage (cubic-feet)
1-Year	1.60	**0.90**	701.83	1,512
2-Year	1.66	0.90	701.98	2,004
5-Year	1.69	0.90	702.08	2,326
10-Year	1.70	0.90	702.15	2,590
25-Year	1.71	0.90	702.25	2,980
50-Year	1.72	0.90	702.34	3,329
100-Year	**1.73**	0.90	**702.44**	**3,758**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Events for Subcatchment 2S: Main Street

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-Year	1.87	0.14	353	0.61
2-Year	2.20	0.19	485	0.84
5-Year	2.69	0.28	698	1.20
10-Year	3.14	0.36	906	1.56
25-Year	3.84	0.50	1,247	2.15
50-Year	4.48	0.62	1,573	2.71
100-Year	**5.23**	**0.77**	**1,965**	**3.38**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Subcat Reach Pond Link

Routing Diagram for 24-4006 proposed
Prepared by Carmina Wood Morris, PC, Printed 3/24/2024
HydroCAD® 10.20-2g s/n 05019 © 2022 HydroCAD Software Solutions LLC

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	Type II 24-hr		Default	24.00	1	1.87	2
2	10-Year	Type II 24-hr		Default	24.00	1	3.14	2
3	25-Year	Type II 24-hr		Default	24.00	1	3.84	2
4	100-Year	Type II 24-hr		Default	24.00	1	5.23	2

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
37,026	80	>75% Grass cover, Good, HSG D (1S, 2S)
41,382	98	Paved parking, HSG D (1S, 2S)
17,424	98	Roofs, HSG D (1S)
95,832	**91**	**TOTAL AREA**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
0	HSG C	
95,832	HSG D	1S, 2S
0	Other	
95,832		**TOTAL AREA**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	0	0	37,026	0	37,026	>75% Grass cover, Good
0	0	0	41,382	0	41,382	Paved parking
0	0	0	17,424	0	17,424	Roofs
0	**0**	**0**	**95,832**	**0**	**95,832**	**TOTAL AREA**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	1S	0.00	0.00	240.0	0.0030	0.013	0.0	12.0	0.0
2	1P	698.83	698.73	19.0	0.0053	0.013	0.0	6.0	0.0

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Proposed Runoff Area=2.040 ac 64.71% Impervious Runoff Depth=1.12"
Flow Length=305' Tc=6.5 min CN=92 Runoff=3.95 cfs 8,303 cf

Subcatchment2S: Main Street Runoff Area=0.160 ac 18.75% Impervious Runoff Depth=0.61"
Flow Length=90' Slope=0.0140 '/' Tc=11.8 min CN=83 Runoff=0.14 cfs 353 cf

Pond 1P: Bioretention Area Peak Elev=702.34' Storage=1,519 cf Inflow=3.95 cfs 8,303 cf
Primary=1.60 cfs 8,303 cf Secondary=0.00 cfs 0 cf Outflow=1.60 cfs 8,303 cf

Pond 2P: Dry Pond Peak Elev=701.83' Storage=1,512 cf Inflow=1.60 cfs 8,303 cf
Outflow=0.90 cfs 8,303 cf

Total Runoff Area = 95,832 sf Runoff Volume = 8,656 cf Average Runoff Depth = 1.08"
38.64% Pervious = 37,026 sf 61.36% Impervious = 58,806 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Proposed

[47] Hint: Peak is 203% of capacity of segment #3

Runoff = 3.95 cfs @ 11.98 hrs, Volume= 8,303 cf, Depth= 1.12"
Routed to Pond 1P : Bioretention Area

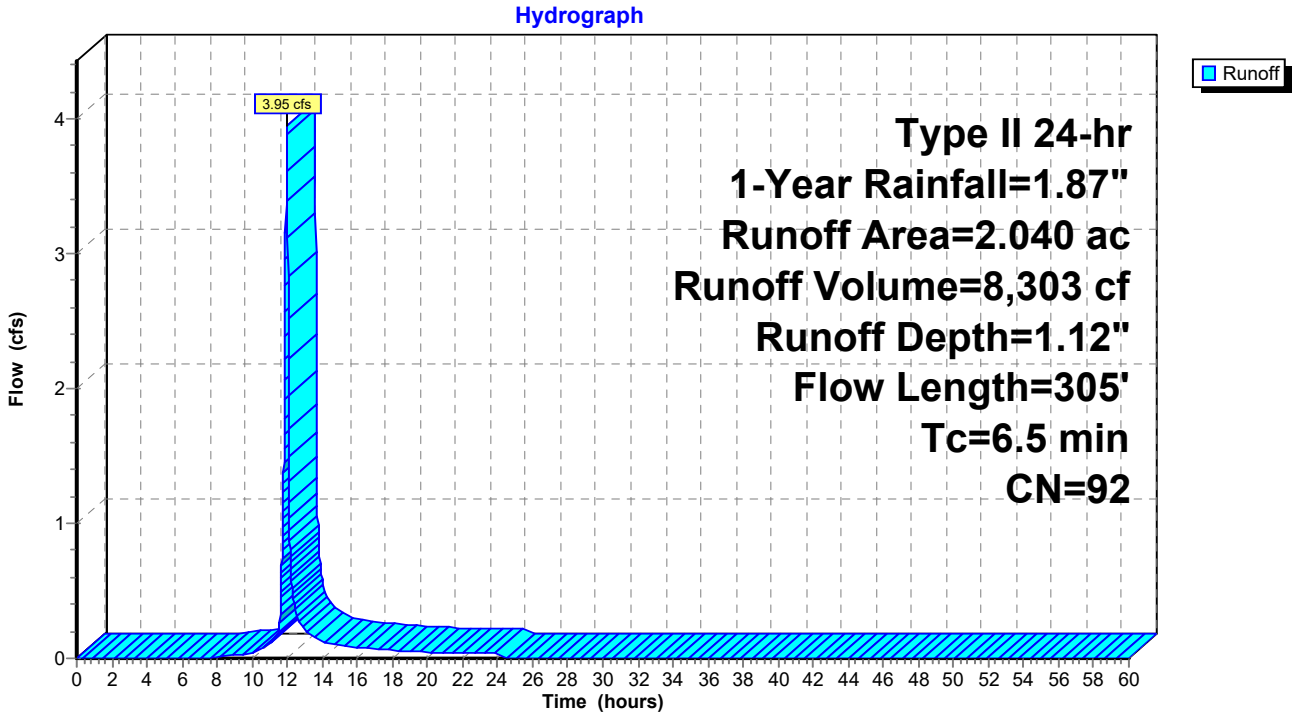
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.87"

Area (ac)	CN	Description
0.400	98	Roofs, HSG D
0.920	98	Paved parking, HSG D
0.720	80	>75% Grass cover, Good, HSG D
2.040	92	Weighted Average
0.720		35.29% Pervious Area
1.320		64.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	20	0.0100	0.08		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"
0.9	45	0.0120	0.84		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
1.6	240	0.0030	2.48	1.95	**Pipe Channel, Pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
6.5	305	Total			

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Subcatchment 1S: Proposed



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: Main Street

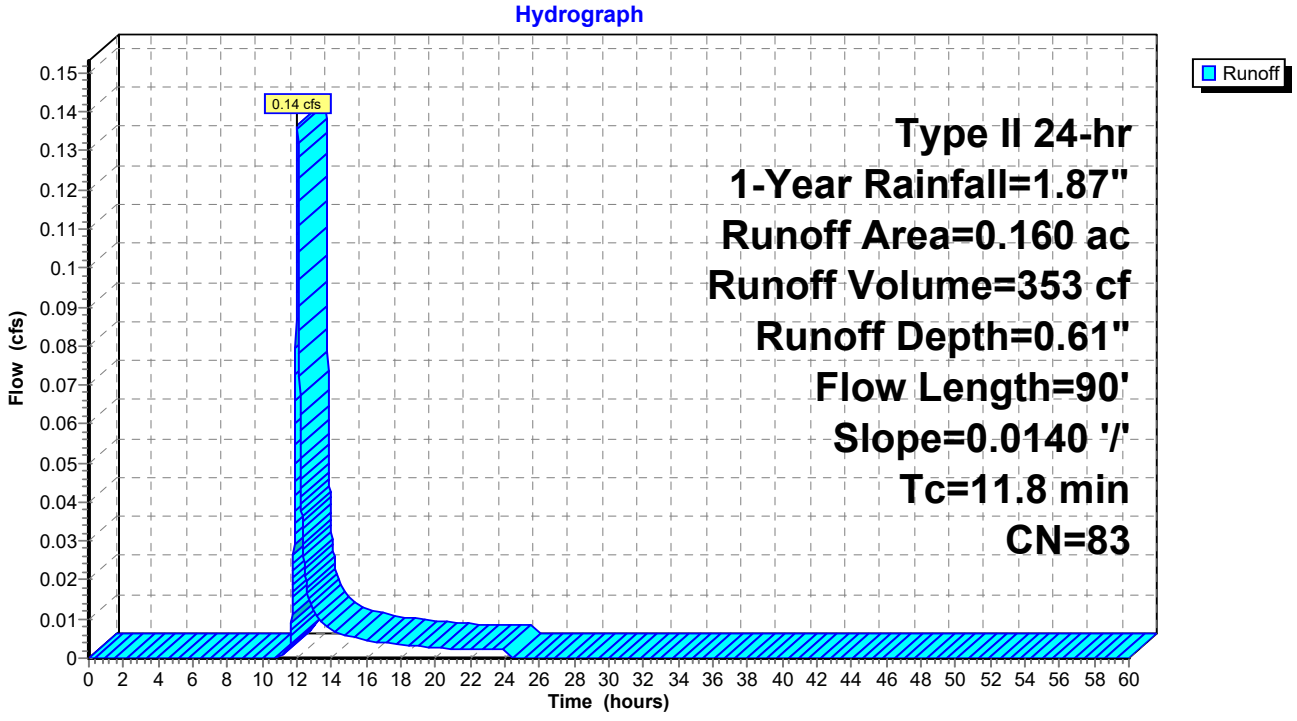
Runoff = 0.14 cfs @ 12.05 hrs, Volume= 353 cf, Depth= 0.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.87"

Area (ac)	CN	Description
0.030	98	Paved parking, HSG D
0.130	80	>75% Grass cover, Good, HSG D
0.160	83	Weighted Average
0.130		81.25% Pervious Area
0.030		18.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.8	90	0.0140	0.13		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 2S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 1P: Bioretention Area

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 1.12" for 1-Year event
Inflow = 3.95 cfs @ 11.98 hrs, Volume= 8,303 cf
Outflow = 1.60 cfs @ 12.08 hrs, Volume= 8,303 cf, Atten= 59%, Lag= 6.4 min
Primary = 1.60 cfs @ 12.08 hrs, Volume= 8,303 cf
Routed to Pond 2P : Dry Pond
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.34' @ 12.08 hrs Surf.Area= 2,195 sf Storage= 1,519 cf

Plug-Flow detention time= 7.6 min calculated for 8,302 cf (100% of inflow)
Center-of-Mass det. time= 7.6 min (823.7 - 816.1)

Volume	Invert	Avail.Storage	Storage Description
#1	701.50'	3,160 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.50	1,404	0	0
702.00	1,875	820	820
703.00	2,805	2,340	3,160

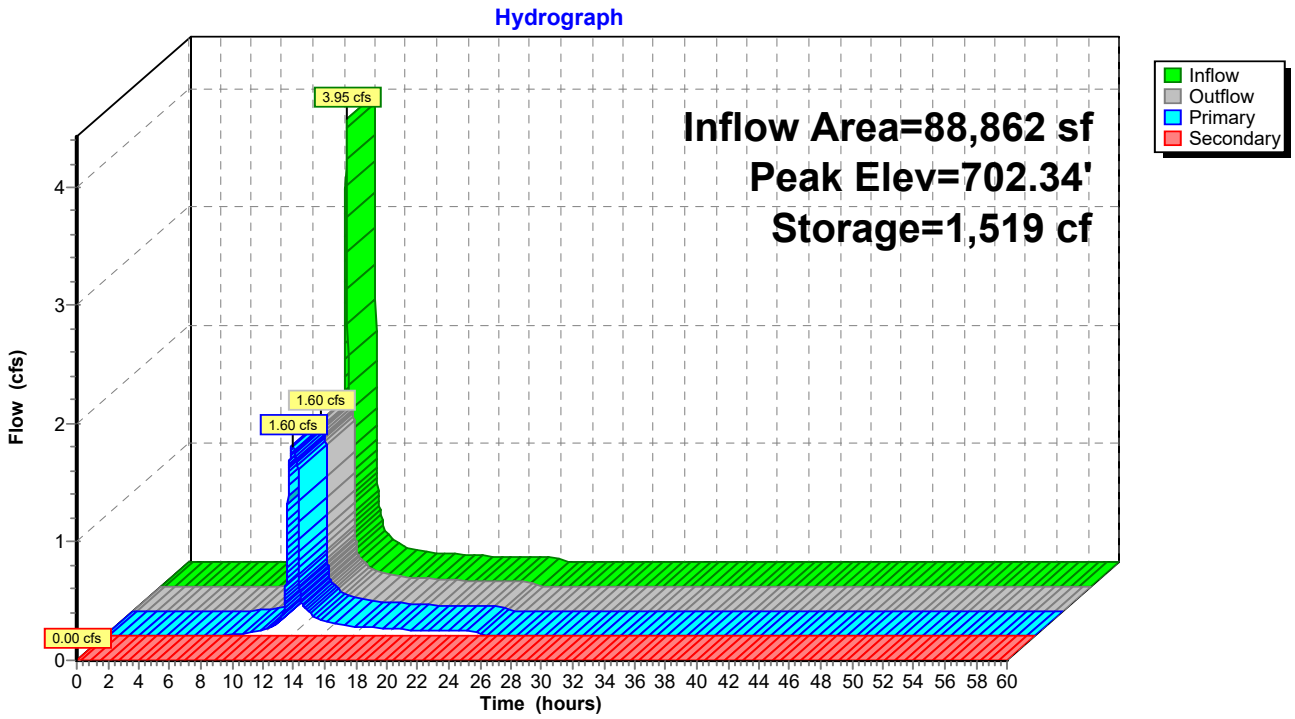
Device	Routing	Invert	Outlet Devices
#1	Primary	698.83'	**6.0" Round 6" pipe** L= 19.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 698.83' / 698.73' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	701.50'	**8.0" Horiz. Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	701.50'	**0.250 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 690.00'
#4	Secondary	702.50'	**20.0' long (Profile 1) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=1.60 cfs @ 12.08 hrs HW=702.34' (Free Discharge)
└**1=6" pipe** (Barrel Controls 1.60 cfs @ 8.17 fps)
└**2=Grate** (Passes < 4.63 cfs potential flow)
└**3=Exfiltration** (Passes < 0.01 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=701.50' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 1P: Bioretention Area



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 2P: Dry Pond

[81] Warning: Exceeded Pond 1P by 0.23' @ 12.54 hrs

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 1.12" for 1-Year event
Inflow = 1.60 cfs @ 12.08 hrs, Volume= 8,303 cf
Outflow = 0.90 cfs @ 11.78 hrs, Volume= 8,303 cf, Atten= 44%, Lag= 0.0 min
Discarded = 0.90 cfs @ 11.78 hrs, Volume= 8,303 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 701.83' @ 12.49 hrs Surf.Area= 2,966 sf Storage= 1,512 cf

Plug-Flow detention time= 8.1 min calculated for 8,302 cf (100% of inflow)
Center-of-Mass det. time= 8.1 min (831.8 - 823.7)

Volume	Invert	Avail.Storage	Storage Description
#1	701.00'	6,475 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

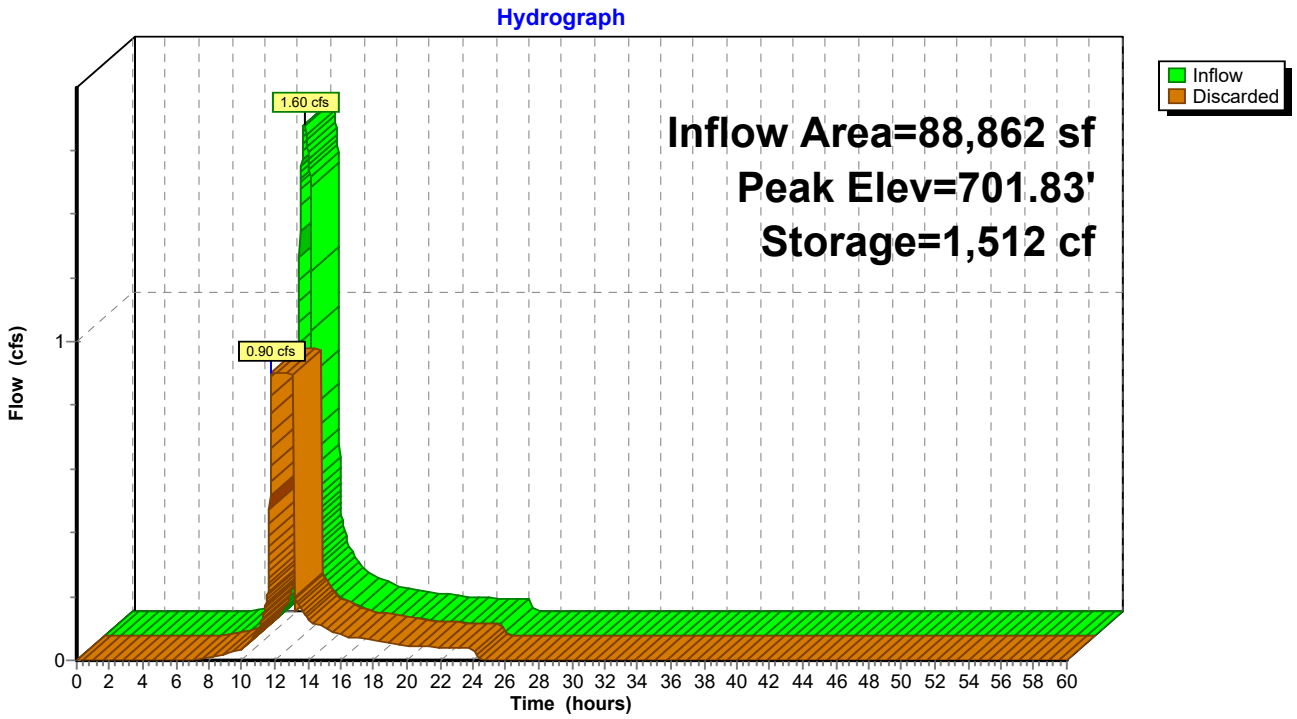
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.00	680	0	0
702.00	3,435	2,058	2,058
703.00	5,400	4,418	6,475

Device	Routing	Invert	Outlet Devices
#1	Discarded	701.00'	**0.90 cfs Well at all elevations**

Discarded OutFlow Max=0.90 cfs @ 11.78 hrs HW=701.02' (Free Discharge)
↑**1=Well** (Exfiltration Controls 0.90 cfs)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 2P: Dry Pond



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Proposed Runoff Area=2.040 ac 64.71% Impervious Runoff Depth=2.29"
Flow Length=305' Tc=6.5 min CN=92 Runoff=7.80 cfs 16,985 cf

Subcatchment2S: Main Street Runoff Area=0.160 ac 18.75% Impervious Runoff Depth=1.56"
Flow Length=90' Slope=0.0140 '/' Tc=11.8 min CN=83 Runoff=0.36 cfs 906 cf

Pond 1P: Bioretention Area Peak Elev=702.71' Storage=2,396 cf Inflow=7.80 cfs 16,985 cf
Primary=1.70 cfs 14,244 cf Secondary=5.79 cfs 2,741 cf Outflow=7.48 cfs 16,985 cf

Pond 2P: Dry Pond Peak Elev=702.15' Storage=2,590 cf Inflow=1.70 cfs 14,244 cf
Outflow=0.90 cfs 14,244 cf

Total Runoff Area = 95,832 sf Runoff Volume = 17,891 cf Average Runoff Depth = 2.24"
38.64% Pervious = 37,026 sf 61.36% Impervious = 58,806 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Proposed

[47] Hint: Peak is 400% of capacity of segment #3

Runoff = 7.80 cfs @ 11.98 hrs, Volume= 16,985 cf, Depth= 2.29"
Routed to Pond 1P : Bioretention Area

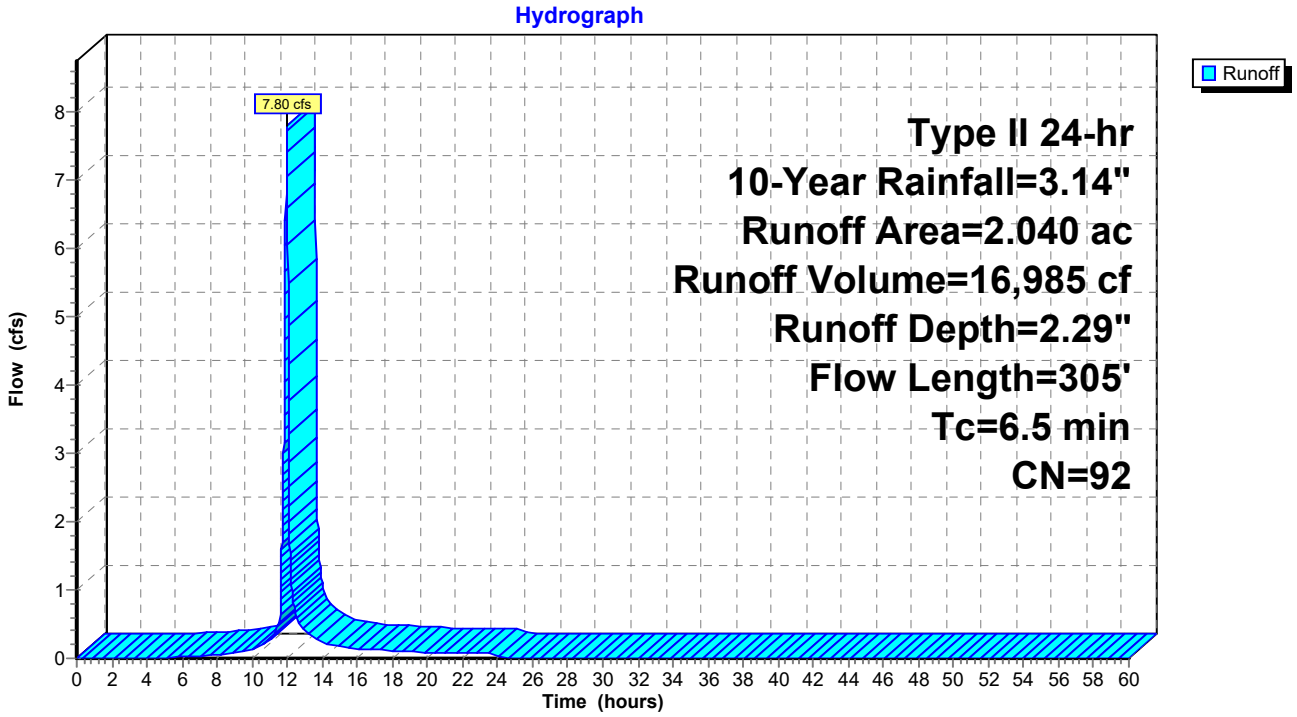
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (ac)	CN	Description
0.400	98	Roofs, HSG D
0.920	98	Paved parking, HSG D
0.720	80	>75% Grass cover, Good, HSG D
2.040	92	Weighted Average
0.720		35.29% Pervious Area
1.320		64.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	20	0.0100	0.08		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"
0.9	45	0.0120	0.84		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
1.6	240	0.0030	2.48	1.95	**Pipe Channel, Pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
6.5	305	Total			

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Subcatchment 1S: Proposed



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: Main Street

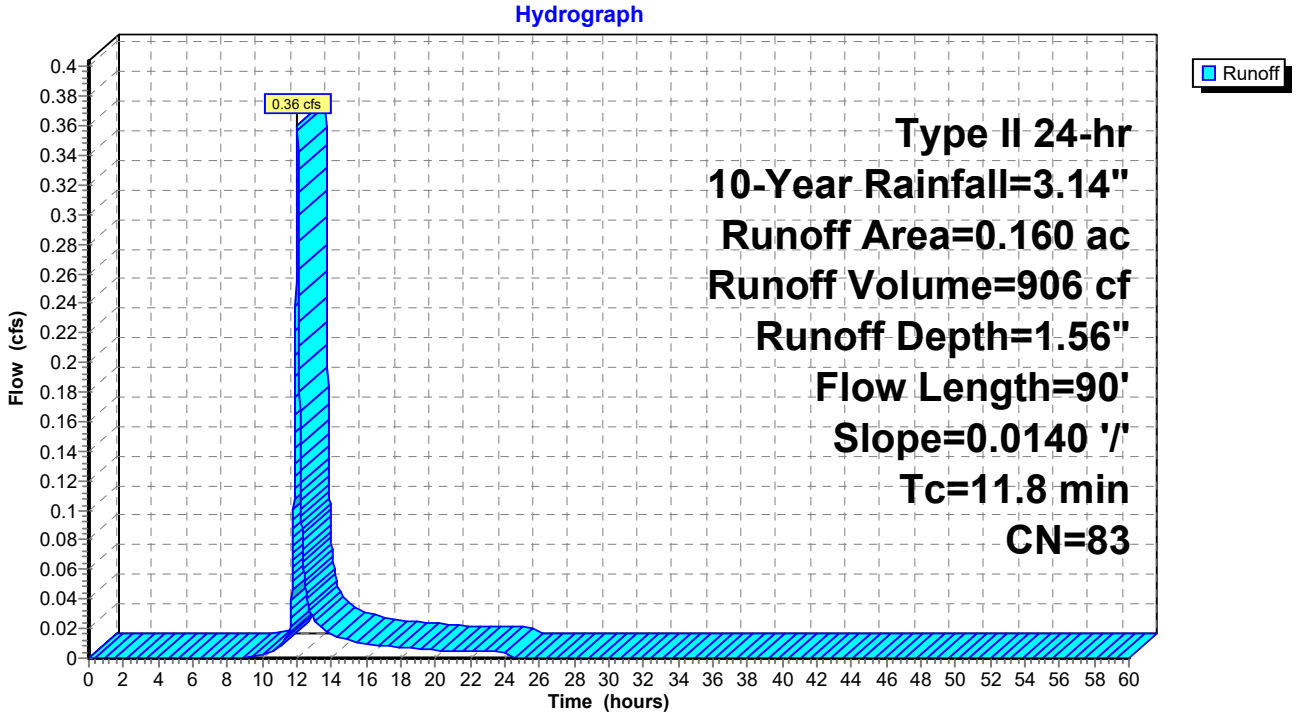
Runoff = 0.36 cfs @ 12.04 hrs, Volume= 906 cf, Depth= 1.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (ac)	CN	Description
0.030	98	Paved parking, HSG D
0.130	80	>75% Grass cover, Good, HSG D
0.160	83	Weighted Average
0.130		81.25% Pervious Area
0.030		18.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.8	90	0.0140	0.13		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 2S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 1P: Bioretention Area

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 2.29" for 10-Year event
Inflow = 7.80 cfs @ 11.98 hrs, Volume= 16,985 cf
Outflow = 7.48 cfs @ 12.00 hrs, Volume= 16,985 cf, Atten= 4%, Lag= 1.3 min
Primary = 1.70 cfs @ 12.00 hrs, Volume= 14,244 cf
Routed to Pond 2P : Dry Pond
Secondary = 5.79 cfs @ 12.00 hrs, Volume= 2,741 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.71' @ 12.00 hrs Surf.Area= 2,539 sf Storage= 2,396 cf

Plug-Flow detention time= 7.6 min calculated for 16,982 cf (100% of inflow)
Center-of-Mass det. time= 7.6 min (803.3 - 795.8)

Volume	Invert	Avail.Storage	Storage Description
#1	701.50'	3,160 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.50	1,404	0	0
702.00	1,875	820	820
703.00	2,805	2,340	3,160

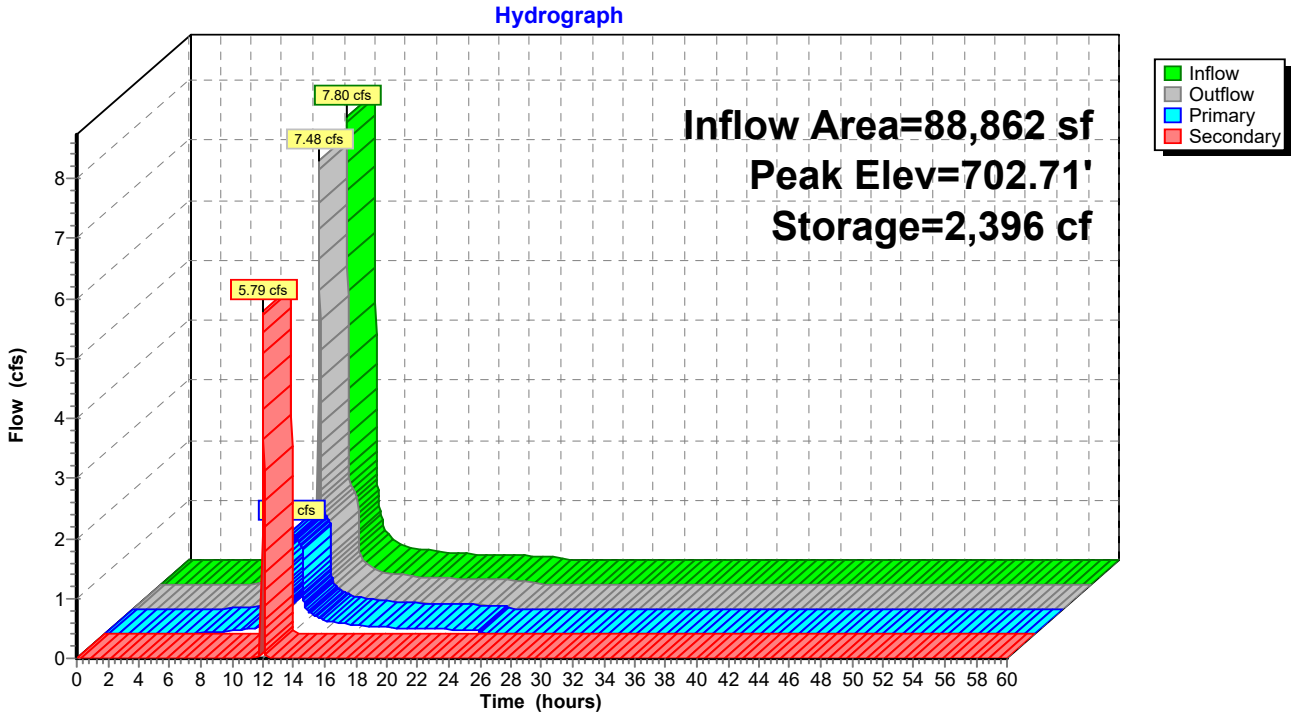
Device	Routing	Invert	Outlet Devices
#1	Primary	698.83'	**6.0" Round 6" pipe** L= 19.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 698.83' / 698.73' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	701.50'	**8.0" Horiz. Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	701.50'	**0.250 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 690.00'
#4	Secondary	702.50'	**20.0' long (Profile 1) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=1.70 cfs @ 12.00 hrs HW=702.71' (Free Discharge)
└**1=6" pipe** (Barrel Controls 1.70 cfs @ 8.64 fps)
└**2=Grate** (Passes < 5.56 cfs potential flow)
└**3=Exfiltration** (Passes < 0.02 cfs potential flow)

Secondary OutFlow Max=5.77 cfs @ 12.00 hrs HW=702.71' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Weir Controls 5.77 cfs @ 1.35 fps)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 1P: Bioretention Area



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 2P: Dry Pond

[81] Warning: Exceeded Pond 1P by 0.55' @ 12.82 hrs

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 1.92" for 10-Year event
Inflow = 1.70 cfs @ 12.00 hrs, Volume= 14,244 cf
Outflow = 0.90 cfs @ 11.67 hrs, Volume= 14,244 cf, Atten= 47%, Lag= 0.0 min
Discarded = 0.90 cfs @ 11.67 hrs, Volume= 14,244 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.15' @ 12.77 hrs Surf.Area= 3,727 sf Storage= 2,590 cf

Plug-Flow detention time= 14.0 min calculated for 14,241 cf (100% of inflow)
Center-of-Mass det. time= 14.0 min (833.1 - 819.1)

Volume	Invert	Avail.Storage	Storage Description
#1	701.00'	6,475 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

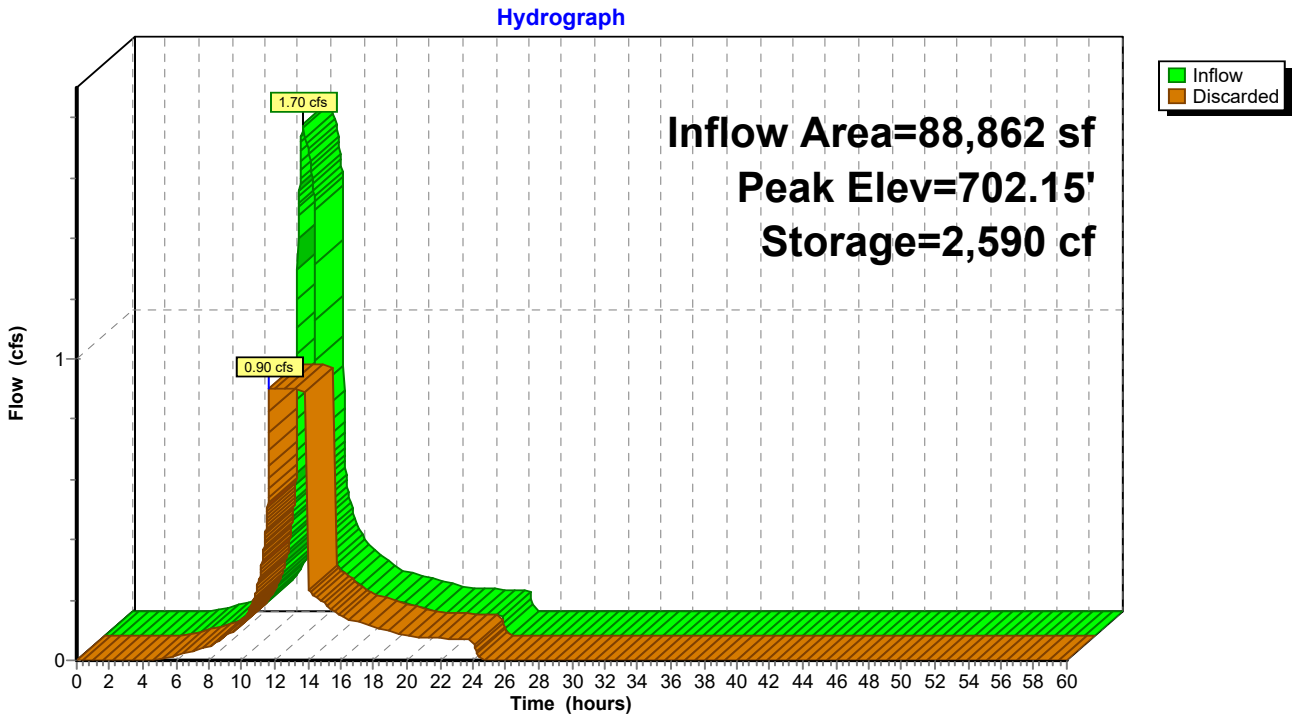
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.00	680	0	0
702.00	3,435	2,058	2,058
703.00	5,400	4,418	6,475

Device	Routing	Invert	Outlet Devices
#1	Discarded	701.00'	**0.90 cfs Well at all elevations**

Discarded OutFlow Max=0.90 cfs @ 11.67 hrs HW=701.02' (Free Discharge)
↑**1=Well** (Exfiltration Controls 0.90 cfs)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 2P: Dry Pond



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Proposed Runoff Area=2.040 ac 64.71% Impervious Runoff Depth=2.96"
Flow Length=305' Tc=6.5 min CN=92 Runoff=9.91 cfs 21,943 cf

Subcatchment2S: Main Street Runoff Area=0.160 ac 18.75% Impervious Runoff Depth=2.15"
Flow Length=90' Slope=0.0140 '/' Tc=11.8 min CN=83 Runoff=0.50 cfs 1,247 cf

Pond 1P: Bioretention Area Peak Elev=702.77' Storage=2,529 cf Inflow=9.91 cfs 21,943 cf
Primary=1.71 cfs 17,194 cf Secondary=8.02 cfs 4,749 cf Outflow=9.73 cfs 21,943 cf

Pond 2P: Dry Pond Peak Elev=702.25' Storage=2,980 cf Inflow=1.71 cfs 17,194 cf
Outflow=0.90 cfs 17,194 cf

Total Runoff Area = 95,832 sf Runoff Volume = 23,191 cf Average Runoff Depth = 2.90"
38.64% Pervious = 37,026 sf 61.36% Impervious = 58,806 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Proposed

[47] Hint: Peak is 508% of capacity of segment #3

Runoff = 9.91 cfs @ 11.97 hrs, Volume= 21,943 cf, Depth= 2.96"
Routed to Pond 1P : Bioretention Area

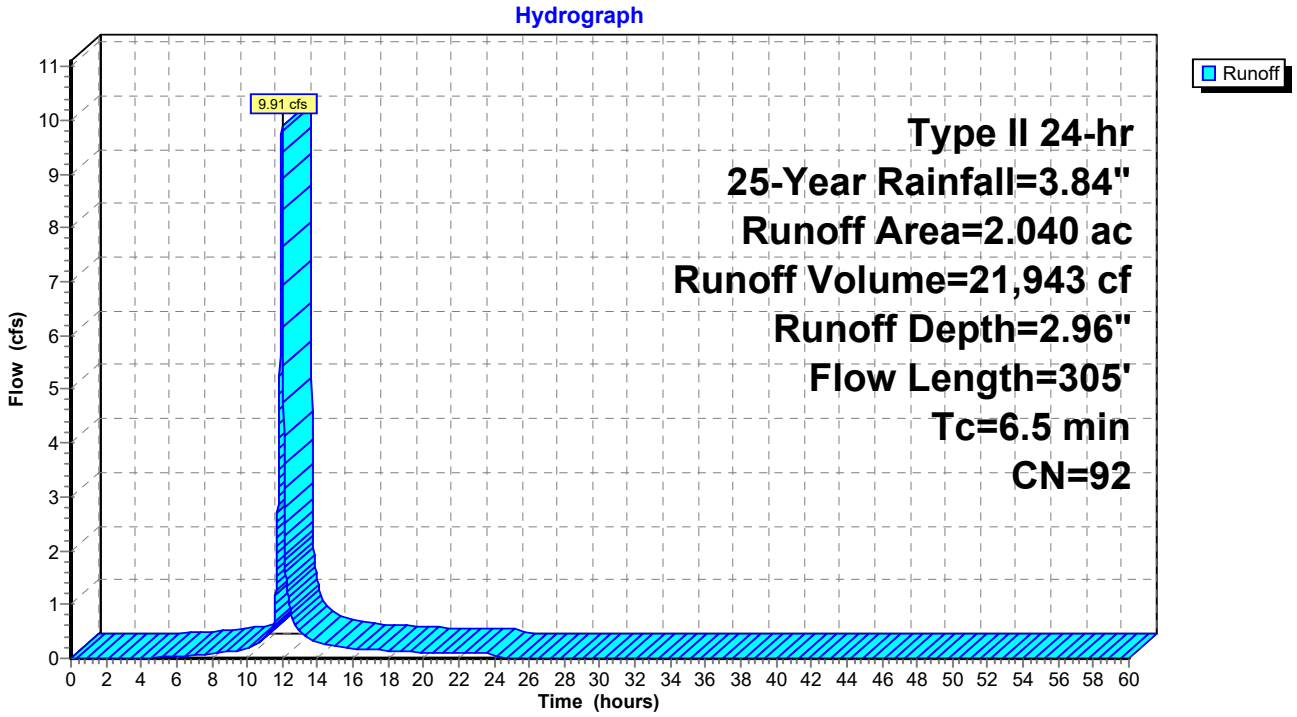
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (ac)	CN	Description
0.400	98	Roofs, HSG D
0.920	98	Paved parking, HSG D
0.720	80	>75% Grass cover, Good, HSG D
2.040	92	Weighted Average
0.720		35.29% Pervious Area
1.320		64.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	20	0.0100	0.08		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"
0.9	45	0.0120	0.84		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
1.6	240	0.0030	2.48	1.95	**Pipe Channel, Pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
6.5	305	Total			

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Subcatchment 1S: Proposed



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: Main Street

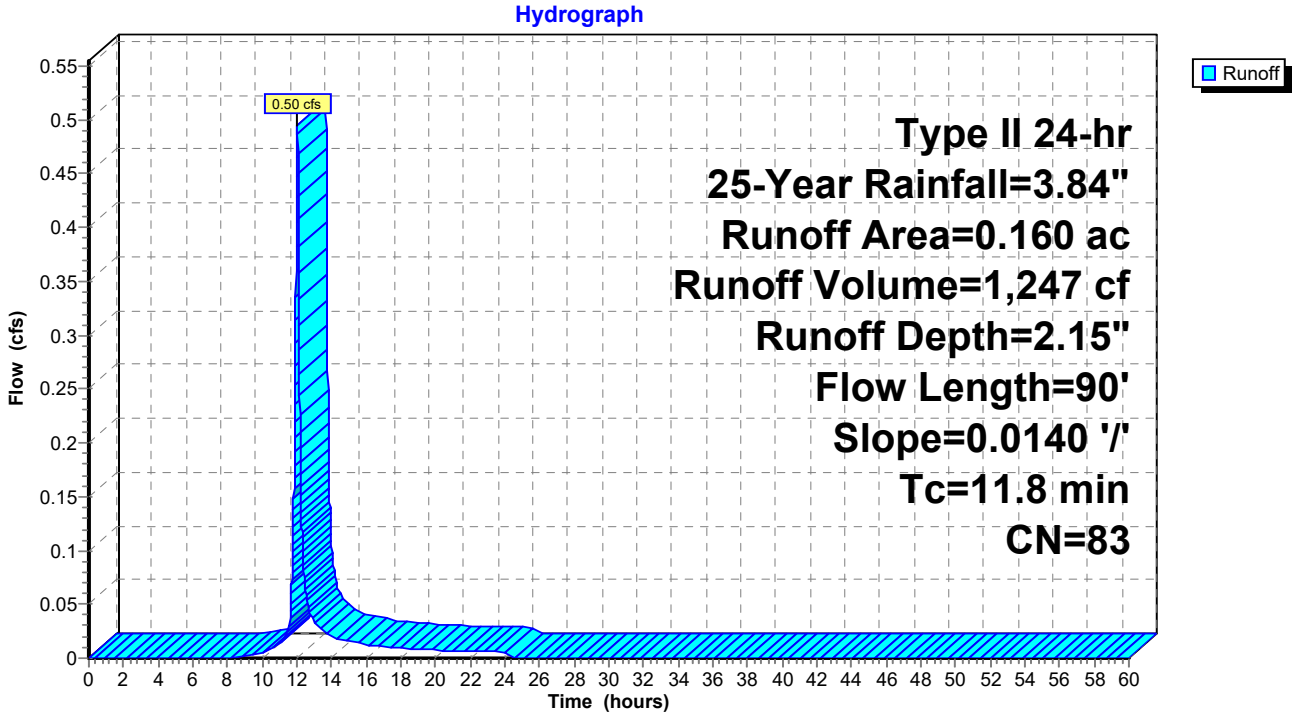
Runoff = 0.50 cfs @ 12.04 hrs, Volume= 1,247 cf, Depth= 2.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (ac)	CN	Description
0.030	98	Paved parking, HSG D
0.130	80	>75% Grass cover, Good, HSG D
0.160	83	Weighted Average
0.130		81.25% Pervious Area
0.030		18.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.8	90	0.0140	0.13		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 2S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 1P: Bioretention Area

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 2.96" for 25-Year event
Inflow = 9.91 cfs @ 11.97 hrs, Volume= 21,943 cf
Outflow = 9.73 cfs @ 11.99 hrs, Volume= 21,943 cf, Atten= 2%, Lag= 0.9 min
Primary = 1.71 cfs @ 11.99 hrs, Volume= 17,194 cf
Routed to Pond 2P : Dry Pond
Secondary = 8.02 cfs @ 11.99 hrs, Volume= 4,749 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.77' @ 11.99 hrs Surf.Area= 2,587 sf Storage= 2,529 cf

Plug-Flow detention time= 7.1 min calculated for 21,943 cf (100% of inflow)
Center-of-Mass det. time= 7.1 min (795.7 - 788.6)

Volume	Invert	Avail.Storage	Storage Description
#1	701.50'	3,160 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.50	1,404	0	0
702.00	1,875	820	820
703.00	2,805	2,340	3,160

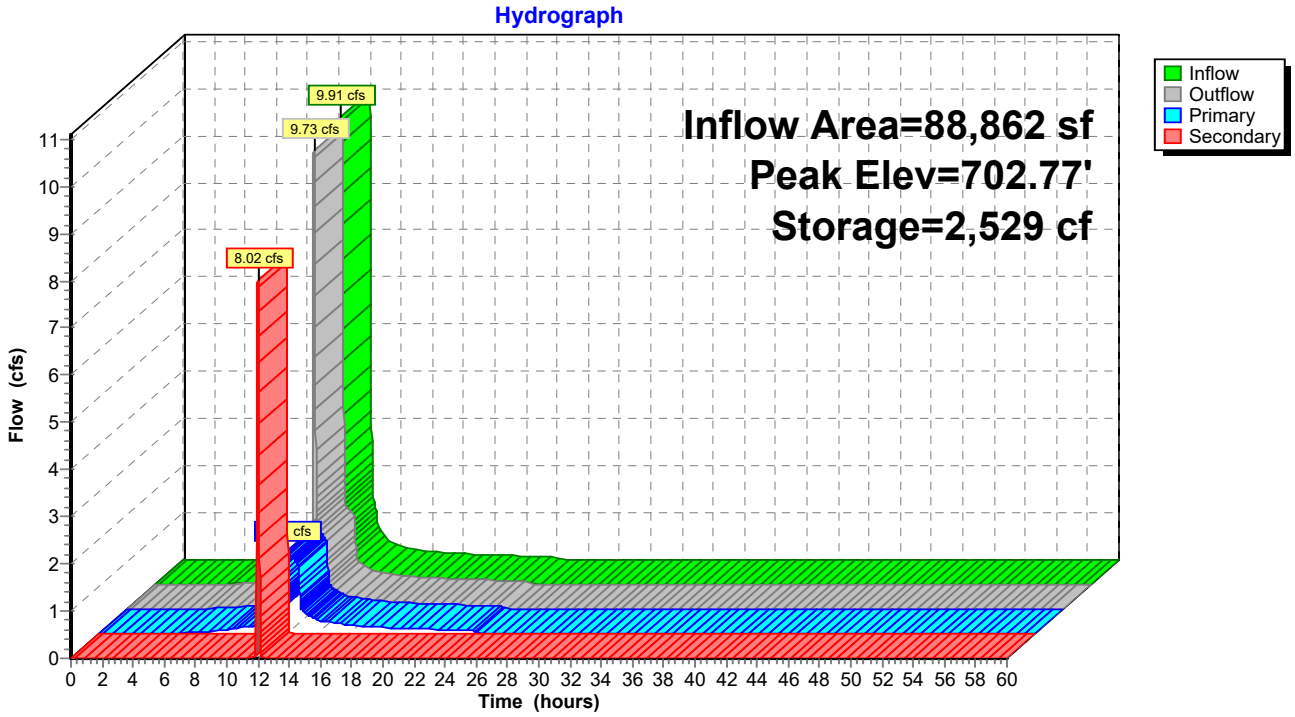
Device	Routing	Invert	Outlet Devices
#1	Primary	698.83'	**6.0" Round 6" pipe** L= 19.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 698.83' / 698.73' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	701.50'	**8.0" Horiz. Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	701.50'	**0.250 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 690.00'
#4	Secondary	702.50'	**20.0' long (Profile 1) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=1.71 cfs @ 11.99 hrs HW=702.77' (Free Discharge)
└**1=6" pipe** (Barrel Controls 1.71 cfs @ 8.71 fps)
└**2=Grate** (Passes < 5.67 cfs potential flow)
└**3=Exfiltration** (Passes < 0.02 cfs potential flow)

Secondary OutFlow Max=8.01 cfs @ 11.99 hrs HW=702.77' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Weir Controls 8.01 cfs @ 1.51 fps)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 1P: Bioretention Area



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 2P: Dry Pond

[81] Warning: Exceeded Pond 1P by 0.65' @ 12.94 hrs

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 2.32" for 25-Year event
Inflow = 1.71 cfs @ 11.99 hrs, Volume= 17,194 cf
Outflow = 0.90 cfs @ 11.63 hrs, Volume= 17,194 cf, Atten= 47%, Lag= 0.0 min
Discarded = 0.90 cfs @ 11.63 hrs, Volume= 17,194 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.25' @ 12.88 hrs Surf.Area= 3,927 sf Storage= 2,980 cf

Plug-Flow detention time= 15.9 min calculated for 17,191 cf (100% of inflow)
Center-of-Mass det. time= 15.9 min (832.3 - 816.5)

Volume	Invert	Avail.Storage	Storage Description
#1	701.00'	6,475 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

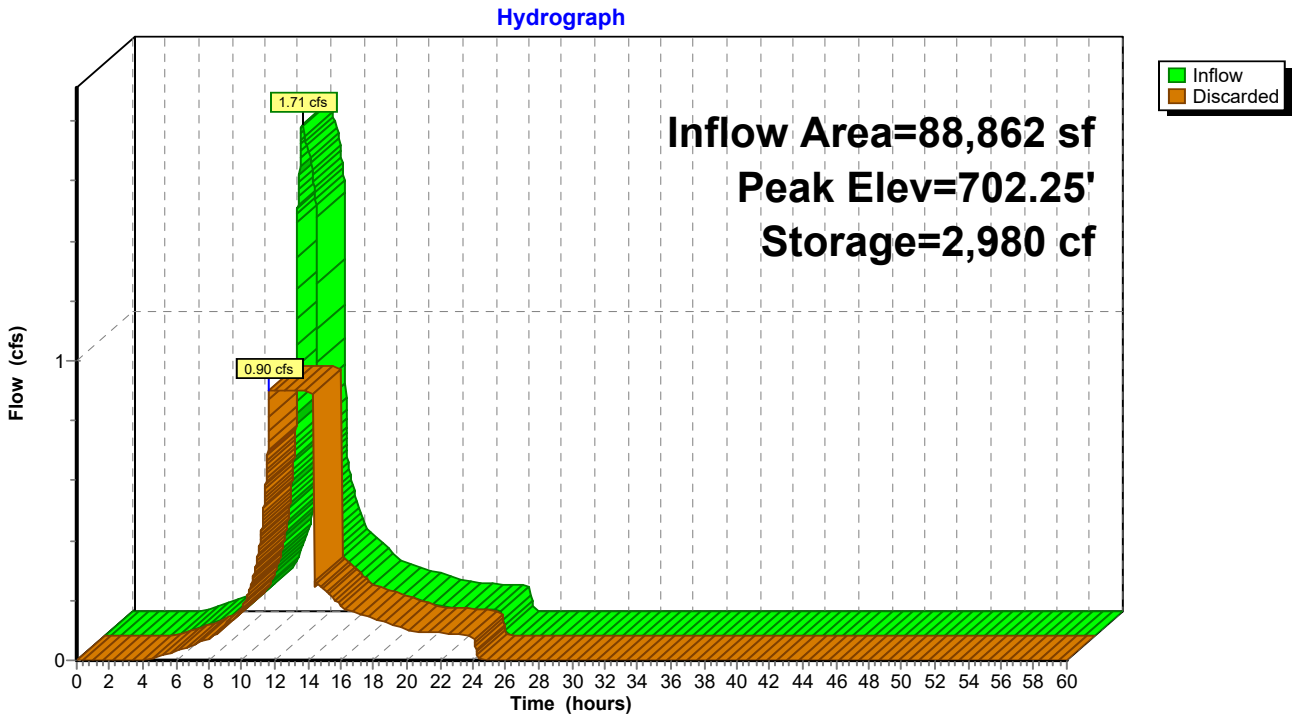
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.00	680	0	0
702.00	3,435	2,058	2,058
703.00	5,400	4,418	6,475

Device	Routing	Invert	Outlet Devices
#1	Discarded	701.00'	**0.90 cfs Well at all elevations**

Discarded OutFlow Max=0.90 cfs @ 11.63 hrs HW=701.02' (Free Discharge)
↑**1=Well** (Exfiltration Controls 0.90 cfs)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 2P: Dry Pond



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Proposed Runoff Area=2.040 ac 64.71% Impervious Runoff Depth=4.31"
Flow Length=305' Tc=6.5 min CN=92 Runoff=14.08 cfs 31,947 cf

Subcatchment2S: Main Street Runoff Area=0.160 ac 18.75% Impervious Runoff Depth=3.38"
Flow Length=90' Slope=0.0140 '/' Tc=11.8 min CN=83 Runoff=0.77 cfs 1,965 cf

Pond 1P: Bioretention Area Peak Elev=702.85' Storage=2,752 cf Inflow=14.08 cfs 31,947 cf
Primary=1.73 cfs 22,957 cf Secondary=12.15 cfs 8,990 cf Outflow=13.88 cfs 31,947 cf

Pond 2P: Dry Pond Peak Elev=702.44' Storage=3,758 cf Inflow=1.73 cfs 22,957 cf
Outflow=0.90 cfs 22,957 cf

Total Runoff Area = 95,832 sf Runoff Volume = 33,912 cf Average Runoff Depth = 4.25"
38.64% Pervious = 37,026 sf 61.36% Impervious = 58,806 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Proposed

[47] Hint: Peak is 721% of capacity of segment #3

Runoff = 14.08 cfs @ 11.97 hrs, Volume= 31,947 cf, Depth= 4.31"
Routed to Pond 1P : Bioretention Area

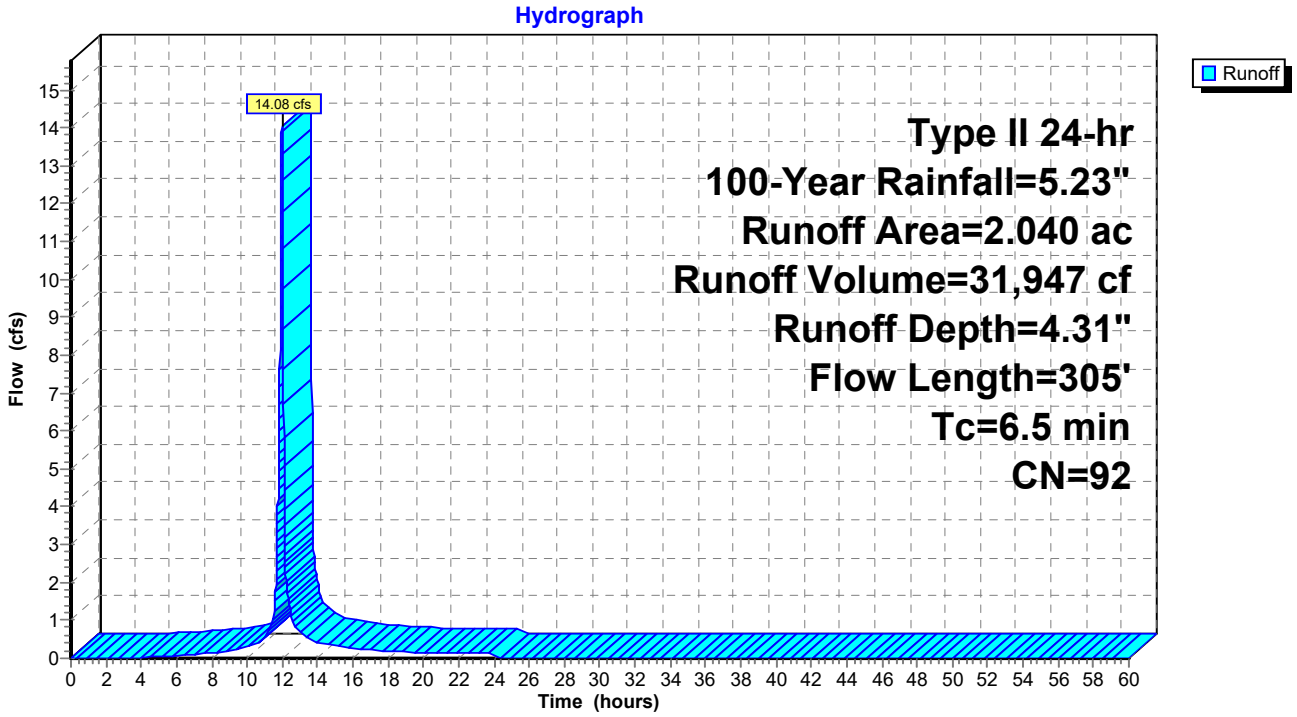
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.23"

Area (ac)	CN	Description
0.400	98	Roofs, HSG D
0.920	98	Paved parking, HSG D
0.720	80	>75% Grass cover, Good, HSG D
2.040	92	Weighted Average
0.720		35.29% Pervious Area
1.320		64.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	20	0.0100	0.08		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"
0.9	45	0.0120	0.84		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
1.6	240	0.0030	2.48	1.95	**Pipe Channel, Pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
6.5	305	Total			

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Subcatchment 1S: Proposed



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: Main Street

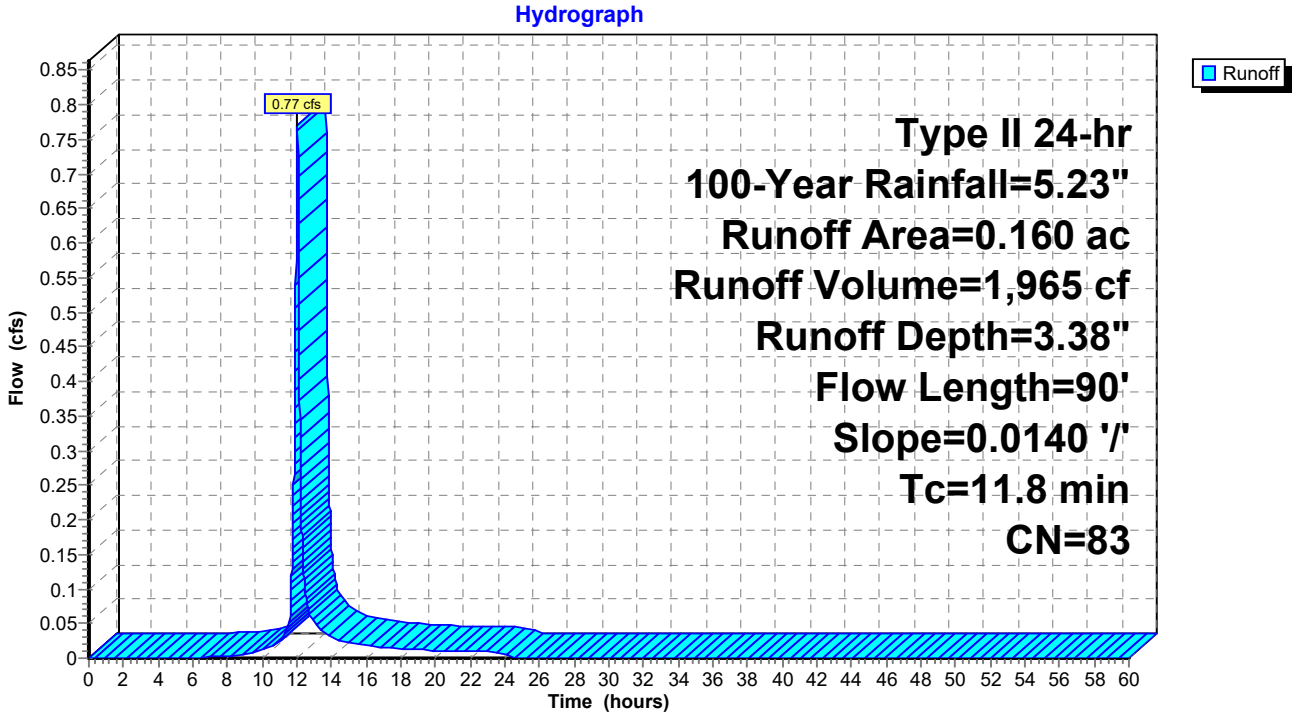
Runoff = 0.77 cfs @ 12.03 hrs, Volume= 1,965 cf, Depth= 3.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.23"

Area (ac)	CN	Description
0.030	98	Paved parking, HSG D
0.130	80	>75% Grass cover, Good, HSG D
0.160	83	Weighted Average
0.130		81.25% Pervious Area
0.030		18.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.8	90	0.0140	0.13		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 2S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 1P: Bioretention Area

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 4.31" for 100-Year event
Inflow = 14.08 cfs @ 11.97 hrs, Volume= 31,947 cf
Outflow = 13.88 cfs @ 11.99 hrs, Volume= 31,947 cf, Atten= 1%, Lag= 0.8 min
Primary = 1.73 cfs @ 11.99 hrs, Volume= 22,957 cf
Routed to Pond 2P : Dry Pond
Secondary = 12.15 cfs @ 11.99 hrs, Volume= 8,990 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.85' @ 11.99 hrs Surf.Area= 2,666 sf Storage= 2,752 cf

Plug-Flow detention time= 6.4 min calculated for 31,947 cf (100% of inflow)
Center-of-Mass det. time= 6.4 min (784.8 - 778.4)

Volume	Invert	Avail.Storage	Storage Description
#1	701.50'	3,160 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.50	1,404	0	0
702.00	1,875	820	820
703.00	2,805	2,340	3,160

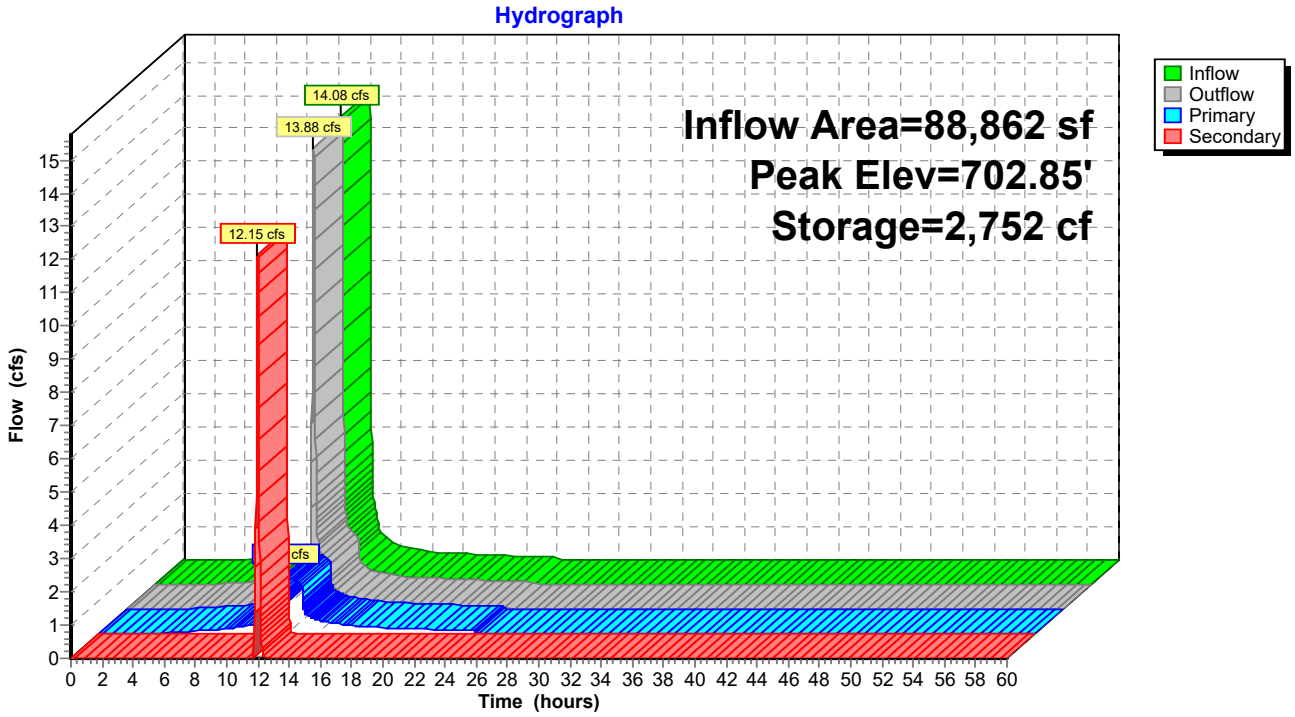
Device	Routing	Invert	Outlet Devices
#1	Primary	698.83'	**6.0" Round 6" pipe** L= 19.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 698.83' / 698.73' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	701.50'	**8.0" Horiz. Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	701.50'	**0.250 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 690.00'
#4	Secondary	702.50'	**20.0' long (Profile 1) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=1.73 cfs @ 11.99 hrs HW=702.85' (Free Discharge)
└**1=6" pipe** (Barrel Controls 1.73 cfs @ 8.81 fps)
└**2=Grate** (Passes < 5.86 cfs potential flow)
└**3=Exfiltration** (Passes < 0.02 cfs potential flow)

Secondary OutFlow Max=12.12 cfs @ 11.99 hrs HW=702.85' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Weir Controls 12.12 cfs @ 1.73 fps)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 1P: Bioretention Area



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 2P: Dry Pond

[81] Warning: Exceeded Pond 1P by 0.83' @ 13.17 hrs

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 3.10" for 100-Year event
Inflow = 1.73 cfs @ 11.99 hrs, Volume= 22,957 cf
Outflow = 0.90 cfs @ 11.46 hrs, Volume= 22,957 cf, Atten= 48%, Lag= 0.0 min
Discarded = 0.90 cfs @ 11.46 hrs, Volume= 22,957 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.44' @ 13.11 hrs Surf.Area= 4,299 sf Storage= 3,758 cf

Plug-Flow detention time= 20.1 min calculated for 22,954 cf (100% of inflow)
Center-of-Mass det. time= 20.1 min (830.5 - 810.4)

Volume	Invert	Avail.Storage	Storage Description
#1	701.00'	6,475 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

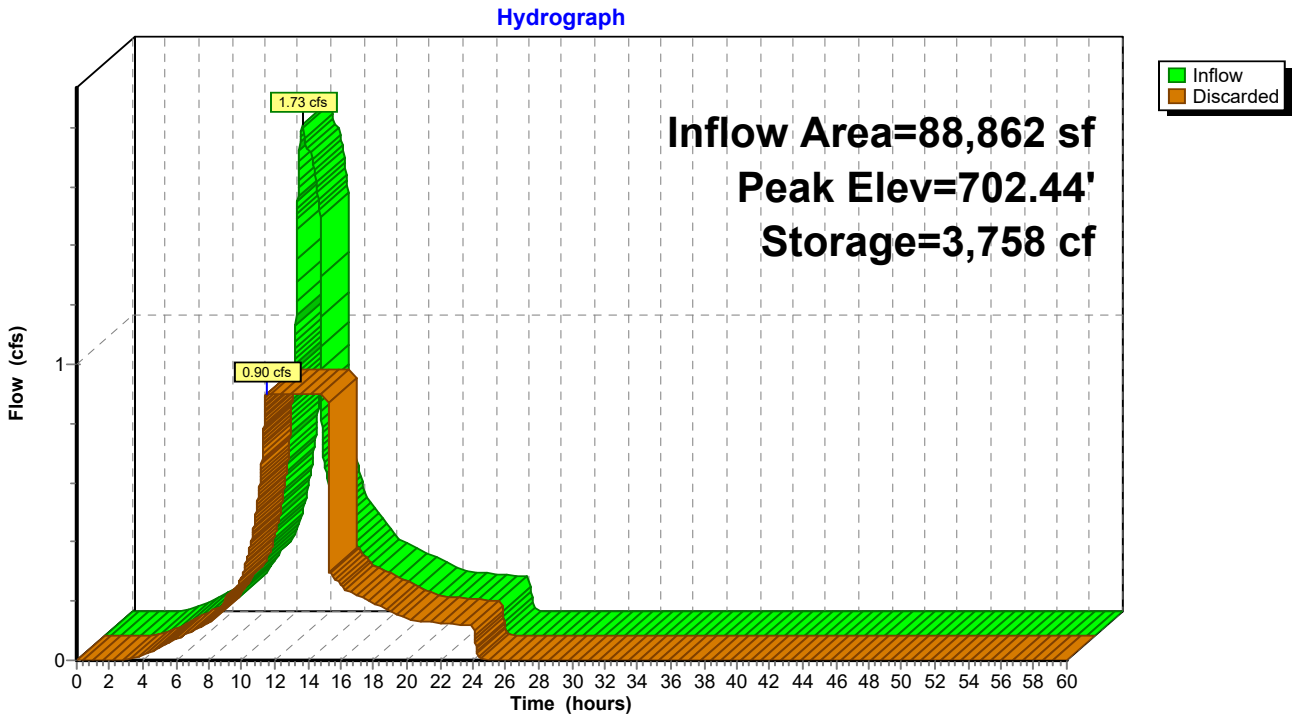
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.00	680	0	0
702.00	3,435	2,058	2,058
703.00	5,400	4,418	6,475

Device	Routing	Invert	Outlet Devices
#1	Discarded	701.00'	**0.90 cfs Well at all elevations**

Discarded OutFlow Max=0.90 cfs @ 11.46 hrs HW=701.02' (Free Discharge)
↑**1=Well** (Exfiltration Controls 0.90 cfs)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 2P: Dry Pond



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Green Infrastructure & Water Quality Calculations

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Mixed Use Project - 6812-6832 Main Street, 29 37 Tennyson Terrace
Town of Amherst, Erie County, New York

WATER QUALITY REQUIRED FOR PROPOSED DEVELOPMENT AREA Area, Acres = 2.2
(Note: Reference Chap. 9 NYSDEC Stormwater Design Manual)

"Redevelopment Activity", Acres = 1.20 "New development", Acres = 1.00
(existing, disturbed impervious area)

Total proposed impervious, Acres = 1.35 Adjusted impervious, Acres = 0.45
"New" impervious, Acres = 0.15 (25% redevelopment, 100% new development)

Water Quality Volume (WQv) WQv=(P*Rv*A)/12

Where:	P=90% Rainfall Event Number	P= 1
	Rv= 0.05+0.009*(I)	Rv= 0.23
	IC=Impervious Cover, Acres	IC= 0.45
	I=Impervious Cover (%)	I= 20
	A=Runoff Area, Acres	A= 2.2

WQv (ac-ft)= 0.043
WQv (cf)= 1,873

RRv PROVIDED FOR PROPOSED DEVELOPMENT AREA (See NYSDEC worksheets)

		WQv, cf	RRv, cf
Min. RRv Req'd, cf = 310	RRv, Bioretention Areas	1,121	749
Min. RRv Req'd, ac-ft = 0.007	WQv, Detention Pond	0	0
	TOTAL, cf	1121	749
	TOTAL, ac-ft	0.026	0.017

WQ & RR SUMMARY (ac-ft):

TOTAL WATER QUALITY PROVIDED FOR PROPOSED DEVELOPMENT AREA 0.043

IS WATER QUALITY VOLUME REQUIREMENT MET? Yes
(WQv provided equal to or greater than WQv required)

IS RUNOFF REDUCTION VOLUME REQUIREMENT MET? Yes
(RRv provided equal to or greater than Min. RRv required)

Revised 08/09/2016

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Version 1.7
Last Updated: 10/02/2015

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....	

Design Point:	1	
P=	1.00	*inch*

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	2.20	0.45	20%	0.23	1,869	
2						
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	2.20	0.45	20%	0.23	**1,869**	**Subtotal 1**
Total	2.20	0.45	20%	0.23	**1,869**	**Initial WQv**

Identify Runoff Reduction Techniques By Area

Technique	Total Contributing Area *(Acre)*	Contributing Impervious Area *(Acre)*	Notes
Conservation of Natural Areas	0.00	0.00	*minimum 10,000 sf*
Riparian Buffers	0.00	0.00	*maximum contributing length 75 feet to 150 feet*
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	*Up to 100 sf directly connected impervious area may be subtracted per tree*
Total	**0.00**	**0.00**	

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*
"<<Initial WQv"	2.20	0.45	20%	0.23	1,869
Subtract Area	0.00	0.00			
WQv adjusted after Area Reductions	**2.20**	**0.45**	20%	0.23	1,869
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	2.20	0.45	20%	0.23	**1,869**
WQv reduced by Area Reduction techniques					0

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A		55%
B		40%
C		30%
D	**2.20**	20%
Total Area	2.2	
Calculate the Minimum RRv		
S =	**0.20**	
Impervious =	0.45	*acre*
Precipitation	1	*in*
Rv	0.95	
Minimum RRv	**310**	***ft3***
	0.01	af

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
1	2.20	0.45	0.20	0.23	1869.45	1.00	
Enter Impervious Area Reduced by Disconnection of Rooftops			20%	0.23	1,869	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						*ft^3*	

Soil Information			
Soil Group	C		
Soil Infiltration Rate	0.00	*in/hour*	*Okay*
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		1,869	*ft^3*	
Enter Depth of Soil Media	*df*	1.5	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.5	*ft*	*6 inches max.*
Enter Filter Time	*tf*	2	*days*	
Required Filter Area	***Af***	**1402**	***ft^2***	

Determine Actual Bio-Retention Area			
Filter Width	10.1	*ft*	
Filter Length	139	*ft*	
Filter Area	1403.9	*ft^2*	
Actual Volume Provided	1872	*ft^3*	

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?		No	Select Practice	
RRv	749			
RRv applied	**749**	***ft^3***	***This is 40% of the storage provided or WQv whichever is less.***	
Volume Treated	1,121	*ft^3*	*This is the portion of the WQv that is not reduced in the practice.*	
Volume Directed	0	*ft^3*	This volume is directed another practice	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix C

Storm Pipe Sizing Calculations

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

The Chuck Storm Drainage Pipe Size

Structure CB/MH			Runoff Areas (acres)			Overland Flow				Pipe Flow		C	Tc				I	Q	Slope	Pipe Size	
			Runoff Area (acres)	Green Space (acres)	Impervious area (acres)	Green D	Green Slope	Imp. D	Imp. Slope	Pipe Length	Vel.		Green Tc	Imp. Tc	Pipe Tc	Tc					
CB 1	to	CB 2	0.254	0.026	0.227	25	1.00	30	1.80			0.83	1.80	1.62		3.42	5.50	1.15	0.3%	12" HDPE	✓
CB 3	to	CB 2	0.369	0.056	0.314	55	1.00	36	1.20			0.79	2.67	2.03		4.70	5.50	1.61	0.3%	12" HDPE	✓
CB 2	to	ST MH 1	0.434	0.056	0.378					124	2.70	0.81			0.77	5.47	5.50	1.93	0.3%	12" HDPE	✓
CB 4	to	ST MH 1	0.295	0.007	0.288	0	0.00	120	1.20			0.88	0.00	3.71		3.71	5.50	1.43	0.3%	12" HDPE	✓
CB 6	to	CB 5	0.132	0.016	0.116	0	0.00	112	1.00			0.81	0.00	3.81		3.81	5.50	0.59	0.3%	8" HDPE	✓
CB 5	to	ST MH 1	0.444	0.023	0.421					52	2.70	0.86			0.32	4.13	5.50	2.11	0.3%	12" HDPE	✓
ST MH 1	to	END SECT.	1.173	0.085	1.088					55	3.54	0.85			0.26	13.57	5.50	5.48	0.3%	18" HDPE	✓

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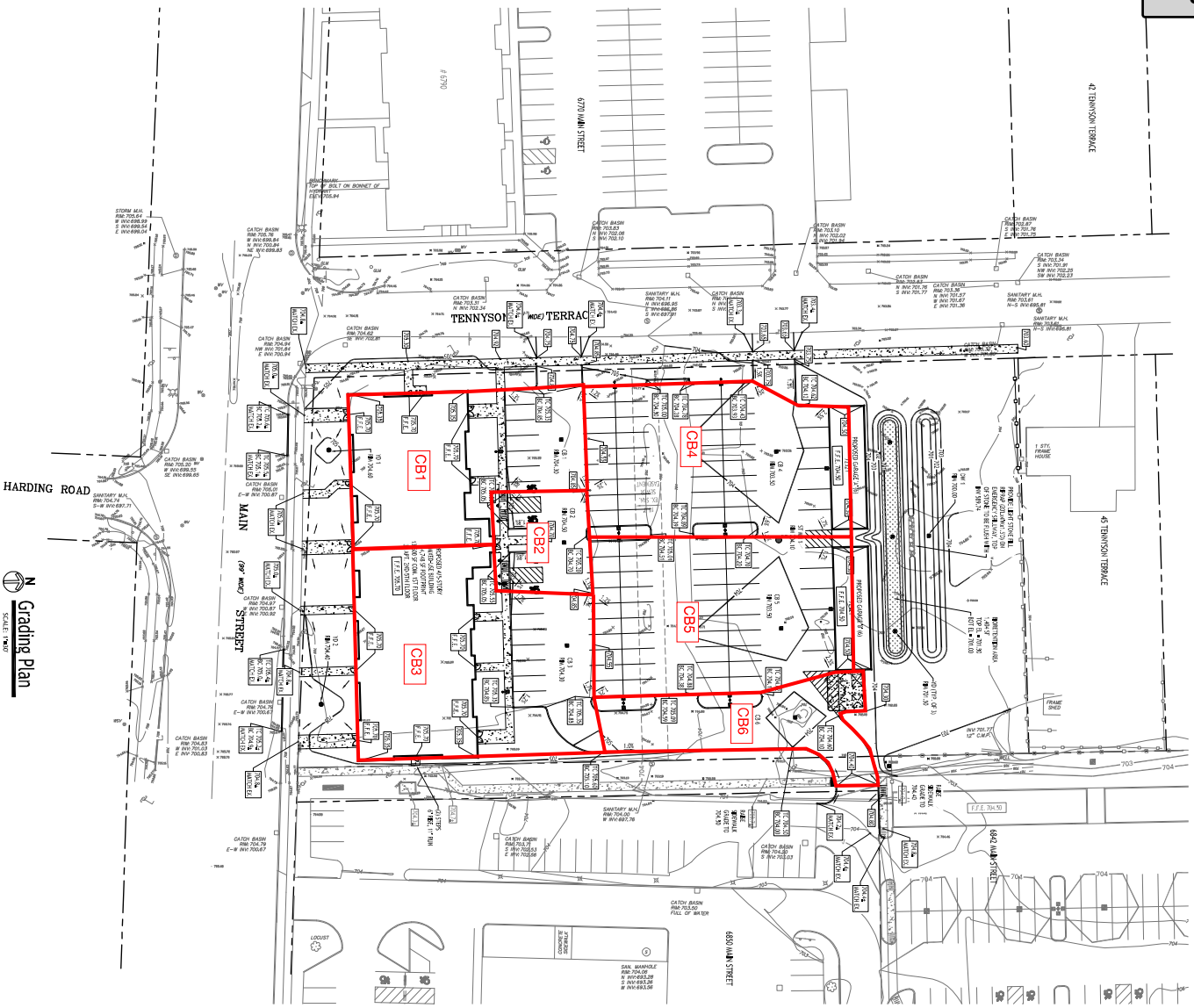

PROPOSED GRADING LEGEND

PROPOSED CONTOUR

PROPOSED SPOT ELEVATION

PROPOSED TOP BOTTOM OF CURB

PROPOSED CATCH BASIN

PROPOSED GRADING SLOPE

PROPOSED MANHOLE

PROPOSED SWALE

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

DRAWING NO.: C-200

Project No: 24-4006

Date: 3/25/24

Drawn By: P. Sheedy

Scale: As Noted

DRAWING NAME: Grading Plan

REVISIONS:

No.	Description	Date

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace

Amherst, NY

CARMINAWOOD DES

Buffalo | Utica

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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Manning's Equation for Circular Pipes Flowing Ful

Slope(%) = 0.3

n = 0.012 hdpe

n = 0.013 concrete

n = 0.02 cmp

Diameter (ft)	Diameter (in)	Area (ft^2)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	HDPE		CONCRETE		CMP	
					Flow (cfs)	Velocity (ft/s)	Flow (cfs)	Velocity (ft/s)	Flow (cfs)	Velocity (ft/s)
0.33	4	0.1	1.05	0.08	0.11	1.30	0.10	1.20	0.07	0.78
0.5	6	0.2	1.57	0.13	0.33	1.70	0.31	1.57	0.20	1.02
0.67	8	0.3	2.09	0.17	0.72	2.06	0.66	1.90	0.43	1.24
0.83	10	0.5	2.62	0.21	1.30	2.39	1.20	2.21	0.78	1.43
1	12	0.8	3.14	0.25	2.12	2.70	1.96	2.49	1.27	1.62
1.25	15	1.2	3.93	0.31	3.84	3.13	3.55	2.89	2.31	1.88
1.5	18	1.8	4.71	0.38	6.25	3.54	5.77	3.26	3.75	2.12
1.75	21	2.4	5.50	0.44	9.43	3.92	8.70	3.62	5.66	2.35
2	24	3.1	6.28	0.50	13.46	4.28	12.42	3.95	8.08	2.57
2.5	30	4.9	7.85	0.63	24.40	4.97	22.53	4.59	14.64	2.98
3	36	6.1	9.04	0.67	31.57	5.21	29.14	4.81	18.94	3.13
3.5	42	9.6	11.00	0.88	59.86	6.22	55.25	5.74	35.92	3.73
4	48	12.6	12.57	1.00	85.46	6.80	78.89	6.28	51.28	4.08
4.5	54	15.9	14.14	1.13	117.00	7.36	108.00	6.79	70.20	4.41
5	60	19.6	15.71	1.25	154.95	7.89	143.03	7.28	92.97	4.74
6	72	28.3	18.85	1.50	251.97	8.91	232.59	8.23	151.18	5.35
7	84	38.5	21.99	1.75	380.08	9.88	350.84	9.12	228.05	5.93
8	96	50.3	25.13	2.00	542.65	10.80	500.91	9.97	325.59	6.48

CARMINAWOOD
DESIGN

STORMWATER POLLUTION PREVENTION PLAN
for
CONSTRUCTION ACTIVITIES

At

Mixed Use Project
6812, 6814, 6832 Main Street & 29, 37 Tennyson Terrace
Town of Amherst, Erie County, New York

Prepared for

6812 Main Street, LLC

6790 Main Street, Suite 100
Williamsville, NY 14221

Prepared by

Carmina Wood Design

487 Main Street, Suite 500
Buffalo, NY 14203

Telephone: (716) 842-3165
Fax: (716) 842-0263

March 2024



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Table of Contents

Section 101 - Scope

Section 102 - Project Name and Location

Section 103 - Operator's Name and Address

Section 104 - Project Description

Section 105 - Runoff Coefficient, Soils and Rainfall Information

Section 106 - Name of Receiving Waters

Section 107 - Indian Country Lands

Section 108 - Endangered or Threatened Species

Section 109 - Critical Habitat

Section 110 - Historic Places

Section 111 - Wetlands and/or Other Surface Waters

Section 112 - Erosion and Sediment Controls

- **Section 112.1** - Stabilization Practices
- **Section 112.2** - Structural Practices
- **Section 112.3** - Sequence of Major Activities
- **Section 112.4** - Storm Water Management

Section 113 - Other Controls

Section 114 - Compliance with Federal, State and Local Regulations

Section 115 - Inspection and Maintenance Procedures

Section 116 - Inspection and Maintenance Report Forms

Section 117 - Other Record-Keeping Requirements

Section 118 - Spill Prevention Control and Countermeasures (SPCC) Plan

- **Section 118.1** - Materials Covered
- **Section 118.2** - Material Management Practices
- **Section 118.3** - Spill Prevention and Response Procedures

Section 119 - Control of Non-Storm Water Discharges

Section 120 – Storm Water Control Facility Maintenance

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Table of Contents (con't)

Appendix A Site Location Map

Appendix B NYSDEC Notice of Intent (NOI)

Appendix C MS4 SWPPP Acceptance Form

Appendix D Engineer's Report

Appendix E NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-20-001

Appendix F Forms

- Contractor's Certification
- Owner/Operator Certification
- SWPPP Preparer Certification
- NYSDEC Letter of Acknowledgment

Appendix G NYSDEC Notice of Termination (NOT)

Appendix H Construction Documents

Appendix I Soils Information

Appendix J Standard Erosion Control Details

Appendix K NYSDEC Stormwater Management Inspection Lists

Appendix L NYSHPO Clearance Letter

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

101 SCOPE

A. **PURPOSE:** 6812 Main Street, LLC (6812) has placed an emphasis on following the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit for Stormwater Discharges from Construction Activity governing storm water discharges during construction, and in accordance with erosion control practices. The Contractor's participation in this program is mandatory and its non-compliance is subject to various remedies, including without limitation, monetary set-offs, withholding payments; reimbursement for costs, expenses (including reasonable attorney's fees), fines and civil penalties incurred by 6812; and/or liquidated damages. This section provides a descriptive explanation of 6812's Storm Water Pollution Prevention Program and required Contractor participation.

The Engineer of record for this project certifies that this SWPPP meets the requirements and is in compliance with the New York State Stormwater Management Design Manual and latest NYSDEC Phase II stormwater regulation requirements.

B. **SPDES General Permit for Stormwater Discharges from Construction Activity:** Regulations promulgated by the NYSDEC to regulate the discharge of storm water from construction activities on sites where more than one (1) acre of soil is disturbed. One of the ways to comply with these regulations for affected sites is to request coverage under the General Permit for Construction Activities for New York State. In order to use the General Permit, a Notice of Intent (NOI) form must be completed and electronically submitted to the NYSDEC at least 5 business days prior to any earth-disturbing activities (this time frame may increase to 60 business days if a full review of the SWPPP is determined necessary by the NYSDEC) and a Storm Water Pollution Prevention Plan (SWPPP) for the site must be prepared and followed during the construction activities. Once a copy of the SPDES permit is received from NYSDEC, a copy will be included in Appendix F of this report.

Approval from a regulated, traditional land use control MS4:

1. An **owner or operator** of a construction activity that is not subject to the requirements of a regulated, traditional land use control MS4 must first develop a SWPPP in accordance with all applicable requirements of this permit and then submit a completed NOI form to the NYSDEC.

2. An **owner or operator** of a construction activity that is subject to the requirements of a regulated, traditional land use control MS4 must first develop a SWPPP in accordance with all applicable requirements of this permit and then have its SWPPP reviewed and accepted by the MS4 prior to submitting the NOI to the NYSDEC. The **owner or operator** shall have the "MS4 SWPPP Acceptance" form signed by the principal executive officer or ranking elected official from the regulated, traditional land use control MS4, or by a duly authorized representative of that person, and then submit that form along with the NOI to the address referenced under "Notice of Intent (NOI) Submittal".

C. **RESPONSIBILITIES OF THE CONTRACTOR:** The Contractor shall manage the discharge of storm water from the site in accordance with the NYSDEC General Permit for Construction Activities conditions and the following provisions of this section. The Operator shall be responsible for

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

conducting the storm water management practices in accordance with the permit. The Contractor shall be responsible for providing **qualified inspector**s to conduct the inspections required by the SWPPP. The Contractor shall be responsible for any enforcement action taken or imposed by federal, state, or local agencies, including the cost of fines, construction delays, and remedial actions resulting from the Contractor's failure to comply with the permit provisions. It shall be the responsibility of the Contractor to make any changes to the SWPPP necessary when the Contractor or any of his subcontractors elects to use borrow or fill or material storage sites, either contiguous to or remote from the construction site, when such sites are used solely for this construction site. Such sites are considered to be part of the construction site covered by the permit and this SWPPP. Off-site borrow, fill, or material storage sites which are used for multiple construction projects are not subject to this requirement, unless specifically required by state or local jurisdictional entity regulations. The Contractor should consider this requirement in negotiating with earthwork subcontractors, since the choice of an off-site borrow, fill, or material storage site may impact their duty to implement, make changes to, and perform inspections required by the SWPPP for the site.

D. **NOTICE OF INTENT:** The Operator has petitioned the NYSDEC for coverage under the storm water discharges during construction at this site to be covered by the SPDES General Permit for Construction Activity for the State of New York. A Notice of Intent (NOI) for coverage under this permit has been filed by the Operator. The SWPPP must be prepared prior to submittal of the NOI form. The Operator will require the Contractor to be a co-permittee with the Operator. The Contractor will be required to post the NOI at the construction site along with any building permits.

E. **CONTRACTOR CERTIFICATION & TRAINING:** Proof of Training/Certification of the Contractor's designated individual shall be kept on site at all times.

F. **REQUIREMENTS FOR THE GENERAL CONTRACTOR AND SUBCONTRACTOR(S):** The General Contractor and Subcontractor(s) shall sign the "Contractor's Certification Statement" (located in the Appendix of this report) verifying they have been instructed on how to comply with and fully understand the requirements of the SPDES General Permit for Construction Activity for the State of New York and the SWPPP. These certifications must be signed, by a responsible corporate officer or other party meeting the "Signatory Requirements" of the SPDES General Permit, on behalf of each entity, prior to the beginning of any construction activities.

G. **STORM WATER POLLUTION PREVENTION PROGRAM LOCATION REQUIREMENTS:** The SWPPP is meant to be a working document that shall be maintained at the site of the Construction Activities at all times throughout the project, shall be readily available upon request by the Operator's personnel or NYSDEC or any other agency with regulatory authority over storm water issues, and shall be kept on-site until the site complies with the Final Stabilization section of this document. A sign or other notice must be posted near the main entrance of the construction site which contains a completed NOI, the location of the SWPPP and the name and phone number of a contact person responsible for scheduling SWPPP viewing times, and any other state specific requirements.

H. **INSPECTIONS AND RECORD-KEEPING:**

A. **<u>General Construction Site Inspection and Maintenance Requirements</u>**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

1. The **owner or operator** must ensure that all erosion and sediment control practices and all post-construction stormwater management practices identified in the SWPPP are maintained in effective operating condition at all times.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York, or protect the public health and safety and/or the environment.

B. **Owner or operator Maintenance Inspection Requirements**

1. The **owner or operator** shall inspect, in accordance with the requirements in the most current version of the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, the erosion and sediment controls identified in the SWPPP to ensure that they are being maintained in effective operating condition at all times.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the **owner or operator** can stop conducting the maintenance inspections. The **owner or operator** shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of the General Permit as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the **owner or operator** can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. **Qualified inspector Inspection Requirements**

The **owner or operator** shall have a **qualified inspector** conduct site inspections in conformance with the following requirements:

Note: The **trained contractor** identified in Part III.A.6 of the General Permit **cannot** conduct the **qualified inspector** site inspections unless they meet the **qualified inspector** qualifications included in Appendix A of the General Permit. In order to perform these inspections, the trained contractor would have to be a:

- Licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- Registered Landscape Architect, or

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

- Someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity.

1. A **qualified inspector** shall conduct site inspections for all construction activities identified in Tables 1 and 2 of Appendix B of the General Permit, with the exception of:

   a. The construction of a single family residential subdivision with 25% or less impervious cover at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C of the General Permit and not directly discharging to one of the 303(d) segments listed in Appendix E of the General Permit;

   b. The construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E of the General Permit;

   c. Construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

   d. Construction activities located in the watersheds identified in Appendix D of the General Permit that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the **qualified inspector** shall conduct site inspections in accordance with the following timetable:

   a. For construction sites where soil disturbance activities are on-going, the **qualified inspector** shall conduct a site inspection at least once every seven (7) calendar days.

   b. For construction sites where soil disturbance activities are on-going and the **owner or operator** has received authorization in accordance with Part II.C.3 of the General Permit to **disturb greater than five (5) acres** of soil at any one time, the **qualified inspector** shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

   c. For construction sites where soil disturbance activities have been **temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas**, the **qualified inspector** shall conduct a site inspection at least once every thirty (30) calendar days. The **owner or operator** shall notify the Regional Office stormwater contact person (see contact information in Appendix F of the General Permit) or, in areas

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

under the jurisdiction of a regulated, traditional land use control MS4, the MS4 (provided the MS4 is not the **owner or operator** of the construction activity) in writing prior to reducing the frequency of inspections.

d. For construction sites where **soil disturbance activities have been shut down with partial project completion**, the **qualified inspector** can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved final stabilization and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The **owner or operator** shall notify the Regional Office stormwater contact person or, in areas under the jurisdiction of a regulated, traditional land use control MS4, the MS4 (provided the MS4 is not the **owner or operator** of the construction activity). in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the **owner or operator** shall have the **qualified inspector** perform a final inspection and certify that all disturbed areas have achieved final stabilization, and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "Final Stabilization" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The **owner or operator** shall then submit the completed NOT form to the address in Part II.A.1 of the General Permit.

3. At a minimum, the **qualified inspector** shall inspect all erosion and sediment control practices to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved final stabilization, all points of discharge to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site, and all points of discharge from the construction site.

4. The **qualified inspector** shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

   a. Date and time of inspection;

   b. Name and title of person(s) performing inspection;

   c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

   d. A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any discharges of sediment from the construction site. Include discharges from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the construction site which receive runoff from disturbed areas. This shall include identification of any discharges of sediment to the surface waterbody;

f. Identification of all erosion and sediment control practices that need repair or maintenance;

g. Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

h. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s); and

k. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The **qualified inspector** shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The **qualified inspector** shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The **qualified inspector** shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the **qualified inspector** shall notify the **owner or operator** and appropriate contractor or subcontractor identified in Part III.A.6. of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the **qualified inspector**. Pursuant to Part II.C.2 of the General Permit, the inspection reports shall be maintained on site with the SWPPP.

Record Retention - The **owner or operator** shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

were prepared in conjunction with this permit for a period of at least five (5) years from the date that the site achieves final stabilization. This period may be extended by the Department, in its sole discretion, at any time upon written notification.

I. **SWPPP MODIFICATIONS:** The inspection report should also identify if any revisions to the SWPPP are warranted due to unexpected conditions. The SWPPP is meant to be a dynamic working guide that is to be kept current and amended whenever there is a change in design, construction, operation, or maintenance at the construction site that has or could have a significant effect on the discharge of pollutants or when the plan proves to be ineffective in eliminating or significantly minimizing pollutant discharges. The Contractor's failure to modify or report deficiencies to the Operator will result in the Contractor being liable for fines and construction delays resulting from any federal, state, or local agency enforcement action.

J. **FINAL STABILIZATION AND TERMINATION OF PERMIT COVERAGE:** A site can be considered finally stabilized when all soil disturbing activities have been completed and a uniform perennial vegetative cover with a density of **85%** for the unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures have been established and the facility no longer discharges storm water associated with construction activities and a Notice of Termination (NOT) form filed by the Operator(s) with the NYSDEC. The Operator's Project Manager must complete the NOT. The NOT must be signed by the signatory (or equivalent position) on the NOI and subsequently submitted to the appropriate agency. The Operator's Project Manager must provide a completed copy of the NOT to the Contractor for inclusion in the SWPPP, which will then be optically scanned into the final SWPPP document as required. This filing terminates coverage under the General Permit and terminates the Contractor's responsibility to implement the SWPPP, but the requirements of the SWPPP, including periodic inspections, must be continued until the NOT is filed. The **owner or operator** shall also have the **qualified inspector** perform a final level 1 inspection and document all site conditions to be signed off on by a licensed professional engineer ensuring all installed catch basins are free of any debris or accumulation of sediment. This inspection report shall be submitted along with the NOT to the Department. This inspection shall be Final payment and/or the release of retainage will be withheld until all provisions of the SWPPP have been submitted, completed and accepted by the Operator.

102 PROJECT NAME AND LOCATION

The Chuck

6812, 6814, 6832 Main Street, 29, 37 Tennyson Terrace

Town of Amherst, County of Erie, New York

Easting: 198285

Northing: 4763648

Estimated Area of Site ≈ 2.2 acres

Estimated Area to be disturbed by Construction Activities ≈ 2.2 acres

A general location map is included as Appendix A.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

103 OPERATOR'S NAME AND ADDRESS

6812 Main Street, LLC

6790 Main Street, Suite 100

Williamsville, NY 14221

Contact Person: Paul Bliss

Telephone: 716-204-2910

104 PROJECT DESCRIPTION

This project is a development of a 2.2 acre site located at the northeast corner of the intersection at Main Street and Tennyson Terrace in the Town of Amherst. Construction will consist of a four/five story mixed-use building and detached garage buildings to include associated utility, lighting, and landscaping improvements. Currently the site is developed consisting of a commercial use building with associated parking lot and a single-family house, all of which are to be demolished. The proposed site development area to be disturbed for this project is approximately 2.2 acres when construction is completed.

Soil disturbing activities will include:

A. Construction of temporary construction exit points

B. Clearing & grubbing of the site within disturbance limits, demolition of ex. buildings

C. Installation of the detention basin & bioretention area including topsoil & seed

D. Installation of storm sewer pipes and inlets

E. Construction of utilities

F. Construction of curb and parking lot

G. Final grading & landscaping

H. Construction of building

This project is owned by 6812 Main Street, LLC and will be developed by the same. The work area consists of approximately 2.2 acres for which erosion and sediment controls have been developed and fully addressed in this written plan and the Erosion and Sediment Control Plans. See the construction documents for additional details.

105 RUNOFF COEFFICIENT, SOILS, AND RAINFALL INFORMATION

The initial runoff curve number for the pre-construction site is "CN" = 90. The post-construction runoff curve number for the site will be "CN" = 91. The site is 2.2 acres of which approximately 2.2 acres will be disturbed by construction activities.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

See soils information located in Appendix I.

The site is in Erie County, which receives an average of approximately 45 inches rainfall annually with the highest amounts of rainfall received in the months of May thru September. Annual snow for this area is approximately 120 inches.

106 WATERS

The runoff generated from this site will discharge into the natural sub-terrain via an onsite drainage well.

107 INDIAN COUNTRY LANDS

This project is not located on Indian Lands.

108 ENDANGERED AND THREATENED SPECIES

No endangered or threatened species have been determined to be on the site.

109 CRITICAL HABITAT

See section 108 above.

110 HISTORIC PLACES

The assessed property is shown on the NYSHPO map as an archeologically sensitive area. The site is currently occupied by a commercial development which consists of a parking area and previously demolished building. Refer to Appendix L for a copy of the NYSHPO Clearance Letter.

111 WETLANDS AND/OR OTHER SURFACE WATERS

No wetlands are delineated on site.

112 EROSION AND SEDIMENT CONTROLS

112.1 STABILIZATION PRACTICES

Stabilization practices for this site include:

A. Land clearing activities shall be done only in areas where earthwork will be performed and shall progress as earthwork is needed.

B. Use of stabilization method for all slopes having a slope greater than 1V:3H.

C. Permanent seeding and planting of all unpaved areas using the hydromulching grass seeding technique.

D. Mulching exposed areas.

E. Vegetation preservation in undisturbed areas.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

F. Frequent watering to minimize wind erosion during construction.

a. **For sites where 5 acres or more are disturbed at any one time:** In areas where soil disturbance activity has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within seven (7) days from the date the soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the most current version of the New York Standards and Specifications for Erosion and Sediment Control.

b. The **owner or operator** shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

c. The **owner or operator** shall install any additional measures needed to protect water quality.

112.2 STRUCTURAL PRACTICES

Structural practices for this site include:

A. Inlet protection using a method detailed in the Construction Documents.

B. Perimeter protection using temporary silt fence/silt sock or silt sock.

C. Outlet protection using rip-rap stone and end sections.

D. Stabilized Construction Entrance.

E. Temporary stone wash off areas.

F. Storm sewer, curb/gutter.

G. Sediment traps and basins.

112.3 SEQUENCE OF MAJOR ACTIVITIES

The Contractor will be responsible for implementing the following erosion control and storm water management control measures. The Contractor may designate these tasks to certain subcontractors as he sees fit, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the Contractor. The order of activities will be as follows:

A. Construct temporary construction exits at locations shown on the Demolition & Erosion Control Plan Sheet

B. Install perimeter silt fence/silt socks/silt sock in the locations shown on the Demolition & Erosion Control Plan Sheet

C. Clear & Grub site

D. Installation of detention basin

E. Commence site grading

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

F. Disturbed areas of the site where construction activity has ceased for more than 14 days shall be temporarily seeded and watered.

G. Construction of buildings

H. Installation of proposed utilities

I. Finalize pavement subgrade preparation.

J. Construct all curb, drainage inlets, storm sewer pipes and storm sewer manholes, as shown on the plans. Install temporary inlet protection at the locations of all inlets.

K. Dust control.

L. Remove inlet protection around inlets and manholes no more than 48 hours prior to placing stabilized base course.

M. Install base material as required for pavement.

N. Carry out final grading and seeding and planting.

O. Clean storm system following construction, clean detention basins of any silt and return to design grades.

P. Remove silt fencing/silt sock only after all paving is complete and exposed surfaces are stabilized.

Q. Remove temporary construction exits only prior to pavement construction in these areas.

Note: Sediment control storage during construction (traps & basins) during construction shall be 134 cy per acre of disturbance per NYSDEC requirements.

112.4 STORM WATER MANAGEMENT

The existing site currently sheet drains in multiple directions, a portion along Main Street drains south towards the existing storm sewer system along Main Street, it is unknown where the existing storm sewer system within the existing parking area. The northern portion of the property drains towards a natural low spot on site with no direct connection to an existing storm sewer system.

The proposed onsite storm sewer system consists of smooth interior HDPE pipes connected by a series of catch basins and yard drains, then a bioretention area incorporated with a dry detention basin and an outlet drainage well. Stormwater runoff will be collected on site by the structure and pipe network that will drain to the detention basin controlled by the proposed drainage well. The bioretention area located on site is designed to provide 100% of the required Runoff Reduction volume (RRv) for the site. The soils in the vicinity of the bioretention areas are mainly USDA hydrologic group 'D' and therefore the system will be installed with underdrains per NYSDEC requirements. The bioretention area will consist of 6" perforated HDPE underdrains in 8" of drainage gravel, followed by filter fabric and then finally 18" minimum of planting soil.

Chapter 9 of the NYSDEC Stormwater Management Design Manual details design requirements for redevelopment projects, which this project is categorized as. Runoff reduction, water quality

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

and quantity control is not required for the currently developed areas, but the above are required for the areas of the site that are currently undeveloped. Runoff reduction, water quality and volume attenuation for the undeveloped areas are designed in accordance with Chapter 4 of the manual. The total undeveloped area within the project limits is 1.0 acre. A bioretention area will be provided as a "green infrastructure" practice to provide runoff reduction and water quality to meet the Chapter 4 requirements for the currently undeveloped areas. Runoff from the site was looked at as a whole for the calculation of volume attenuation requirements (undeveloped plus developed areas). The existing site has a total of 1.20 acres of impervious cover. The amount of impervious cover post development is 1.35 acres, an increase of 0.15 acres in impervious area.

The NYSDEC Stormwater Management Design Manual requires a five-step process for Stormwater Management Planning as outlined in Chapter 3. The five steps include:

1. Site planning to preserve natural features and reduce impervious cover.
    - 0.47 acres of of vegetated area along the north portion of the project site will be deed restricted to remain greenspace.
2. Calculation of Water Quality Volume (WQv=RRv) for site.
    - See Stormwater Drainage Calculations.
3. Incorporation of Green Infrastructure techniques and standard SMPs with Runoff Reduction Volume (RRv) capacity.
    - A bioretention area was incorporated into the site design to provide required RRv for the development. See Stormwater Drainage Calculations.
4. Use of standard SMPs where applicable, to treat the portion of water quality volume not addressed by green infrastructure techniques and standard SMPs with RRv capacity.
    - Since the provided RRv is greater than the WQv required, use of standard SMPs to treat the remaining WQv is not applicable.
5. Design of volume and peak rate control practices where required.
    - See Stormwater Drainage Calculations.

The NYSDEC Stormwater Management Design Manual requires (5) five different criteria be considered when designing a stormwater management system. Those criteria are Water Quality, Runoff Reduction Volume, Channel Protection, Overbank Flooding and Extreme Storm Protection. Below is a summary of each item and how it is incorporated into this project.

<u>Water Quality & Runoff Reduction Volume:</u>

The NYSDEC requires reduction of the total water quality volume by green infrastructure techniques and SMP's to replicate pre-development hydrology. A bioretention area was incorporated into the site layout to provide the required RRv for contributing WQv runoff area for the development. The bioretention area will provide 749 cf RRv. The minimum RRv required is 310 cf. The bioretention area will treat the remaining 1,121 cf of WQv. The

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

required WQv = 1,869 cf. The sum of the WQv treated and the RRv is equal to the required WQv, therefore the practice is acceptable.

Channel Protection:

The NYSDEC requires that 24-Hour extended detention be provided for the proposed 1-year storm event. A volume of 1,512 cf is accommodated in the detention basin at elevation 701.83.

Overbank Flooding:

The NYSDEC requires that the 10-year proposed storm event be attenuated with detention and that the outlet be restricted to the 10-year existing storm event. A volume of 2,590 cf is accommodated in the detention basin at elevation 702.15.

Extreme Storm Protection:

The NYSDEC requires that the 100-year proposed storm event be attenuated with detention and that the outlet be restricted to the 100-year existing storm event. A volume of 3,758 cf is accommodated in the detention basin at elevation 702.44.

Refer to the engineer's report for storm sewer design criteria, runoff summary tables and stormwater drainage calculations.

113 OTHER CONTROLS

113.1 OFF-SITE VEHICLE TRACKING

A stabilized construction exit will be provided to help reduce vehicle tracking of sediments. Existing paved areas will remain as long as possible and will be used for vehicle wash areas and to further aid in the reduction of vehicle tracking of sediments. The paved streets adjacent to the site entrance shall be inspected daily and swept as necessary to remove any excess mud, dirt, or rock tracked from the site. Dump trucks hauling material to/from the construction site will be covered with a tarpaulin. The job site superintendent will be responsible for seeing that these procedures are followed.

113.2 EXCAVATION SPOIL MATERIALS

Excavation spoil materials are generated during the excavation of the development's building and utilities installation. These materials must be properly managed to prevent them from contributing to storm water discharges. The materials generated from the development of this project will be hauled off-site or stockpiled for re-use in designated areas which will have temporary erosion & sediment control measures installed. Any removal from site will be done under the necessary permits required by the local governing agencies.

113.3 DUST CONTROL

Minimizing wind erosion and controlling dust will be accomplished by one or more of the following methods:

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

A. Frequent watering of excavation and fill areas.

B. Providing gravel or paving at entrance/exit drives, parking areas and transit paths.

113.4 WASTE DISPOSAL

If needed, all waste materials will be collected and stored in securely lidded metal dumpsters rented from an approved waste management company. The dumpster will comply with all local and state solid waste management regulations.

All trash and construction debris from the site will be deposited in the dumpsters. The dumpsters will be emptied when full and then hauled to a NYSDEC approved landfill for proper disposal. No construction waste will be buried on-site. All personnel will be instructed regarding the correct procedures for waste disposal.

113.5 SANITARY WASTE

If needed, portable toilet units or field offices with toilet facilities connected to the municipal sanitary sewer will be used for sanitary purposes. All portable toilet units will be emptied a minimum of once per week by a licensed portable facility provided in compliance with local and state regulations.

113.6 CONCRETE WASTE FROM CONCRETE TRUCKS

A. Emptying of excess unhardened concrete and/or washout from concrete delivery trucks will be allowed on the job site, but in either (1) specifically designated diked areas which have been prepared to prevent contact between concrete and/or washout and storm water which will be discharged from the site or (2) in locations where waste concrete will be poured into forms to make rip-rap or other useful concrete products.

B. Hardened waste concrete from the designated diked areas described above will be disposed of in accordance with applicable local and state regulations with regards to disposal of construction debris.

113.7 HAZARDOUS SUBSTANCES & HAZARDOUS WASTE

A. All hazardous waste materials will be disposed of by the Contractor in the manner specified by local, state, and/or federal regulations and by the manufacturer of such products. Site personnel will be instructed in these practices by the job superintendent, who will also be responsible for seeing these practices are followed. Material Safety Data Sheets (MSDS's) for each substance with hazardous properties that is used on the job site will be obtained and used for the proper management of potential wastes that may result from these products. An MSDS will be posted in the immediate area where such products are stored and/or used and another copy of each MSDS will be maintained in the SWPPP file at the job site construction office. Each employee who must handle a substance with hazardous properties will be instructed on the use of MSDS sheets and the specific information in the applicable MSDS for the product he/she is using, particularly regarding spill control techniques.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

B. The contractor will implement the Spill Prevention Control and Countermeasures (SPCC) Plan found within this SWPPP and will train all personnel in the proper cleanup and handling of spilled materials. No spilled hazardous materials of hazardous wastes will be allowed to come in contact with storm water discharges. If such contact occurs, the storm water discharge shall be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated storm water. It shall be the responsibility of the job superintendent to properly train all personnel in the use of the SPCC plan.

C. Any spills of hazardous materials which are in excess of the Reportable Quantities as defined by the EPA regulations shall be immediately reported to the EPA National Response Center at 1-100-424-1102. From SWPPP-9 "Reportable Quantity Release Form" must be filled out.

D. In order to minimize the potential for a spill of hazardous materials to come in contact with storm water, the following steps will be implemented:

1. All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, cleaning solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) will be stored in a secure location, under cover, when not in use.

2. The minimum practical quantity of all such materials will be kept on the job site.

3. A spill control and containment kit (containing for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.

4. All of the product in a container will be used before the container is disposed of. All such containers will be triple rinsed with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with storm water discharges.

5. All products will be stored in and used from the original container with the original product label.

6. All products will be used in strict compliance with instructions on the product label.

7. The disposal of excess or used products will be in strict compliance with instructions on the product label.

113.8 CONTAMINATED SOILS

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

A. Any contaminated soils (resulting from spills of materials with hazardous properties) which may result from construction activities will be contained and cleaned up immediately in accordance with the procedures given in the Spill Prevention Control and Countermeasures (SPCC) Plan and in accordance with applicable state and federal regulations.

B. The job site superintendent will be responsible for seeing that these procedures are followed.

114 COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS

The Contractor will obtain copies of any and all local and state regulations which are applicable to storm water management, erosion control, and pollution minimization at this job site and will comply fully with such regulations. The Contractor will submit written evidence of such compliance if requested by the Operator or any agent of a regulatory body. The Contractor will comply with all conditions of the SPDES General Permit for Construction Activity for the State of New York, including the conditions related to maintaining the SWPPP and evidence of compliance with the SWPPP at the job site and allowing regulatory personnel access to the job site and to records in order to determine compliance.

The SWPPP for this site development project requires regulated MS4 approval from the Town of Amherst. All changes to the SWPPP must be approved by the Town of Amherst prior to applying changes to the SWPPP in the field.

115 INSPECTION AND MAINTENANCE PROCEDURES

The following inspection and maintenance practices will be used to maintain erosion and sediment controls and stabilization measures.

1. All control measures will be inspected by the owner/operator at least weekly and shall continue until the site complies with the Final Stabilization section of this document (See Section 116).

2. All control measures will be inspected by a Qualified Professional at least weekly and shall continue until the site complies with the Final Stabilization section of this document (See Section 116).

3. All measures will be maintained in good working order; if repairs or other measures are found to be necessary, they will be initiated within 24 hours of report.

4. Built up sediment will be removed from silt fence/silt sock when it has reached one-third the height of the fence.

5. Silt fence/silt socks will be inspected for depth of sediment, tears, etc., to see if the fabric is securely attached to the fence posts, and to see that the fence posts are securely in the ground.

6. Temporary and permanent seeding and all other stabilization measures will be inspected for bare spots, washouts, and healthy growth.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

7. A maintenance inspection report will be made after each inspection. Copies of the report forms to be completed by the inspector are included in this SWPPP.

8. The job site superintendent will be responsible for selecting and training the individuals who will be responsible for these inspections, maintenance and repair activities, and filling out inspection and maintenance reports.

9. Personnel selected for the inspection and maintenance responsibilities will receive training from the job site superintendent. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls that are used onsite in good working order. They will also be trained in the completion of, initiation of actions required by, and the filing of the inspection forms. Documentation of this personnel training will be kept on site with the SWPPP.

10. Disturbed areas and materials storage areas will be inspected for evidence of or potential for pollutants entering stormwater systems.

11. Report to the NYSDEC within 24 hours any noncompliance with the SWPPP that will endanger public health or the environment. Follow up with a written report within 5 days of the noncompliance event. The following events require 24 hour reporting: a) any unanticipated bypass which exceeds any effluent limitation in the permit, b) any upset which exceeds any effluent limitation in the permit, and c) a violation of a maximum daily discharge limitation for any of the pollutants listed by the NYSDEC in the permit to be reported within 24 hours. The written submission must contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance.

12. Releases of hazardous substances or oil in excess of reportable quantities (as established under 40 CFR 110, 40 CFR 117 or 40 CFR 302) must be reported.

Upon completion of construction, the property owner is responsible for ensuring that the stormwater facilities are regularly inspected and maintained. Maintenance and inspection procedures are as follows.

1. On a quarterly basis and following significant rainfall events or snow-melts, perform the following:

   - Inspect catch basins, storm manholes, treatment structures, storm piping and stormwater pond for debris and accumulation of sediment.
   - Remove and properly dispose of any collected debris and sediment in accordance with applicable state, federal and local regulations.
   - Flush piping with water if necessary to remove accumulated sediment.
   - Bioretention areas shall be maintained per the NYSDEC Maintenance and Management Checklist included in this SWPPP.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

- Check all stone outfall structures for erosion and re-stone if necessary to prevent further erosion.
- Inspect grassed/landscaped areas for un-vegetated areas or areas with less than 85% healthy stand of grass and reseed and mulch as necessary. Water daily if reseeded in July and August.
- A record of all inspections should be kept.

2. Maintain all lawn areas by regular mowing, including the grassed slopes of the stormwater pond and any grass swales. Any eroded areas shall be regarded, seeded and mulched immediately.

116 INSPECTION AND MAINTENANCE REPORT FORMS

Once installation of any required or optional erosion control device or measure has been implemented, inspections shall be performed by a Qualified Professional at least once every seven (7) calendar days. For construction sites where soil disturbance activities are on-going and the **owner or operator** has received authorization in accordance with Part II.C.3 of the General Permit to disturb greater than five (5) acres of soil at any one time, the **qualified inspector** shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days. The owner and contractor shall obtain from the MS4 an approval for disturbing more than five-acres at any given time. For construction sites where active construction has been suspended, inspection frequency under the general permit can be reduced to once every 30 days, provided temporary stabilization measures have been applied to all disturbed areas. The forms found in this SWPPP shall be used by the inspectors to inventory and report the condition of each measure to assist in maintaining the erosion and sediment control measures in good working order.

These report forms shall become an integral part of the SWPPP and shall be made readily accessible to governmental inspection officials, the Operator's Engineer, and the Operator for review upon request during visits to the project site. In addition, copies of the reports shall be provided to any of these persons, upon request, via mail or facsimile transmission. Inspection and maintenance report forms are to be maintained by the permittee for five years following the final stabilization of the site.

117 OTHER RECORD-KEEPING REQUIREMENTS

The Contractor shall keep the following records related to construction activities at the site:

- Dates when major grading activities occur and the areas which were graded
- Dates and details concerning the installation of structural controls
- Dates when construction activities cease in an area
- Dates when an areas is stabilized, either temporarily or permanently
- Dates of rainfall and the amount of rainfall

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

- Dates and descriptions of the character and amount of any spills of hazardous materials
- Records of reports filed with regulatory agencies if reportable quantities of hazardous materials spilled

118 SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN

118.1 MATERIALS COVERED

The following materials or substances are expected to be present onsite during construction:

- Concrete/Additives/Wastes
- Cleaning solvents
- Sanitary wastes
- Detergents
- Petroleum based products
- Paints/Solvents
- Pesticides
- Solid and construction wastes
- Acids
- Fertilizers
- Soil stabilization additives

118.2 MATERIAL MANAGEMENT PRACTICES

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff. The job site superintendent will be responsible for ensuring that these procedures are followed.

A. Good Housekeeping

The following good housekeeping practices will be followed onsite during the construction project.

1. An effort will be made to store only enough products required to do the job.
2. All materials stored onsite will be stored in a neat, orderly manner and, if possible, under a roof or in a containment area. At a minimum, all containers will be stored with their lids on when not in use. Drip pans shall be provided under all dispensers.
3. Products will be kept in their original containers with the original manufacturer's label in legible condition.
4. Substances will not be mixed with one another unless recommended by the manufacturer.
5. Whenever possible, all of a product will be used up before disposing of the container.
6. Manufacturer's recommendations for proper use and disposal will be followed.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

7. The job site superintendent will be responsible for daily inspections to ensure proper use and disposal of materials.

B. Hazardous Products

These practices will be used to reduce the risks associated with hazardous materials. Material Safety Data Sheets (MSDS's) for each substance with hazardous properties that is used on the job site will be obtained and used for the proper management of potential wastes that may result from these products. An MSDS will be posted in the immediate area where such product is stored and/or used and another copy of each MSDS will be maintained in the SWPPP file at the job site construction trailer office. Each employee who must handle a substance with hazardous properties will be instructed on the use of MSDS sheets and the specific information in the applicable MSDS for the product he/she is using, particularly regarding spill control techniques.

1. Products will be kept in original containers with the original labels in legible condition.

2. Original labels and material safety data sheets (MSDS's) will be procured and used for each material.

3. If surplus product must be disposed of, manufacturer's or local/state/federal recommended methods for proper disposal will be followed.

4. A spill control and containment kit (containing for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.

5. All of the product in a container will be used before the container is disposed of. All such containers will be triple rinsed with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with storm water discharges.

C. Hazardous Waste

All hazardous waste materials will be disposed of by the Contractor in the manner specified by local, state, and/or federal regulations and by the manufacturer of such products. Site personnel will be instructed in these practices by the job site superintendent, who will also be responsible for seeing that these practices are followed.

D. Product Specific Practices

The following product specific practices will be followed on the job site.

1. Petroleum Products

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Any petroleum storage tanks stored onsite will be located within a containment area that is designed with an impervious surface between the tank and the ground. The secondary containment must be designed to provide a containment volume that is equal to 110% of the volume of the largest tank. Drip pans shall be provided for all dispensers. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations. The location of any fuel tanks and/or equipment storage areas must be identified on a plan by the contractor once the locations have been determined.

2. Fertilizers

Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked in the soil to limit exposure to stormwater. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

3. Paints, Paint Solvents, and Cleaning Solvents

All containers will be tightly sealed and stored when not in use. Excess paint and solvents will not be discharged to the storm sewer system but will be properly disposed of according to manufacturer's instructions or state and federal regulations.

4. Concrete Wastes

Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water on the site, but only in either (1) specifically designated diked areas which have been prepared to prevent contact between the concrete and/or wash out and storm water which will be discharged from the site or (2) in locations where waste concrete can be poured into forms to make riprap or other useful concrete products.

The hardened residue from the concrete wash out diked areas will be disposed of in the same manner as other non-hazardous construction waste materials or may be broken up and used on site as deemed appropriate by the Contractor. The job site superintendent will be responsible for seeing that these procedures are followed.

All concrete wash out areas will be located in an area where the likelihood of the area contributing to storm water discharges is negligible. If required, additional BMPs must be implemented to prevent concrete wastes from contributing to storm water discharges. The location of concrete wash out area(s) must be identified on a plan by the contractor once the locations have

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

been determined. In addition, a standard detail on the construction of the concrete wash out shall be included on this plan.

E. Solid and Construction Wastes

All waste materials will be collected and stored in an appropriately covered container and/or securely lidded metal dumpster rented from a local waste management company which must be a solid waste management company licensed to do business in New York and the Town of Amherst. The dumpster will comply with all local and state solid waste management regulations.

All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied a minimum of twice per week or more often if necessary, and the trash will be hauled to a landfill approved by the NYSDEC. No construction waste materials will be buried on site. All personnel will be instructed regarding the correct procedures for waste disposal.

All waste dumpsters and roll-off containers will be located in an area where the likelihood of the containers contributing to storm water discharges is negligible. If required, additional BMPs must be implemented, such as sandbags around the base, to prevent wastes from contributing to storm water discharges. The location of waste dumpsters and roll-off containers must be identified on a plan by the contractor once the locations have been determined.

F. Sanitary Wastes

Portable toilet units or field offices with toilet facilities connected to the municipal sanitary sewer will be used for sanitary purposes. All portable toilet units will be emptied a minimum of once per week by a licensed portable facility provided in compliance with local and state regulations.

All sanitary waste units will be located in an area where the likelihood of the unit contributing to storm water discharges is negligible. If required, additional BMPs must be implemented, such as sandbags around the base, to prevent wastes from contributing to storm water discharges. The location of sanitary waste units must be identified on a plan by the contractor once the locations have been determined.

G. Contaminated Soils

Any contaminated soils (resulting from spills of materials with hazardous properties) which may result from construction activities will be contained and cleaned up immediately in accordance with the procedures given in the Materials Management Plan and in accordance with applicable state and federal regulations.

118.3 SPILL PREVENTION AND RESPONSE PROCEDURES

The Contractor will train all personnel in the proper handling and cleanup of spilled materials. No spilled hazardous materials or hazardous wastes will be allowed to come in contact with storm water discharges. If such contact occurs, the storm water

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

discharge will be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated storm water. It shall be the responsibility of the job site superintendent to properly train all personnel in spill prevention and clean up procedures.

A. In order to minimize the potential for a spill of hazardous materials to come into contact with storm water, the following steps will be implemented:

1. All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, cleaning solvents, additives for soil stabilization, concrete curing compounds and additives, etc.) will be stored in a secure location, with their lids on, preferably under cover, when not in use.

2. The minimum practical quantity of all such materials will be kept on the job site.

3. A spill control and containment kit (containing, for example, absorbent materials, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided at the storage site.

4. Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.

B. In the event of a spill, the following procedures should be followed

1. All spills will be cleaned up immediately after discovery.

2. The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with the hazardous substances.

3. The project manager and the Engineer of Record will be notified immediately.

   Spills of toxic or hazardous materials will be reported to the appropriate federal, state, and/or local government agency, regardless of the size of the spill. Spills of amounts that exceed Reportable Quantities of certain substances specifically mentioned in federal regulations (40 CFR 110, 40 CFR 117, and 40 CFR 302) must be immediately reported to the EPA National Response Center, telephone 1-100-424-1102. From SWPPP-9 “Reportable Quantity Release Form” must be filled out.

4. If the spill exceeds a Reportable Quantity, the SWPPP must be modified within seven (7) calendar days of knowledge of the discharge to provide a description of the release, the circumstances leading to the release, and the date of the release. The plans must identify measures to prevent the recurrence of such releases and to respond to such releases.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

C. The job site superintendent will be the spill prevention and response coordinator. He will designate the individuals who will receive spill prevention and response training. These individuals will each become responsible for a particular phase of prevention and response. The names of these personnel will be posted in the material storage area and in the office trailer onsite.

119 CONTROL OF NON-STORM WATER DISCHARGES

Certain types of discharges are allowable under the NYSDEC SPDES General Permit for Construction Activity for the State of New York, and it is the intent of this SWPPP to allow such discharges. These types of discharges will be allowed under the conditions that no pollutants will be allowed to come in contact with the water prior to or after its discharge. The control measures which have been outlined previously in this SWPPP will be strictly followed to ensure that no contamination of these non-storm water discharges takes place. The following allowable non-storm water discharges which may occur at the job site include:

A. Discharges from firefighting activities.

B. Fire hydrant flushings (see note below)

C. Waters used to wash vehicles or control dust in order to minimize offsite sediment tracking.

D. Routine external building washdown which does not use detergents.

E. Pavement wash waters where spills or leaks of hazardous materials have not occurred or detergents have not been used.

F. Air conditioning condensate.

G. Springs or other uncontaminated groundwater, including dewatering ground water infiltration.

H. Foundation or footing drains where no contamination with process materials such as solvents is present.

Note: The Contractor shall discharge any super-chlorinated water from water distribution pipe disinfection activities into sanitary sewer system

120 STORM WATER CONTROL FACILITY MAINTENANCE

The frequency of inspections for the bioretention area shall match the frequencies listed on the “Bioretention Operation, Maintenance and Management Inspection Checklist” in Appendix K of the SWPPP.

The proposed catch basins, as per section 115, shall be inspected 4 times per year for removal of floatable debris. Any silt buildup over 6” in depth shall be removed and disposed of properly off-site.

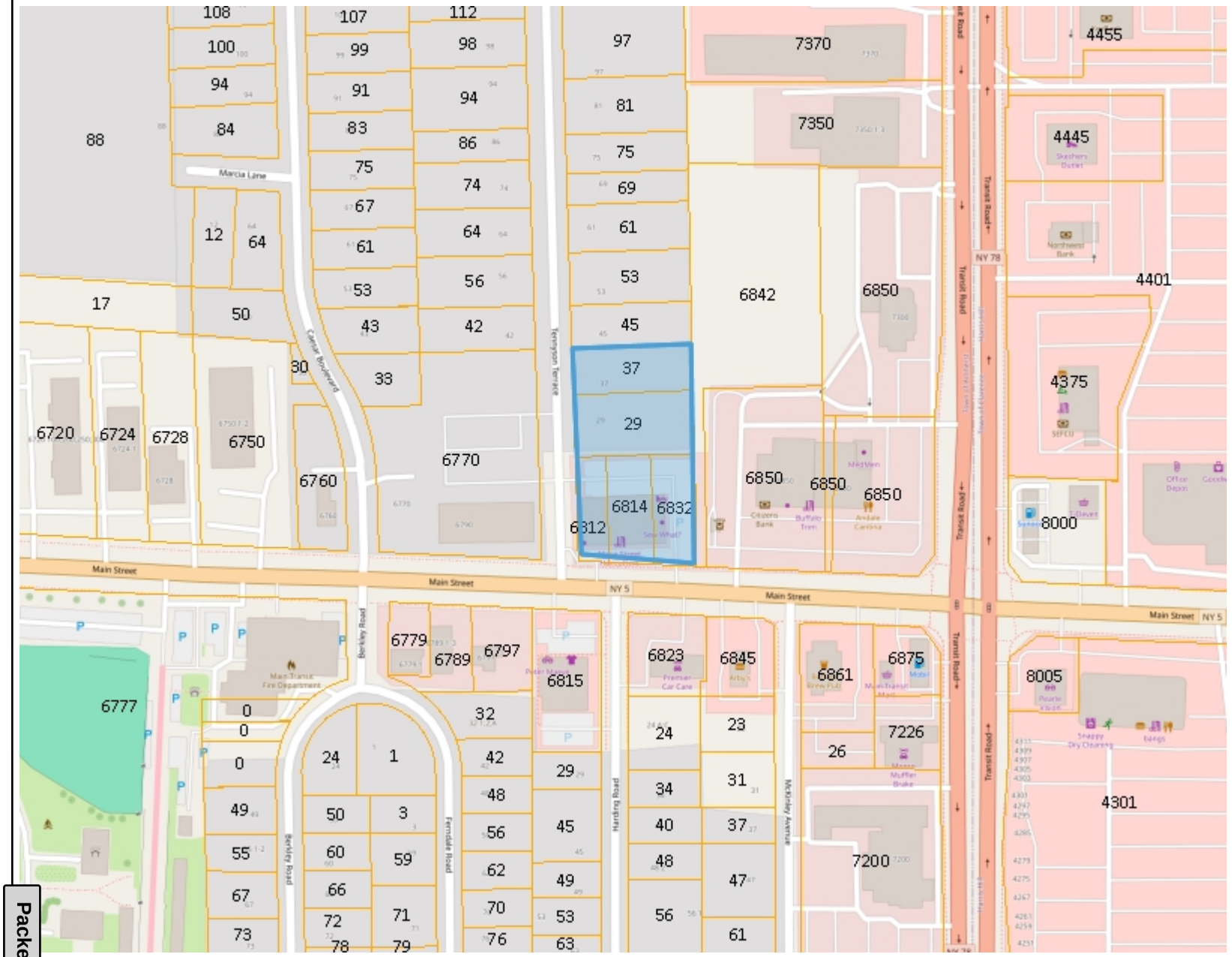
Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix A

Site Location Map

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Erie County On-Line Mapping Application





Legend

- Parcels

0.07 0.1 Miles

VGS_1984_Web_Mercator_Auxiliary_Sphere

ERIE COUNTY
DEPARTMENT OF ENVIRONMENT & PLANNING
OFFICE OF GIS

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

1: 4,514

Stormwater Interactive Map



The coordinates of the point you clicked on are:

UTM 18	**Easting:**	198285.393	**Northing:**	4763648.356
Longitude/Latitude	**Latitude:**	42.966	**Longitude:**	-78.699

The approximate address of the point you clicked on is:
Grzankowski Elaine Lmt

County: Erie
Town: Amherst
USGS Quad: LANCASTER

DEC Administrative Boundaries

Region 9:
(Western New York) Allegany, Chautauqua, Cattaraugus, Erie, Niagara and Wyoming counties. For more information visit http://www.dec.ny.gov/about/617.html.

Waterbody Classifications for Rivers/Streams

Regulation: undefined
Standard: undefined
Classification: undefined

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix B

NYSDEC Notice of Intent (NOI)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR ☐☐☐☐☐☐
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-20-001

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-
RETURN THIS FORM TO THE ADDRESS ABOVE
OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
6812 Main Street, LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
Bliss

Owner/Operator Contact Person First Name
Paul

Owner/Operator Mailing Address
6790 Main Street, Suite 100

City
Amherst

State
NY

Zip
14221-☐☐☐☐

Phone (Owner/Operator)
716-204-2910

Fax (Owner/Operator)
☐☐☐-☐☐☐-☐☐☐☐

Email (Owner/Operator)
pbliss@blissco.net

FED TAX ID
☐☐-☐☐☐☐☐☐☐ (not required for individuals)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Project Site Information

Project/Site Name
Mixed Use Project

Street Address (NOT P.O. BOX)
6812 Main Street

Side of Street
● **North** ○ **South** ○ **East** ○ **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Amherst

State NY

Zip 14221 -

County Erie

DEC Region 9

Name of Nearest Cross Street
Tennyson Terrace

Distance to Nearest Cross Street (Feet)
0

Project In Relation to Cross Street
○ **North** ○ **South** ● **East** ○ **West**

Tax Map Numbers
Section-Block-Parcel
70.17-3-13

Tax Map Numbers
70.17-3-14

1. Provide the Geographic Coordinates for the project site. To do this, go to the NYSDEC Stormwater Interactive Map on the DEC website at:

https://gisservices.dec.ny.gov/gis/stormwater/

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located the centroid of your project site, go to the bottom right hand corner of the map for the X, Y coordinates. Enter the coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)
-78.699
Ex. -73.749

Y Coordinates (Northing)
42.966
Ex. 42.652

2. What is the nature of this construction project?

○ **New Construction**

● **Redevelopment with increase in impervious area**

○ **Redevelopment with no increase in impervious area**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use	Post-Development Future Land Use
○ FOREST	○ SINGLE FAMILY HOME
○ PASTURE/OPEN LAND	○ SINGLE FAMILY SUBDIVISION
○ CULTIVATED LAND	○ TOWN HOME RESIDENTIAL
○ SINGLE FAMILY HOME	● MULTIFAMILY RESIDENTIAL
○ SINGLE FAMILY SUBDIVISION	○ INSTITUTIONAL/SCHOOL
○ TOWN HOME RESIDENTIAL	○ INDUSTRIAL
○ MULTIFAMILY RESIDENTIAL	○ COMMERCIAL
○ INSTITUTIONAL/SCHOOL	○ MUNICIPAL
○ INDUSTRIAL	○ ROAD/HIGHWAY
● COMMERCIAL	○ RECREATIONAL/SPORTS FIELD
○ ROAD/HIGHWAY	○ BIKE PATH/TRAIL
○ RECREATIONAL/SPORTS FIELD	○ LINEAR UTILITY (water, sewer, gas, etc.)
○ BIKE PATH/TRAIL	○ PARKING LOT
○ LINEAR UTILITY	○ CLEARING/GRADING ONLY
○ PARKING LOT	○ DEMOLITION, NO REDEVELOPMENT
○ OTHER	○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
	○ OTHER

Number of Lots

***Note**: for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area
2.2	2.2	1.2	1.3

5. Do you plan to disturb more than 5 acres of soil at any one time? ● **Yes** ○ **No**

6. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
%	%	100 %	%

7. Is this a phased project? ○ **Yes** ● **No**

8. Enter the planned start and end dates of the disturbance activities.

Start Date	End Date
05/01/2025	05/01/2026

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.

Name

9a. Type of waterbody identified in Question 9?

- ○ Wetland / State Jurisdiction On Site (Answer 9b)
- ○ Wetland / State Jurisdiction Off Site
- ○ Wetland / Federal Jurisdiction On Site (Answer 9b)
- ○ Wetland / Federal Jurisdiction Off Site
- ○ Stream / Creek On Site
- ○ Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ● Other Type Off Site: drainage well

9b. How was the wetland identified?

- ○ Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

10. Has the surface waterbody(ies) in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-001? ○ **Yes** ● **No**

11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-20-001? ○ **Yes** ● **No**

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? ○ **Yes** ● **No**
If no, skip question 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ **Yes** ● **No**
If Yes, what is the acreage to be disturbed?

.

14. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ **Yes** ● **No**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ● Yes ○ No ○ Unknown

16. What is the name of the municipality/entity that owns the separate storm sewer system?

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ● No ○ Unknown

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? ○ Yes ● No

19. Is this property owned by a state authority, state agency, federal government or local government? ○ Yes ● No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) ○ Yes ● No

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? ● Yes ○ No

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? ● Yes ○ No
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? ● Yes ○ No

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ● **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ○ **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer

Carmina Wood Design

Contact Name (Last, Space, First)

Wood Christopher

Mailing Address

487 Main Street, Suite 500

City

Buffalo

State NY Zip 14203 -

Phone 716 - 842 - 3165

Fax - - -

Email

cwood@carminawooddesign.com

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name Christopher **MI**

Last Name Wood



Date 03 / 25 / 2024

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

25. Has a construction sequence schedule for the planned management practices been prepared? ● Yes ○ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ○ Check Dams
- ○ Construction Road Stabilization
- ○ Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ● Silt Fence
- ● Stabilized Construction Entrance
- ● Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ○ Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ○ Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- ○ **Preservation of Undisturbed Areas**
- ○ **Preservation of Buffers**
- ○ **Reduction of Clearing and Grading**
- ○ **Locating Development in Less Sensitive Areas**
- ○ **Roadway Reduction**
- ○ **Sidewalk Reduction**
- ○ **Driveway Reduction**
- ○ **Cul-de-sac Reduction**
- ● **Building Footprint Reduction**
- ● **Parking Reduction**

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- ● All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- ○ Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

		0	.	0	4	3	**acre-feet**

29. Identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

7738089822

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

	Total Contributing Area (acres)		Total Contributing Impervious Area (acres)	
RR Techniques (Area Reduction)				
○ Conservation of Natural Areas (RR-1)		and/or		
○ Sheetflow to Riparian Buffers/Filters Strips (RR-2)		and/or		
○ Tree Planting/Tree Pit (RR-3)		and/or		
○ Disconnection of Rooftop Runoff (RR-4)		and/or		
RR Techniques (Volume Reduction)				
○ Vegetated Swale (RR-5)				
○ Rain Garden (RR-6)				
○ Stormwater Planter (RR-7)				
○ Rain Barrel/Cistern (RR-8)				
○ Porous Pavement (RR-9)				
○ Green Roof (RR-10)				
Standard SMPs with RRv Capacity				
○ Infiltration Trench (I-1)				
○ Infiltration Basin (I-2)				
○ Dry Well (I-3)				
○ Underground Infiltration System (I-4)				
○ Bioretention (F-5)			1.35	
○ Dry Swale (O-1)				
Standard SMPs				
○ Micropool Extended Detention (P-1)				
○ Wet Pond (P-2)				
○ Wet Extended Detention (P-3)				
○ Multiple Pond System (P-4)				
○ Pocket Pond (P-5)				
○ Surface Sand Filter (F-1)				
○ Underground Sand Filter (F-2)				
○ Perimeter Sand Filter (F-3)				
○ Organic Filter (F-4)				
○ Shallow Wetland (W-1)				
○ Extended Detention Wetland (W-2)				
○ Pond/Wetland System (W-3)				
○ Pocket Wetland (W-4)				
○ Wet Swale (O-2)				

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Table 2 - Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Alternative SMP	Total Contributing Impervious Area(acres)
○ Hydrodynamic	
○ Wet Vault	
○ Media Filter	
○ Other _____	

Provide the name and manufacturer of the Alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Name

Manufacturer

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv provided for the project.

30. Indicate the Total RRv provided by the RR techniques (Area/Volume Reduction) and Standard SMPs with RRv capacity identified in question 29.

Total RRv provided

0.017 **acre-feet**

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28).

○ **Yes** ● **No**

If Yes, go to question 36.
If No, go to question 32.

32. Provide the Minimum RRv required based on HSG.
[Minimum RRv Required = (P)(0.95)(Ai)/12, Ai=(S)(Aic)]

Minimum RRv Required

0.007 **acre-feet**

32a. Is the Total RRv provided (#30) greater than or equal to the Minimum RRv Required (#32)?

● **Yes** ○ **No**

If Yes, go to question 33.
Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the WQv required (#28) must also be included in the SWPPP.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided

0.026 **acre-feet**

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). 0.043

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? ◉ **Yes** ○ **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required

0.035 **acre-feet**

CPv Provided

0.035 **acre-feet**

36a. The need to provide channel protection has been waived because:

○ Site discharges directly to tidal waters or a fifth order or larger stream.

○ Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development

7.93 **CFS**

Post-development

0.90 **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development

14.66 **CFS**

Post-development

0.90 **CFS**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

37a. The need to meet the Qp and Qf criteria has been waived because:

- ○ Site discharges directly to tidal waters or a fifth order or larger stream.
- ○ Downstream analysis reveals that the Qp and Qf controls are not required

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ● Yes ○ No

If Yes, Identify the entity responsible for the long term Operation and Maintenance

6812 Main Street, LLC

39. Use this space to summarize the specific site limitations and justification for not reducing 100% of WQv required(#28). (See question 32a) This space can also be used for other pertinent project information.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

40. Identify other DEC permits, existing and new, that are required for this project/facility.

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Solid Waste
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15
- ○ Endangered or Threatened Species(Incidental Take Permit)
- ○ Individual SPDES
- ○ SPDES Multi-Sector GP [N][Y][R][ ][ ][ ][ ][ ][ ]
- ○ Other [ ]
- ● None

41. Does this project require a US Army Corps of Engineers Wetland Permit? ○ **Yes** ● **No**
If Yes, Indicate Size of Impact. [ ][ ][ ][ ][ ].[ ]

42. Is this project subject to the requirements of a regulated, traditional land use control MS4? ● **Yes** ○ **No**
(If No, skip question 43)

43. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ● **Yes** ○ **No**

44. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. [N][Y][R][ ][ ][ ][ ][ ][ ]

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

3547089826

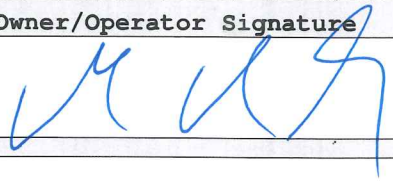
Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name: Paul

MI:

Print Last Name: Bliss

Owner/Operator Signature: 

Date: 03/25/2024

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix C

MS4 SWPPP Acceptance Form

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NYS Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information	
1. Owner/Operator Name:	6812 Main Street, LLC
2. Contact Person:	Paul Bliss
3. Street Address:	6790 Main Street, Suite 100
4. City/State/Zip:	Williamsville, NY 14221
II. Project Site Information	
5. Project/Site Name:	Mixed Use Project
6. Street Address:	6812-6832 Main Street, 29 & 37 Tennyson Terrace
7. City/State/Zip:	Williamsville, NY 14221
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information	
8. SWPPP Reviewed by:	
9. Title/Position:	
10. Date Final SWPPP Reviewed and Accepted:	
IV. Regulated MS4 Information	
11. Name of MS4:	
12. MS4 SPDES Permit Identification Number: NYR20A	
13. Contact Person:	
14. Street Address:	
15. City/State/Zip:	
16. Telephone Number:	

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information

(NYS DEC - MS4 SWPPP Acceptance Form - January 2015)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix D

Engineer's Report

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

CARMINA WOOD
DESIGN

ENGINEER'S REPORT

for

Mixed-Use Project

6812, 6814, 6832 Main Street, 29, 37 Tennyson Terrace
Town of Amherst, Erie County, New York

Prepared for

6812 Main Street, LLC

6790 Main Street, Suite 100
Williamsville, NY 14221

Prepared by

Carmina Wood Design

487 Main Street, Suite 500
Buffalo, NY 14203

Telephone: (716) 842-3165
Fax: (716) 842-0263

March 2024



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Table of Contents

Written Engineer's Report

Section 1 - Location & Description
Section 2 - Water Service
Section 3 - Sanitary Sewer Service
Section 4 - Storm Sewer Service

Appendices

Appendix A Sanitary Sewer and Water Demand Calculations

Appendix B Storm Sewer System Drainage Calculations

- Existing Runoff
- Proposed Runoff
    - Green Infrastructure & Water Quality Calculations

Appendix C Storm Pipe Sizing Calculations

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Section 1 - Location & Description

This project is a development of a 2.2 acre site located at the northeast corner of the intersection at Main Street and Tennyson Terrace in the Town of Amherst. Construction will consist of a four/five story mixed-use building and detached garage buildings to include associated utility, lighting, and landscaping improvements. Currently the site is developed consisting of a commercial use building with associated parking lot and a single-family house, all of which are to be demolished. The proposed site development area to be disturbed for this project is approximately 2.2 acres when construction is completed.

Section 2 - Water Service

Water service for the building will be tapped off the existing 6" ECWA water main in the center of Tennyson Terrace. The service will be a 6" Class 52 DI combined water service, then split into a 6" PVC fire service and a 4" polyethylene domestic service at the ROW line. Both services will continue into an internal mechanical room where the 4" domestic service will have a meter and RPZ and the 6" fire service will have a RPDA. Proper heat and lighting will be provided to the enclosure, drainage due to testing or failure of the RPZ will be to the outside grade. The owner will be responsible for keeping the drainage ports clear of snow and debris. Water inside the building will be used for typical domestic uses.

The proposed mixed use building is to be sprinklered, interior fire protection system to be designed by others. Existing public hydrants along Main Street will ensure fire hose coverage not exceeding 600' for the building.

Domestic Summary:	
Peak Operating Demand:	27.89 gpm
Water Main:	6" on Tennyson Terrace
Static Pressure:	40 psi (ECWA)
Friction Loss:	0.0 psi
Loss through meter/RPZ:	13.0 psi
Elevation Loss:	0.0 psi
Pressure after RPZ:	27.0 psi

Repairs to all devices will be made during off hours, dual backflow preventers are not required. The site is not located in a 100-year flood plain. Disinfection of the water service following installation will be continuous feed, according to AWWA C-651, latest revision.

Section 3 - Sanitary Sewer Service

The proposed building will have a 6" SDR-35 PVC sanitary lateral at 1.0% minimum slope. This lateral will connect to a private on-site pump station, which will have a 2" PVC SCH-40 forcemain installed across Main Street and connect to the public sanitary sewer at the intersection of Main Street and Harding Road.

Design Parameters

Commercial Space:	0.1 gal/day/sf x 5,00 sf = 500 gpd
Office Space:	15 gal/day/emp x 205 emp = 300 gpd
Restaurant:	35 gal/day/seat x 72 seats = 2,520 gpd
1-bedroom unit:	110 gal/day/units x 6 units = 660 gpd
2-bedroom unit:	220 gal/day/units x 28 units = 6,160 gpd
	Total = 10,140 gpd

10,140 gpd * 4.24 = 43,013 gpd *use peaking factor of 4.24

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

The hydraulic loading rate is per "Design Standards for Intermediate Sized Wastewater Treatment Systems" 2014, NYSDEC.

Section 4 - Storm Sewer Service

The existing site currently sheet drains in multiple directions, a portion along Main Street drains south towards the existing storm sewer system along Main Street, it is unknown where the existing storm sewer system within the existing parking area. The northern portion of the property drains towards a natural low spot on site with no direct connection to an existing storm sewer system.

The proposed onsite storm sewer system consists of smooth interior HDPE pipes connected by a series of catch basins and yard drains, then a bioretention area incorporated with a dry detention basin and an outlet drainage well. Stormwater runoff will be collected on site by the structure and pipe network that will drain to the detention basin controlled by the proposed drainage well. The bioretention area located on site is designed to provide 100% of the required Runoff Reduction volume (RRv) for the site. The soils in the vicinity of the bioretention areas are mainly USDA hydrologic group 'C' and therefore the system will be installed with underdrains per NYSDEC requirements. The bioretention area will consist of 6" perforated HDPE underdrains in 8" of drainage gravel, followed by filter fabric and then finally 18" minimum of planting soil.

Chapter 9 of the NYSDEC Stormwater Management Design Manual details design requirements for redevelopment projects, which this project is categorized as. Runoff reduction, water quality and quantity control is not required for the currently developed areas, but the above are required for the areas of the site that are currently undeveloped. Runoff reduction, water quality and volume attenuation for the undeveloped areas are designed in accordance with Chapter 4 of the manual. The total undeveloped area within the project limits is 1.0 acre. A bioretention area will be provided as a "green infrastructure" practice to provide runoff reduction and water quality to meet the Chapter 4 requirements for the currently undeveloped areas. Runoff from the site was looked at as a whole for the calculation of volume attenuation requirements (undeveloped plus developed areas). The existing site has a total of 1.20 acres of impervious cover. The amount of impervious cover post development is 1.35 acres, an increase of 0.15 acres in impervious area.

Town of Amherst Requirement:
The Town of Amherst requires that the 25-year proposed storm event be attenuated with detention and that the outlet flowrate be restricted to the 10-year existing storm event. This volume of 2,980 cf is accommodated in the dry detention basin at elevation 702.55. At this elevation, the outlet discharge will be restricted to 0.90 cfs, which is less than the existing 10-year peak runoff outflow of 7.93 cfs of the project area which drains to the proposed detention area.

Water Quality Summary:
WQv req'd = 1,869 cf (0.043 ac-ft)
RRv min. req'd = 310 cf (0.007 ac-ft)
RRv provided - bioretention area = 749 cf (0.017 ac-ft)
WQv provided – bioretention area = 1,121 cf (0.026 ac-ft)
Total RRv + WQv provided = 749 cf + 1,121 cf = 1,869 cf (0.043 ac-ft)

Bioretention: 100% of minimum post-development Runoff Reduction volume (RRv) & Water Quality Volume Treatment (WQv)
Area: 1,404 sf (total)
Bottom Elevation: 701.00

Detention: Comparison of the existing 1-year vs. the proposed 1-year runoff
Comparison of the existing 10-year vs. the proposed 10-year runoff
Comparison of the existing 10-year vs. the proposed 25-year runoff
Comparison of the existing 100-year vs. the proposed 100-year runoff

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Runoff Summary (Well):

Event	Ex. Runoff (cfs)*	Pro. Runoff (cfs)*	Result (cfs)
1-year	4.01	0.90	-3.11
10-year	7.93	0.90	-7.03
25-year	10.16	0.90	-9.26
100-year	14.66	0.90	-13.76

* Proposed Runoff discharge rate is the rate of discarded outflow via the drainage well at an estimated rate of 400 gpm. See attached storm drainage calculations and drainage well test report of previously referenced nearby drainage well in Appendix B for additional information.

Runoff Summary (MAIN STREET):

Event	Ex. Runoff (cfs)*	Pro. Runoff (cfs)*	Result (cfs)
1-year	0.32	0.14	-0.18
10-year	0.54	0.36	-0.18
25-year	0.66	0.50	-0.16
100-year	0.91	0.77	-0.14

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix A

Sanitary Sewer and Water Demand Calculations

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

CARMINA WOOD DESIGN
487 MAIN STREET, SUITE 500
BUFFALO, NEW YORK, 14203
(716) 842-3165
FAX (716) 842-0263

Project No.: 24-4006 Date: 3/25/2024
Project Name: Mixed Use Project
Project Address: 6812-6834 Main Street Amherst, NY
Subject: Sanitary Sewer & Water Demand Calcs
Sheet: 1 of 3

Sanitary Sewage Demand Calculations:

0.1	gal/d/sf	x	5,000	sf	=	500	gpd	*use 0.1 gallons per sq. ft. per day (retail)
35	gal/d/seat	x	72	seat	=	2,520	gpd	*use 35 gallons per seat per day (restaurant)
110	gal/d/unit	x	6	unit	=	660	gpd	*use 110 gallons per unit per day (1 bdrm)
220	gal/d/unit	x	28	unit	=	6,160	gpd	*use 220 gallons per unit per day (2 bdrm)
15	gal/d/emp	x	20	emp	=	300	gpd	*use 15 gallons per employee per day

Total Site Sanitary Demand: = 10,140 gpd

Find Peak Sanitary Demand:

Peaking Factor based on Population:

Total demand: 10,140 gpd / 100 gpcd = 101 per capita

Population (P) = 101 people

Peaking Factor : (18 +/P) / (4 + /P) where P is in thousands

Peaking Factor = 4.24

Peak Sanitary Demand = 10,140 x 4.24 = 43,013 gpd
= 0.043 MGD
= 0.067 cfs

Required Infiltration and Inflow Mitigation:

Peak Sanitary Flow = 43,013 gpd = 29.87 gpm

4:1 offset flow per NYSDEC requirements = 29.87 x 4 = 119.48 gpm req'd

Mitigation Credit = $250 / gpm

Mitigation Agreement Amount = $29,870.16

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

CARMINA WOOD DESIGN
487 MAIN STREET, SUITE 500
BUFFALO, NEW YORK, 14203
(716) 842-3165
FAX (716) 842-0263

Project No.: 24-4006 Date: 3/25/2024
Project Name: Mixed Use Project
Project Address: 6812-6832 Main Street Amherst, NY
Subject: Sanitary Sewer & Water Demand Calcs
Sheet: 2 of 3

Water Demand Calculations (domestic):

Proposed Mixed Use

10,140 gpd x 1.1 = 11,154 gpd *use 110% of sewage demand

*use 1.8 peaking factor and assume a 12 hour day

11,154 gpm x 1day/12hr x 1hr/60min = 15.49 gpm

15.49 gpm x 1.8 = 27.89 gpm Q_{peak}

Headlosses:

Q_{peak} = 27.89 gpm
Pipe = 6 inch Polyethylene C = 140
Length = 60 LF (approx. distance from tap to RPZ)

$$H_L = \frac{10.44\ L\ Q^{1.85}}{C^{1.85}\ D^{4.866}} = \frac{10.44(60)(27.89)^{1.85}}{(140)^{1.85}\ (6)^{4.866}} = 0.01 \text{ ft} = 0.00 \text{ psi}$$

Δ elev = 0 ft = 0.00 psi
Loss through meter = 1 psi
Loss through RPZ = 12 psi
Total Losses = 13.0 psi
Static Pressure = 40 psi (per ECWA)
Residual Pressure Following RPZ = 40 - 13.0 = 27.0 psi (available after rpz & meter)

Residual Pressure 30" above 5th Floor
Δ elev = 52 ft = 22.30 psi
Residual Pressure 30" above 4th Floor = 4.7 psi *

*booster pump to be installed, designed by others

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

CARMINA WOOD DESIGN
487 MAIN STREET, SUITE 500
BUFFALO, NEW YORK, 14203
(716) 842-3165
FAX (716) 842-0263

Project No.: 24-4006 Date: 3/25/2024
Project Name: Mixed Use Project
Project Address: 6812-6832 Main Street Amherst, NY
Subject: Sanitary Sewage Pump Station Design
Sheet: 3 of 3

3.a

Sanitary Sewage Demand Calculations:

0.1	gal/d/sf	x	5,000	sf	=	500	gpd	*use 0.1 gallons per sq. ft. per day (retail)
35	gal/d/seat	x	72	seat	=	2,520	gpd	*use 35 gallons per seat per day (restaurant)
110	gal/d/unit	x	6	unit	=	660	gpd	*use 110 gallons per unit per day (1 bdrm)
220	gal/d/unit	x	28	unit	=	6,160	gpd	*use 220 gallons per unit per day (2 bdrm)
15	gal/d/emp	x	20	emp	=	300	gpd	*use 15 gallons per employee per day

Average Site Sanitary Flow: = 10,140 gpd

Peak Site Sanitary Flow: = 40,560 gpd
PF = 4.0

* assume flow over 12 hour period

Peak Site Sanitary Flow: = 56.3 gpm

6" inlet into pump station invert: 699.90

Forcemain invert at tie into downstream sewer: 700.30

Pump chamber diameter: 5 ft (147 gal/ft)

Storge required:

* use filling time of 15 minutes @ 56.3 gpm (peak flow)

Storage required = 56.3 gpm x 15 mins = 5.8 ft
147 gal

Top of pump station:	705.35	
Inlet & Alarm:	699.90	
2 pumps on:	699.40	(inlet minus 0.5 ft)
1 pump on:	698.90	(2 pumps on minus 0.5 ft)
pumps off:	693.15	(1 pump on minus storage required)
Bottom of station:	691.90	(pumps off minus 1.25 ft)
Total depth:	**13.45**	ft

Cleansing velocity:

Using a 2 inch forcemain, find flow for min 2 fps cleansing velocity

A = 0.02 sf

Q = V x A = 2 ft/s x 0.02 sf = 0.0436 cfs = **19.6** gpm

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix B

Storm Sewer System Drainage Calculations

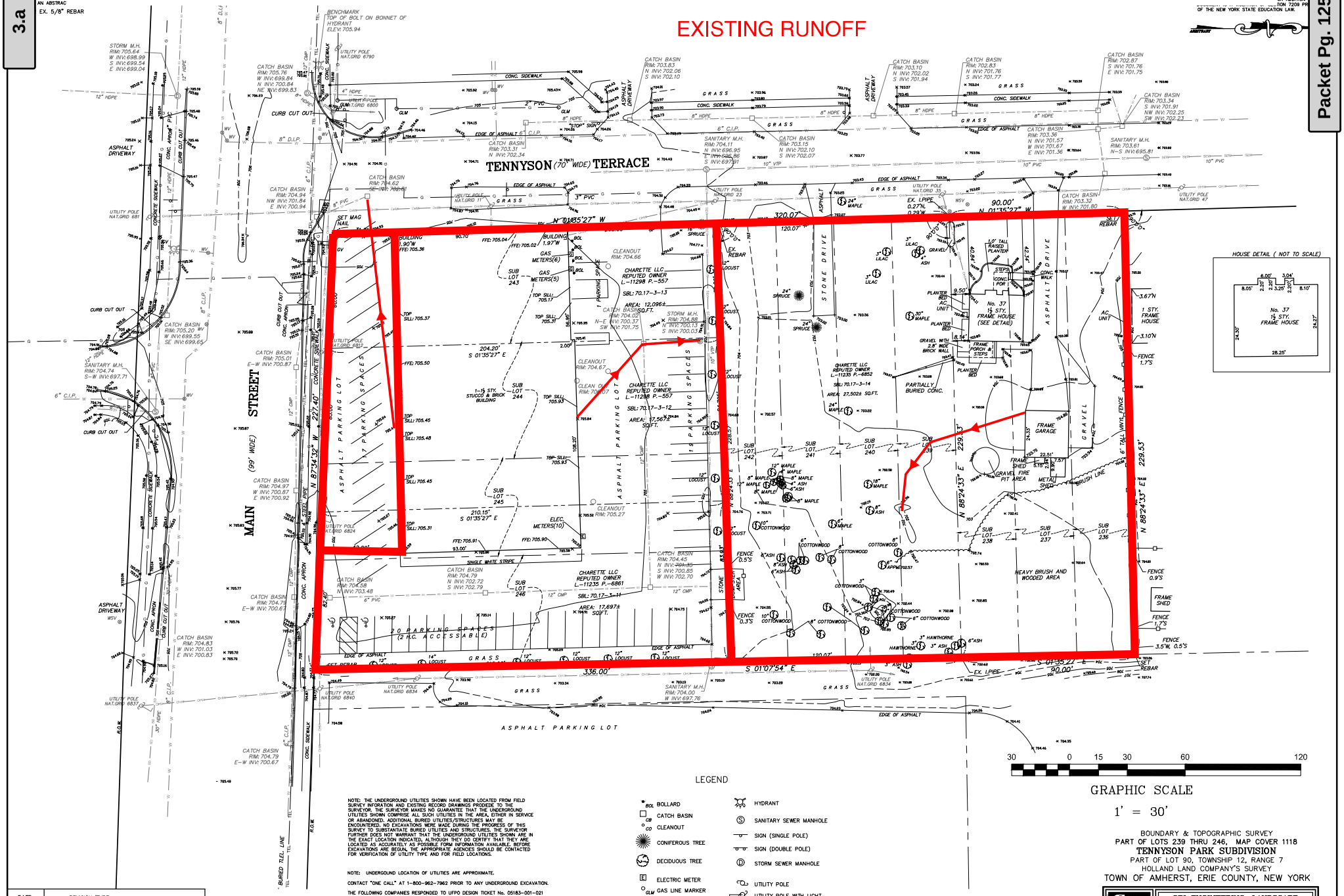
Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Existing Runoff

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Attachment: SP-2024-03_application_051624 (2883O : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

EXISTING RUNOFF



NOTE: THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORATION AND EXISTING RECORD DRAWINGS PROVIEDE TO THE SURVEYOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO SUBSTANTIATE BURIED UTILITIES AND STRUCTURES. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY DO CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FORM INFORMATION AVAILABLE. BEFORE EXCAVATIONS ARE BEGUN, THE APPROPRIATE AGENCIES SHOULD BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.

NOTE: UNDERGROUND LOCATION OF UTILITIES ARE APPROXIMATE.

CONTACT "ONE CALL" AT 1-800-962-7962 PRIOR TO ANY UNDERGROUND EXCAVATION.

THE FOLLOWING COMPANIES RESPONDED TO UFPO DESIGN TICKET No. 05183-001-021

CHARTER COM NORTHEAST WESTERN NY	(317) 575-7800 x2	UTILITIES AS SHOWN
ERIE COUNTY DIVISION OF SEWER MANAGEMENT	(716) 858-8760	UTILITIES AS SHOWN
ERIE COUNTY WATER AUTHORITY	(716) 685-8207	UTILITIES AS SHOWN
NATIONAL FUEL GAS I CLARENCE – NFG113	(716) 857-7431	UTILITIES AS SHOWN
NATIONAL GRID / WEST / ELECTRIC	(680) 244-2062	UTILITIES AS SHOWN
NYSEG LANCASTER ELECTRIC	(585) 484-5115	NO LOCATE PERFORMED
TOWN OF AMHERST	(716) 631-7413	NO RESPONSE
VERIZON I BUFFALO	(315) 937-2515	UTILITIES AS SHOWN

DATE	REVISION/TYPE
8/25/23	ADDITIONAL MAPPING OF HOUSE No. 37

GRAPHIC SCALE

1' = 30'

BOUNDARY & TOPOGRAPHIC SURVEY
PART OF LOTS 239 THRU 246, MAP COVER 1118
TENNYSON PARK SUBDIVISION
PART OF LOT 90, TOWNSHIP 12, RANGE 7
HOLLAND LAND COMPANY'S SURVEY
TOWN OF AMHERST, ERIE COUNTY, NEW YORK

GPI ENGINEERING, LANDSCAPE ARCHITECTURE & SURVEYING, LLP
ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE
4960 GENESEE STREET, SUITE 100
BUFFALO, NEW YORK 14225
(716) 633-4844 FAX 633-4940

Job No. 10778 Date: MAY 16, 2023
Scale: 1" = 30' TAX No. 70-17-3-11,12,13,14&15

Events for Subcatchment 1S: Main Street

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-Year	1.87	0.32	657	1.65
2-Year	2.20	0.38	788	1.97
5-Year	2.69	0.46	982	2.46
10-Year	3.14	0.54	1,161	2.91
25-Year	3.84	0.66	1,440	3.61
50-Year	4.48	0.78	1,695	4.24
100-Year	**5.23**	**0.91**	**1,994**	**4.99**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Events for Subcatchment 2S: South

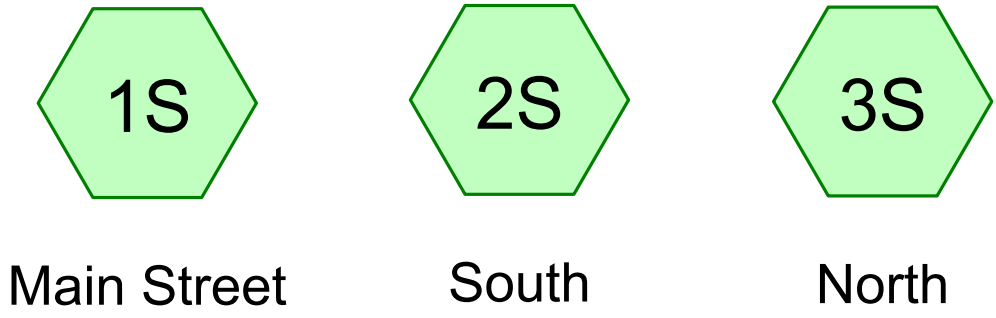
Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-Year	1.87	3.01	5,717	1.54
2-Year	2.20	3.60	6,916	1.87
5-Year	2.69	4.45	8,706	2.35
10-Year	3.14	5.24	10,357	2.80
25-Year	3.84	6.45	12,930	3.49
50-Year	4.48	7.56	15,288	4.13
100-Year	**5.23**	**8.85**	**18,055**	**4.88**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Events for Subcatchment 3S: North

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-Year	1.87	1.00	2,193	0.56
2-Year	2.20	1.41	3,045	0.78
5-Year	2.69	2.06	4,426	1.14
10-Year	3.14	2.69	5,787	1.49
25-Year	3.84	3.71	8,028	2.07
50-Year	4.48	4.67	10,171	2.62
100-Year	**5.23**	**5.81**	**12,762**	**3.29**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



Subcat Reach Pond Link

Routing Diagram for 24-4006 existing
Prepared by Carmina Wood Morris, PC, Printed 3/24/2024
HydroCAD® 10.20-2g s/n 05019 © 2022 HydroCAD Software Solutions LLC

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	Type II 24-hr		Default	24.00	1	1.87	2
2	10-Year	Type II 24-hr		Default	24.00	1	3.14	2
3	25-Year	Type II 24-hr		Default	24.00	1	3.84	2
4	100-Year	Type II 24-hr		Default	24.00	1	5.23	2

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
43,560	80	>75% Grass cover, Good, HSG D (2S, 3S)
34,848	98	Paved parking, HSG D (1S, 2S, 3S)
17,424	98	Roofs, HSG D (2S, 3S)
95,832	**90**	**TOTAL AREA**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
0	HSG C	
95,832	HSG D	1S, 2S, 3S
0	Other	
95,832		**TOTAL AREA**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	0	0	43,560	0	43,560	>75% Grass cover, Good
0	0	0	34,848	0	34,848	Paved parking
0	0	0	17,424	0	17,424	Roofs
0	**0**	**0**	**95,832**	**0**	**95,832**	**TOTAL AREA**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	2S	0.00	0.00	28.0	0.0120	0.025	0.0	12.0	0.0

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Main Street Runoff Area=0.110 ac 100.00% Impervious Runoff Depth=1.65"
Flow Length=115' Slope=0.0050 '/' Tc=2.7 min CN=98 Runoff=0.32 cfs 657 cf

Subcatchment2S: South Runoff Area=1.020 ac 95.10% Impervious Runoff Depth=1.54"
Flow Length=78' Tc=0.8 min CN=97 Runoff=3.01 cfs 5,717 cf

Subcatchment3S: North Runoff Area=1.070 ac 11.21% Impervious Runoff Depth=0.56"
Flow Length=70' Slope=0.0250 '/' Tc=7.6 min CN=82 Runoff=1.00 cfs 2,193 cf

Total Runoff Area = 95,832 sf Runoff Volume = 8,567 cf Average Runoff Depth = 1.07"
45.45% Pervious = 43,560 sf 54.55% Impervious = 52,272 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Main Street

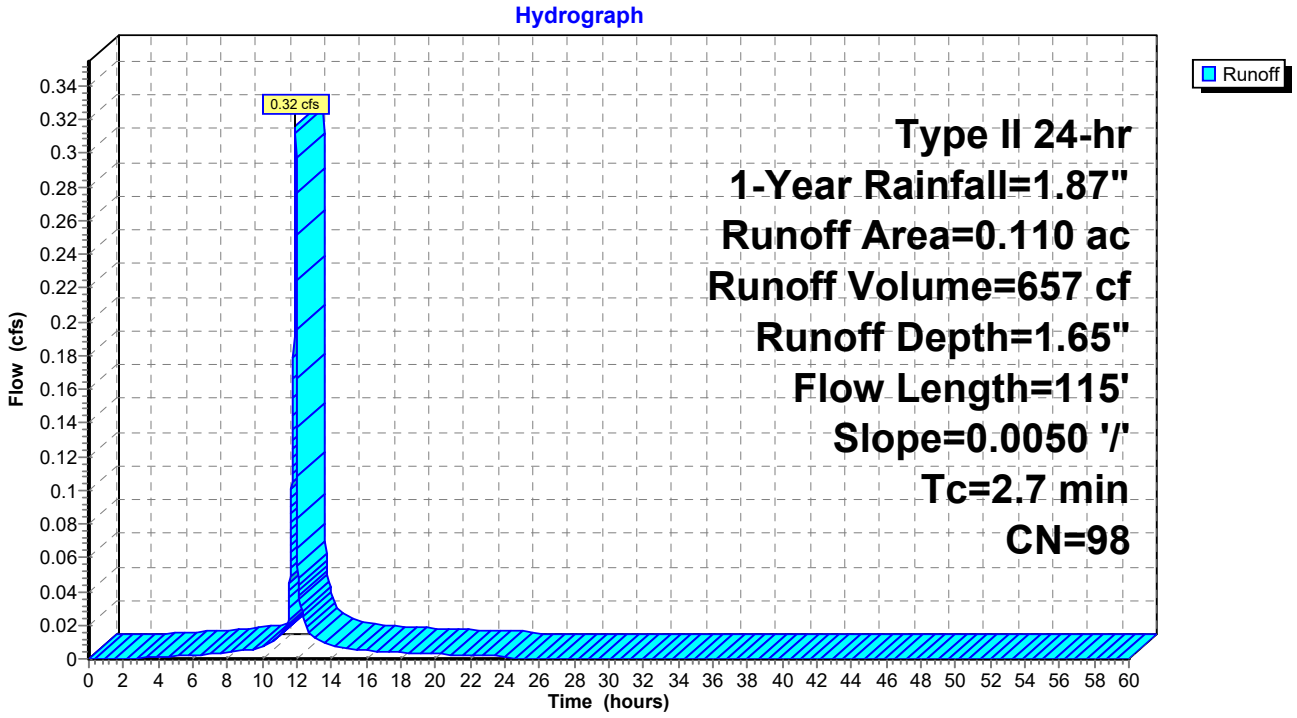
Runoff = 0.32 cfs @ 11.93 hrs, Volume= 657 cf, Depth= 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.87"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG D
0.110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	115	0.0050	0.72		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"

Subcatchment 1S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: South

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 148% of capacity of segment #2

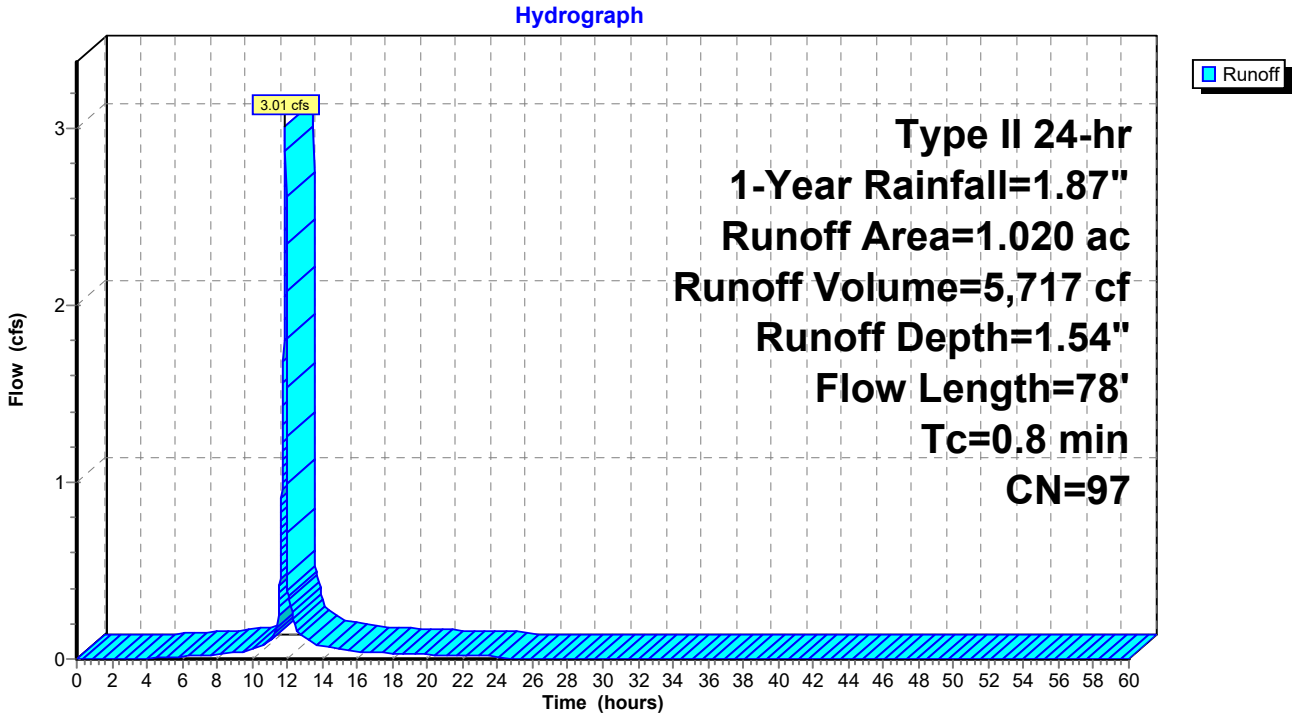
Runoff = 3.01 cfs @ 11.91 hrs, Volume= 5,717 cf, Depth= 1.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.87"

Area (ac)	CN	Description
0.620	98	Paved parking, HSG D
0.350	98	Roofs, HSG D
0.050	80	>75% Grass cover, Good, HSG D
1.020	97	Weighted Average
0.050		4.90% Pervious Area
0.970		95.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0360	1.34		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
0.2	28	0.0120	2.58	2.03	**Pipe Channel, 12" pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.025 Corrugated metal
0.8	78	Total			

Subcatchment 2S: South



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 3S: North

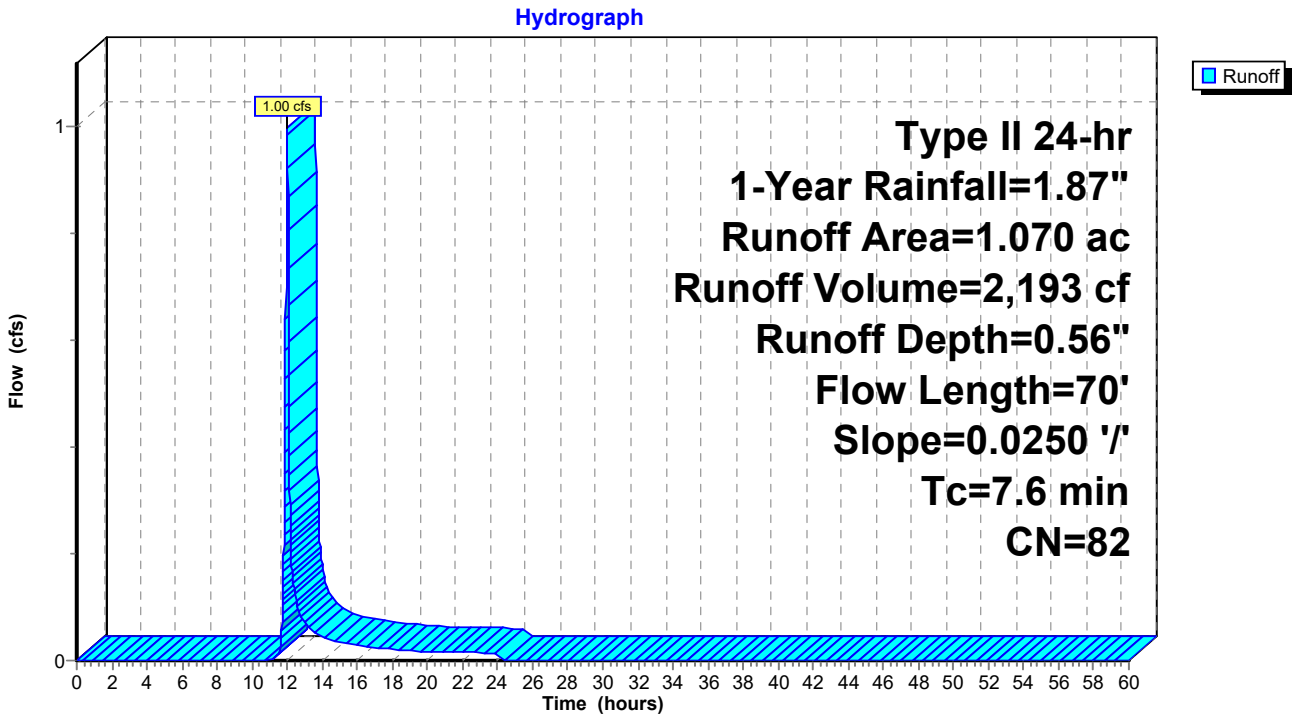
Runoff = 1.00 cfs @ 12.00 hrs, Volume= 2,193 cf, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.87"

Area (ac)	CN	Description
0.070	98	Paved parking, HSG D
0.050	98	Roofs, HSG D
0.950	80	>75% Grass cover, Good, HSG D
1.070	82	Weighted Average
0.950		88.79% Pervious Area
0.120		11.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	70	0.0250	0.15		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 3S: North



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Main Street Runoff Area=0.110 ac 100.00% Impervious Runoff Depth=2.91"
Flow Length=115' Slope=0.0050 '/' Tc=2.7 min CN=98 Runoff=0.54 cfs 1,161 cf

Subcatchment2S: South Runoff Area=1.020 ac 95.10% Impervious Runoff Depth=2.80"
Flow Length=78' Tc=0.8 min CN=97 Runoff=5.24 cfs 10,357 cf

Subcatchment3S: North Runoff Area=1.070 ac 11.21% Impervious Runoff Depth=1.49"
Flow Length=70' Slope=0.0250 '/' Tc=7.6 min CN=82 Runoff=2.69 cfs 5,787 cf

Total Runoff Area = 95,832 sf Runoff Volume = 17,305 cf Average Runoff Depth = 2.17"
45.45% Pervious = 43,560 sf 54.55% Impervious = 52,272 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Main Street

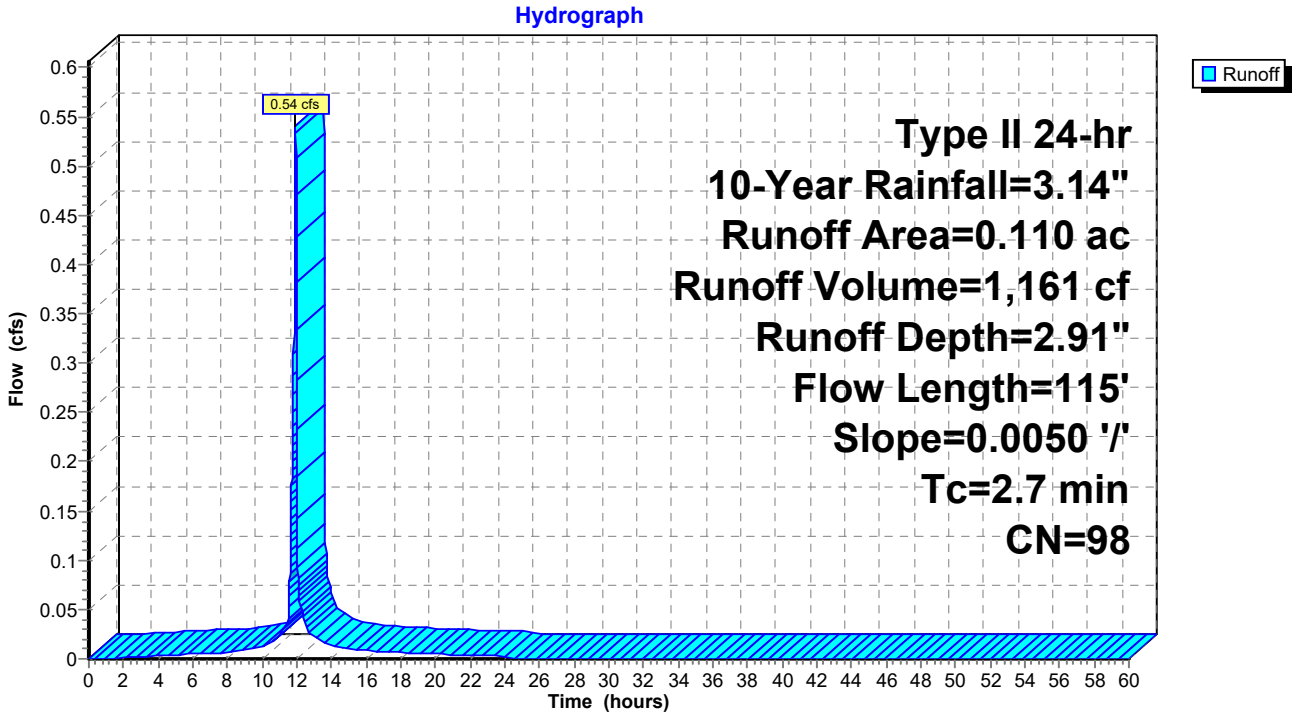
Runoff = 0.54 cfs @ 11.93 hrs, Volume= 1,161 cf, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG D
0.110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	115	0.0050	0.72		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"

Subcatchment 1S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: South

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 258% of capacity of segment #2

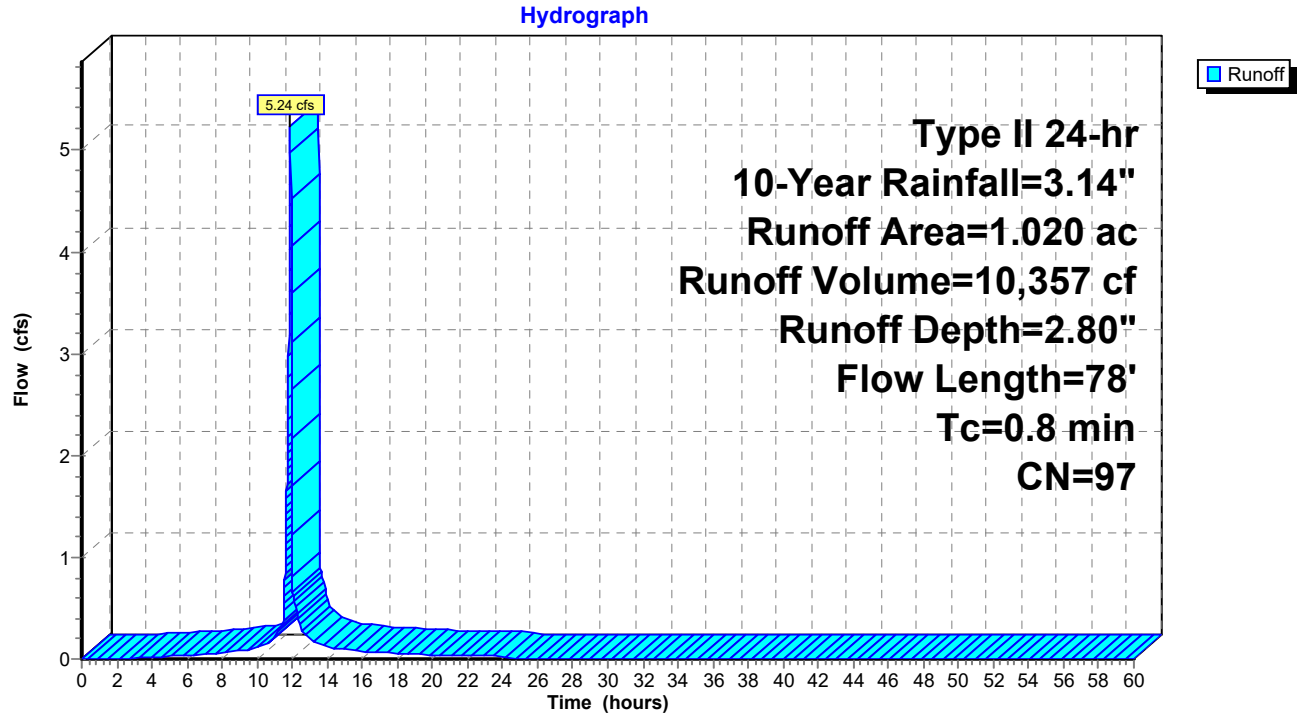
Runoff = 5.24 cfs @ 11.91 hrs, Volume= 10,357 cf, Depth= 2.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (ac)	CN	Description
0.620	98	Paved parking, HSG D
0.350	98	Roofs, HSG D
0.050	80	>75% Grass cover, Good, HSG D
1.020	97	Weighted Average
0.050		4.90% Pervious Area
0.970		95.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0360	1.34		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
0.2	28	0.0120	2.58	2.03	**Pipe Channel, 12" pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.025 Corrugated metal
0.8	78	Total			

Subcatchment 2S: South



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 3S: North

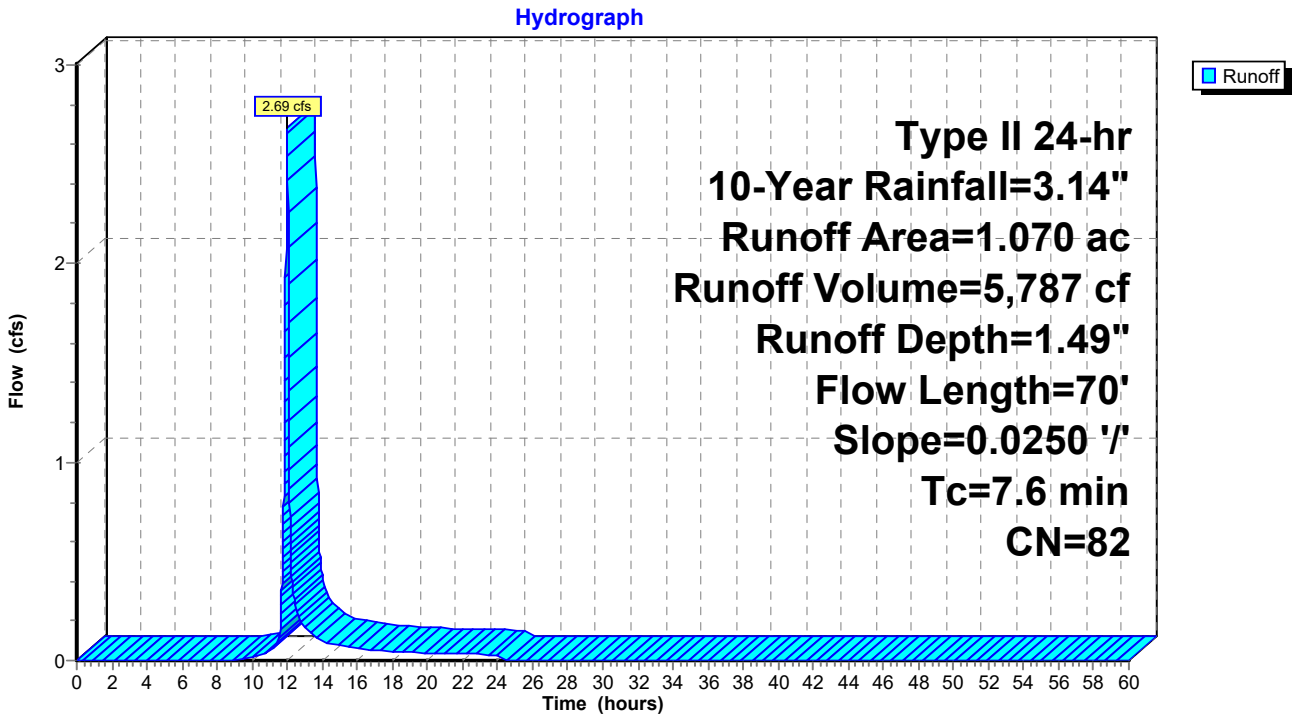
Runoff = 2.69 cfs @ 11.99 hrs, Volume= 5,787 cf, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (ac)	CN	Description
0.070	98	Paved parking, HSG D
0.050	98	Roofs, HSG D
0.950	80	>75% Grass cover, Good, HSG D
1.070	82	Weighted Average
0.950		88.79% Pervious Area
0.120		11.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	70	0.0250	0.15		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 3S: North



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Main Street Runoff Area=0.110 ac 100.00% Impervious Runoff Depth=3.61"
Flow Length=115' Slope=0.0050 '/' Tc=2.7 min CN=98 Runoff=0.66 cfs 1,440 cf

Subcatchment2S: South Runoff Area=1.020 ac 95.10% Impervious Runoff Depth=3.49"
Flow Length=78' Tc=0.8 min CN=97 Runoff=6.45 cfs 12,930 cf

Subcatchment3S: North Runoff Area=1.070 ac 11.21% Impervious Runoff Depth=2.07"
Flow Length=70' Slope=0.0250 '/' Tc=7.6 min CN=82 Runoff=3.71 cfs 8,028 cf

Total Runoff Area = 95,832 sf Runoff Volume = 22,398 cf Average Runoff Depth = 2.80"
45.45% Pervious = 43,560 sf 54.55% Impervious = 52,272 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Main Street

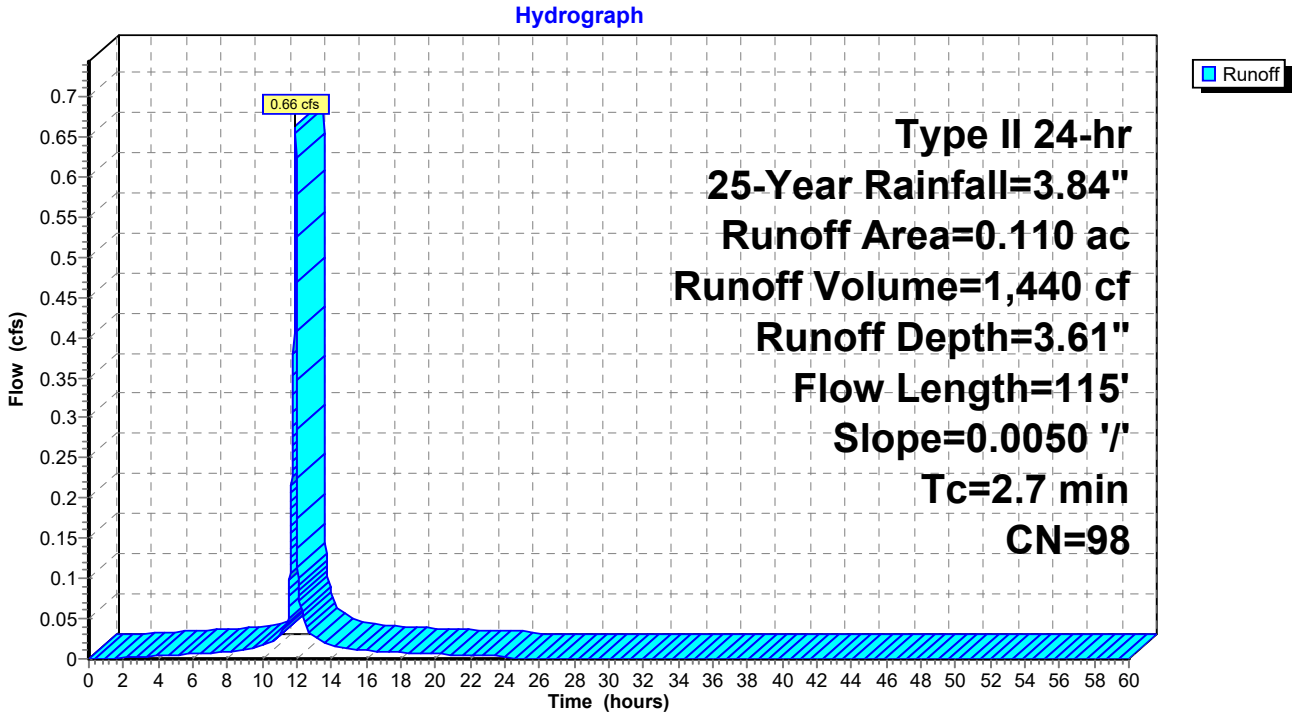
Runoff = 0.66 cfs @ 11.93 hrs, Volume= 1,440 cf, Depth= 3.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG D
0.110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	115	0.0050	0.72		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"

Subcatchment 1S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: South

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 318% of capacity of segment #2

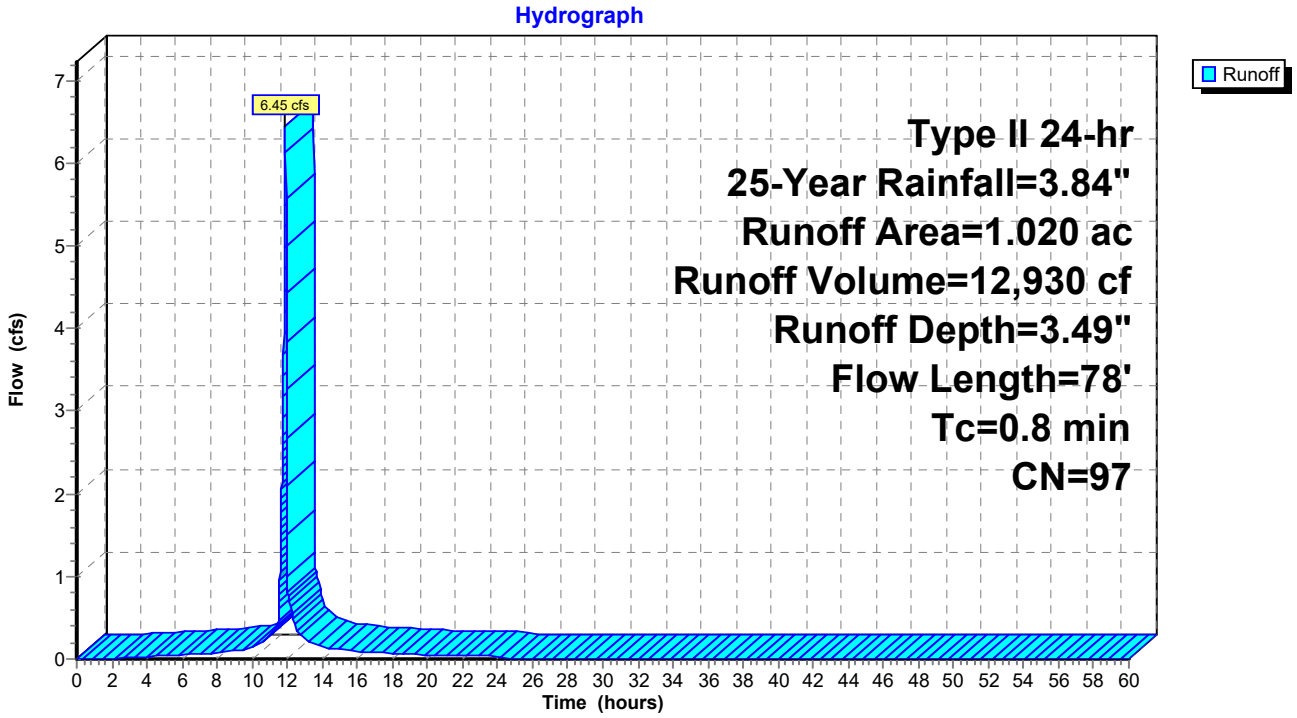
Runoff = 6.45 cfs @ 11.91 hrs, Volume= 12,930 cf, Depth= 3.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (ac)	CN	Description
0.620	98	Paved parking, HSG D
0.350	98	Roofs, HSG D
0.050	80	>75% Grass cover, Good, HSG D
1.020	97	Weighted Average
0.050		4.90% Pervious Area
0.970		95.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0360	1.34		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
0.2	28	0.0120	2.58	2.03	**Pipe Channel, 12" pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.025 Corrugated metal
0.8	78	Total			

Subcatchment 2S: South



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 3S: North

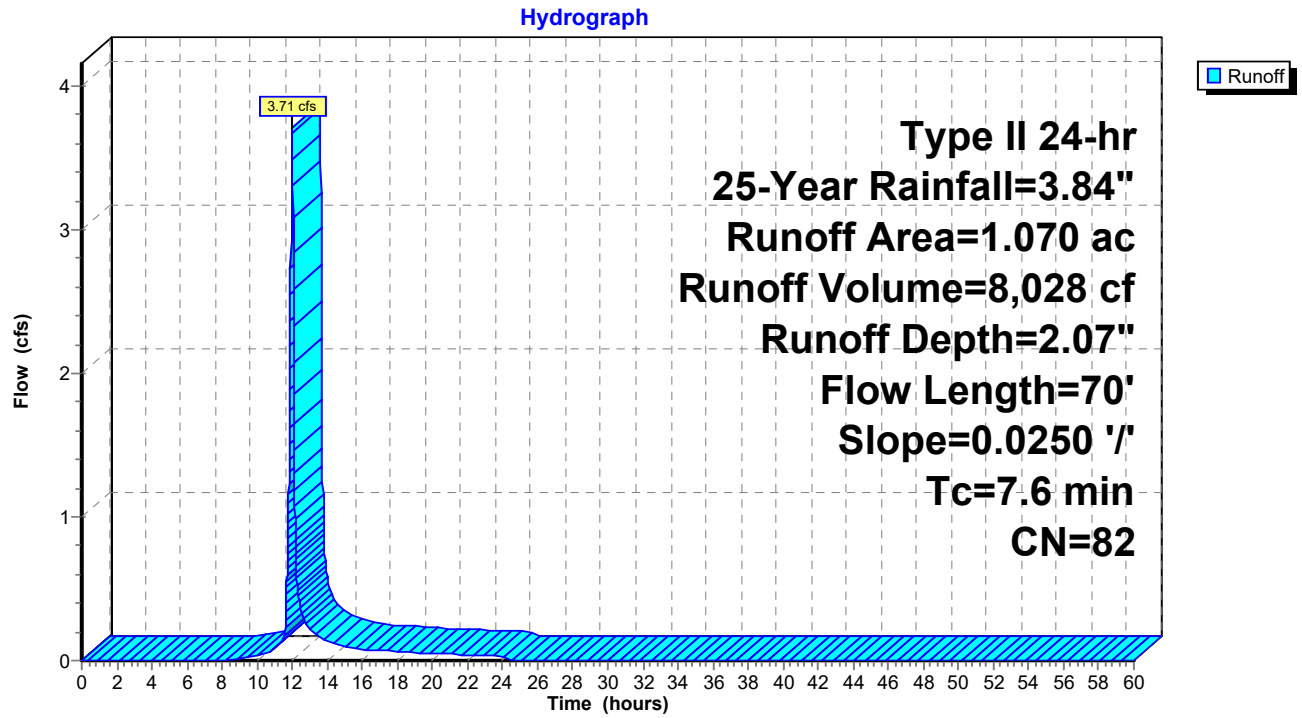
Runoff = 3.71 cfs @ 11.99 hrs, Volume= 8,028 cf, Depth= 2.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (ac)	CN	Description
0.070	98	Paved parking, HSG D
0.050	98	Roofs, HSG D
0.950	80	>75% Grass cover, Good, HSG D
1.070	82	Weighted Average
0.950		88.79% Pervious Area
0.120		11.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	70	0.0250	0.15		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 3S: North



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Main Street Runoff Area=0.110 ac 100.00% Impervious Runoff Depth=4.99"
Flow Length=115' Slope=0.0050 '/' Tc=2.7 min CN=98 Runoff=0.91 cfs 1,994 cf

Subcatchment2S: South Runoff Area=1.020 ac 95.10% Impervious Runoff Depth=4.88"
Flow Length=78' Tc=0.8 min CN=97 Runoff=8.85 cfs 18,055 cf

Subcatchment3S: North Runoff Area=1.070 ac 11.21% Impervious Runoff Depth=3.29"
Flow Length=70' Slope=0.0250 '/' Tc=7.6 min CN=82 Runoff=5.81 cfs 12,762 cf

Total Runoff Area = 95,832 sf Runoff Volume = 32,810 cf Average Runoff Depth = 4.11"
45.45% Pervious = 43,560 sf 54.55% Impervious = 52,272 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Main Street

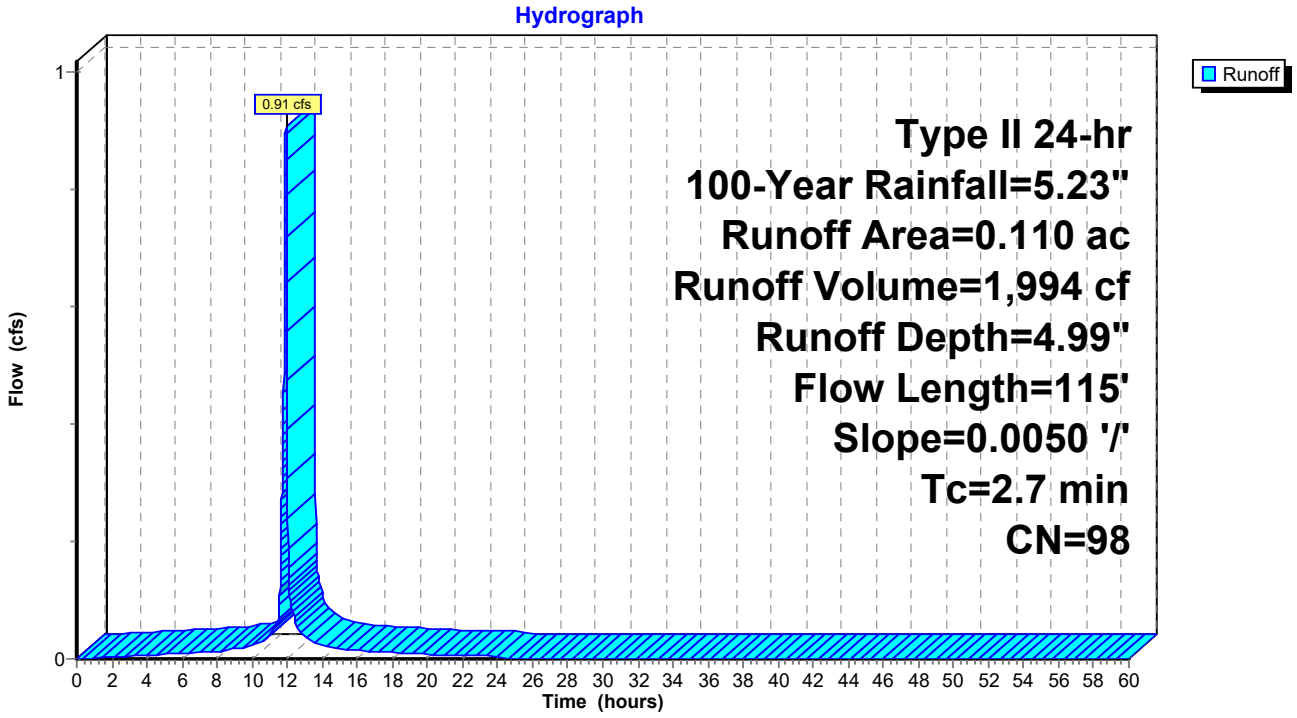
Runoff = 0.91 cfs @ 11.93 hrs, Volume= 1,994 cf, Depth= 4.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.23"

Area (ac)	CN	Description
0.110	98	Paved parking, HSG D
0.110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	115	0.0050	0.72		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"

Subcatchment 1S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: South

[49] Hint: Tc<2dt may require smaller dt
[47] Hint: Peak is 436% of capacity of segment #2

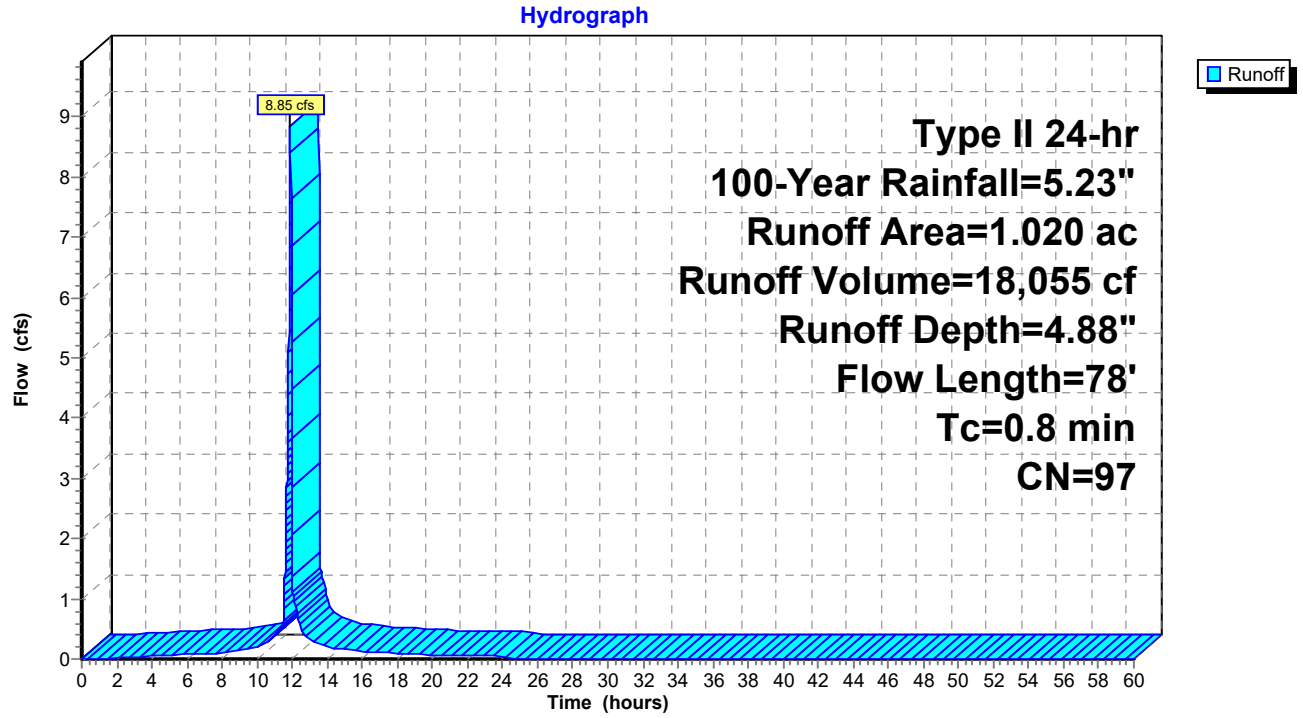
Runoff = 8.85 cfs @ 11.91 hrs, Volume= 18,055 cf, Depth= 4.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.23"

Area (ac)	CN	Description
0.620	98	Paved parking, HSG D
0.350	98	Roofs, HSG D
0.050	80	>75% Grass cover, Good, HSG D
1.020	97	Weighted Average
0.050		4.90% Pervious Area
0.970		95.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0360	1.34		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
0.2	28	0.0120	2.58	2.03	**Pipe Channel, 12" pipe** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.025 Corrugated metal
0.8	78	Total			

Subcatchment 2S: South



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 3S: North

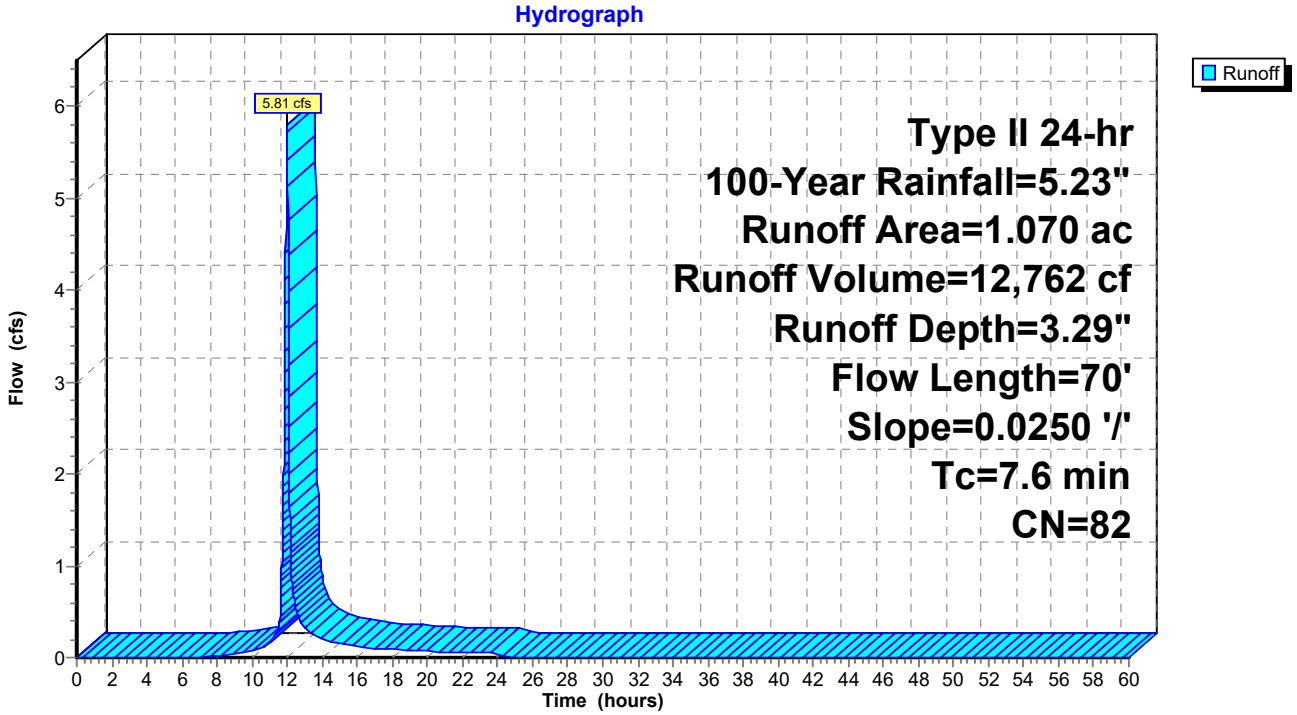
Runoff = 5.81 cfs @ 11.99 hrs, Volume= 12,762 cf, Depth= 3.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.23"

Area (ac)	CN	Description
0.070	98	Paved parking, HSG D
0.050	98	Roofs, HSG D
0.950	80	>75% Grass cover, Good, HSG D
1.070	82	Weighted Average
0.950		88.79% Pervious Area
0.120		11.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	70	0.0250	0.15		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 3S: North



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Proposed Runoff

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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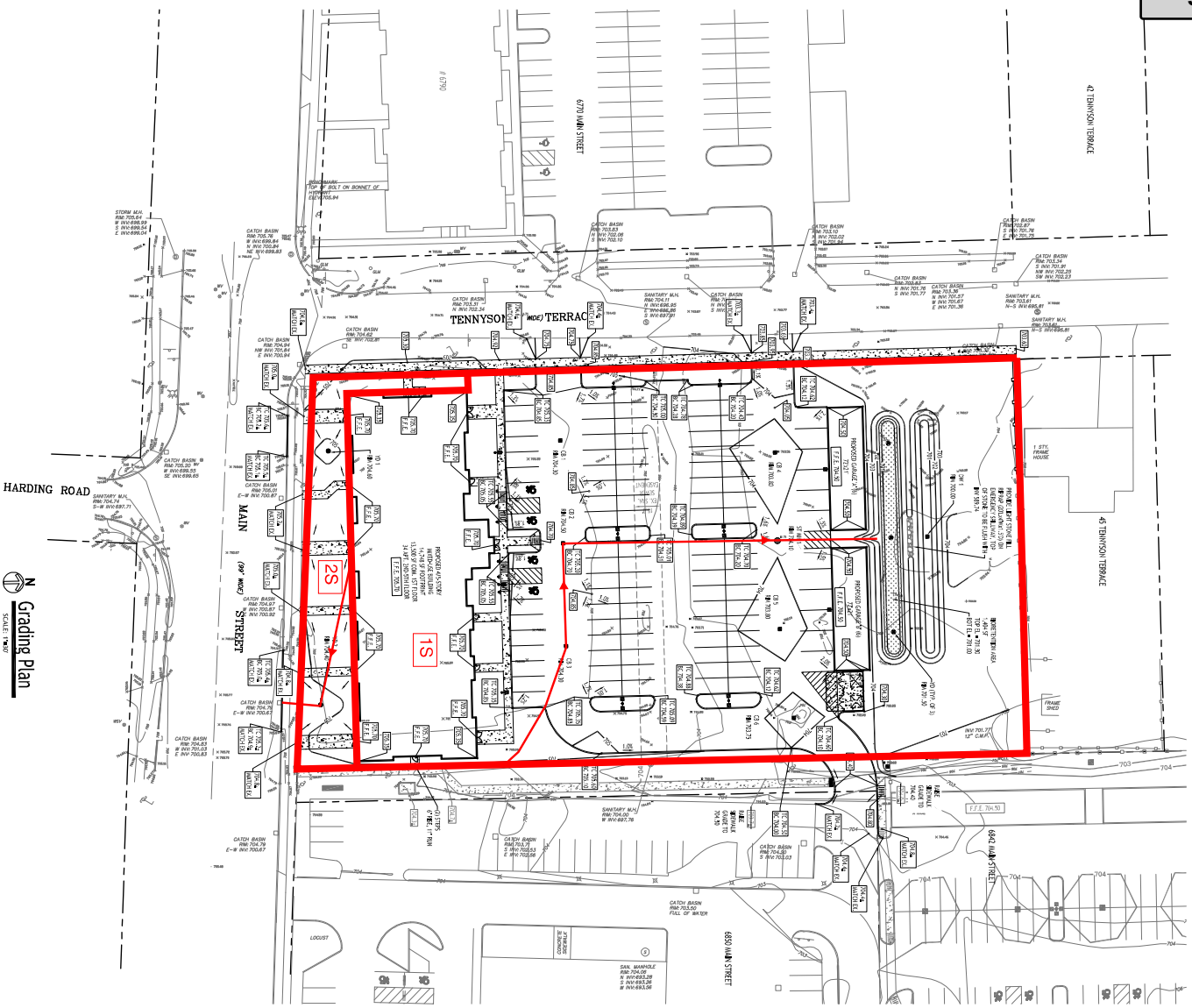


PROPOSED RUNOFF

PROPOSED GRADING LEGEND

PROPOSED CONTOUR

PROPOSED SPOT ELEVATION

PROPOSED TOP BOTTOM OF CURB

PROPOSED CATCH BASIN

PROPOSED GROUND SLOPE

PROPOSED MANHOLE

PROPOSED SWALE

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30 0 30 60 FT.

DRAWING NO.: C-200

Project No: 24-4006

Date: 3/25/24

Drawn By: P. Sheedy

Scale: As Noted

DRAWING NAME: Grading Plan

REVISIONS:

No.	Description	Date

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

CARMINAWOOD DES

Buffalo | Utica

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Events for Pond 2P: Dry Pond

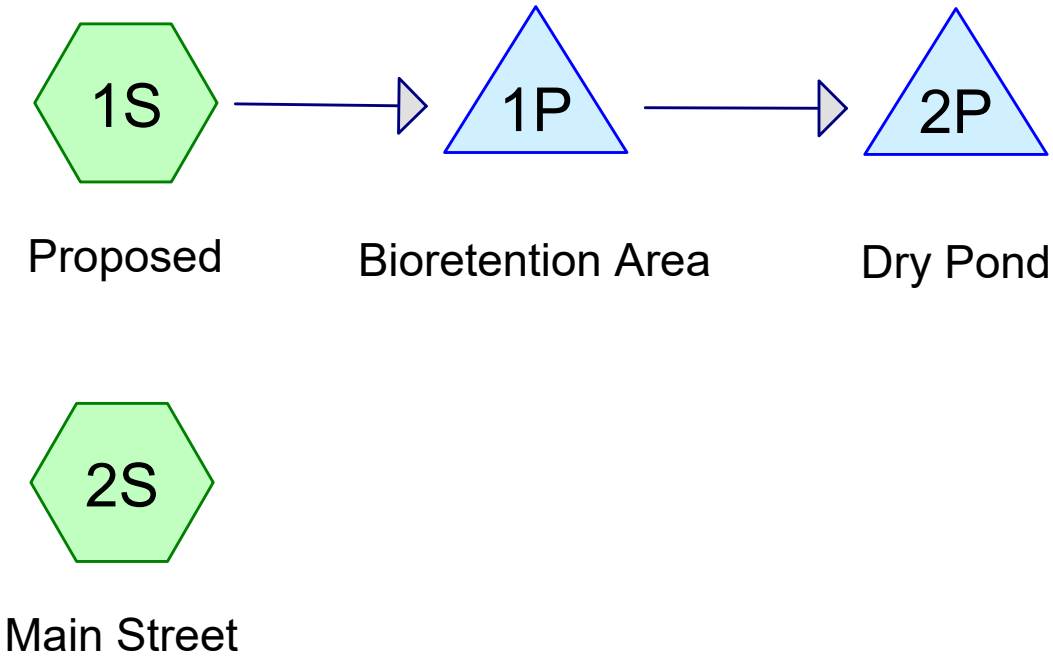
Event	Inflow (cfs)	Discarded (cfs)	Elevation (feet)	Storage (cubic-feet)
1-Year	1.60	**0.90**	701.83	1,512
2-Year	1.66	0.90	701.98	2,004
5-Year	1.69	0.90	702.08	2,326
10-Year	1.70	0.90	702.15	2,590
25-Year	1.71	0.90	702.25	2,980
50-Year	1.72	0.90	702.34	3,329
100-Year	**1.73**	0.90	**702.44**	**3,758**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Events for Subcatchment 2S: Main Street

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-Year	1.87	0.14	353	0.61
2-Year	2.20	0.19	485	0.84
5-Year	2.69	0.28	698	1.20
10-Year	3.14	0.36	906	1.56
25-Year	3.84	0.50	1,247	2.15
50-Year	4.48	0.62	1,573	2.71
100-Year	**5.23**	**0.77**	**1,965**	**3.38**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



Subcat Reach Pond Link

Routing Diagram for 24-4006 proposed
Prepared by Carmina Wood Morris, PC, Printed 3/24/2024
HydroCAD® 10.20-2g s/n 05019 © 2022 HydroCAD Software Solutions LLC

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-Year	Type II 24-hr		Default	24.00	1	1.87	2
2	10-Year	Type II 24-hr		Default	24.00	1	3.14	2
3	25-Year	Type II 24-hr		Default	24.00	1	3.84	2
4	100-Year	Type II 24-hr		Default	24.00	1	5.23	2

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
37,026	80	>75% Grass cover, Good, HSG D (1S, 2S)
41,382	98	Paved parking, HSG D (1S, 2S)
17,424	98	Roofs, HSG D (1S)
95,832	**91**	**TOTAL AREA**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
0	HSG C	
95,832	HSG D	1S, 2S
0	Other	
95,832		**TOTAL AREA**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	0	0	37,026	0	37,026	>75% Grass cover, Good
0	0	0	41,382	0	41,382	Paved parking
0	0	0	17,424	0	17,424	Roofs
0	**0**	**0**	**95,832**	**0**	**95,832**	**TOTAL AREA**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	1S	0.00	0.00	240.0	0.0030	0.013	0.0	12.0	0.0
2	1P	698.83	698.73	19.0	0.0053	0.013	0.0	6.0	0.0

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Proposed Runoff Area=2.040 ac 64.71% Impervious Runoff Depth=1.12"
Flow Length=305' Tc=6.5 min CN=92 Runoff=3.95 cfs 8,303 cf

Subcatchment2S: Main Street Runoff Area=0.160 ac 18.75% Impervious Runoff Depth=0.61"
Flow Length=90' Slope=0.0140 '/' Tc=11.8 min CN=83 Runoff=0.14 cfs 353 cf

Pond 1P: Bioretention Area Peak Elev=702.34' Storage=1,519 cf Inflow=3.95 cfs 8,303 cf
Primary=1.60 cfs 8,303 cf Secondary=0.00 cfs 0 cf Outflow=1.60 cfs 8,303 cf

Pond 2P: Dry Pond Peak Elev=701.83' Storage=1,512 cf Inflow=1.60 cfs 8,303 cf
Outflow=0.90 cfs 8,303 cf

Total Runoff Area = 95,832 sf Runoff Volume = 8,656 cf Average Runoff Depth = 1.08"
38.64% Pervious = 37,026 sf 61.36% Impervious = 58,806 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Proposed

[47] Hint: Peak is 203% of capacity of segment #3

Runoff = 3.95 cfs @ 11.98 hrs, Volume= 8,303 cf, Depth= 1.12"
Routed to Pond 1P : Bioretention Area

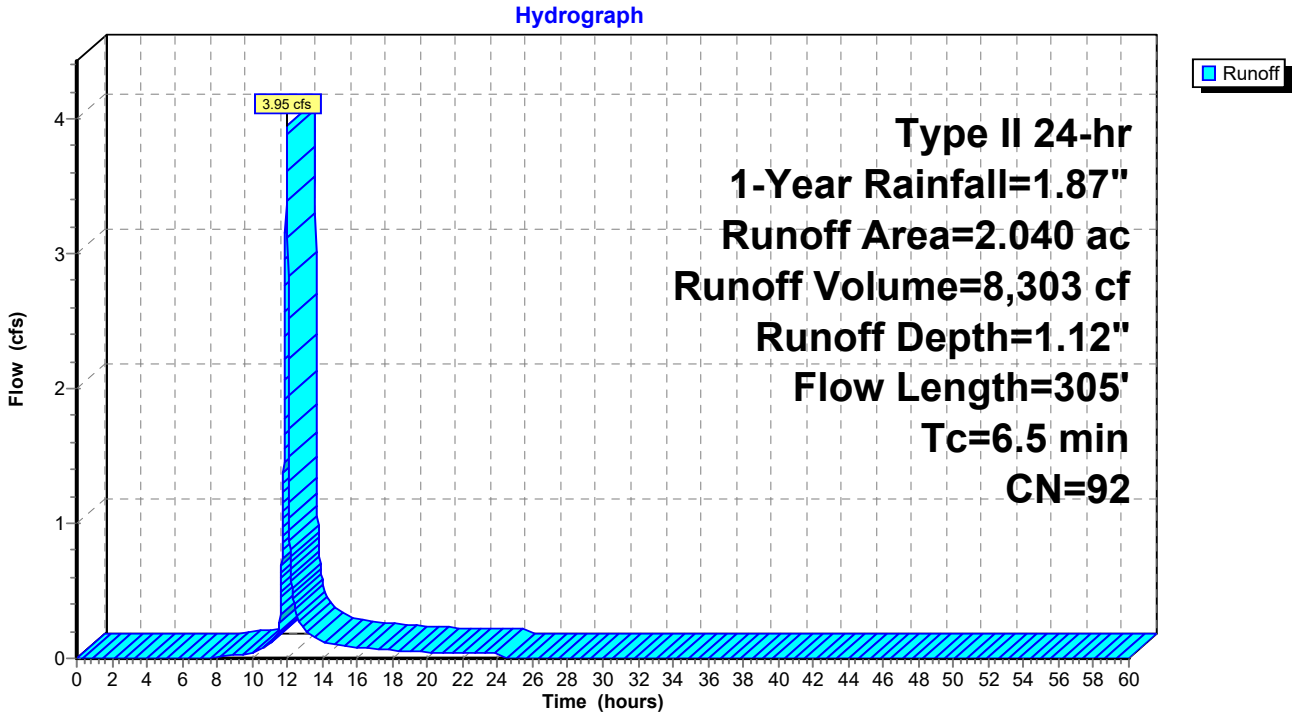
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.87"

Area (ac)	CN	Description
0.400	98	Roofs, HSG D
0.920	98	Paved parking, HSG D
0.720	80	>75% Grass cover, Good, HSG D
2.040	92	Weighted Average
0.720		35.29% Pervious Area
1.320		64.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	20	0.0100	0.08		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"
0.9	45	0.0120	0.84		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
1.6	240	0.0030	2.48	1.95	**Pipe Channel, Pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
6.5	305	Total			

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Subcatchment 1S: Proposed



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: Main Street

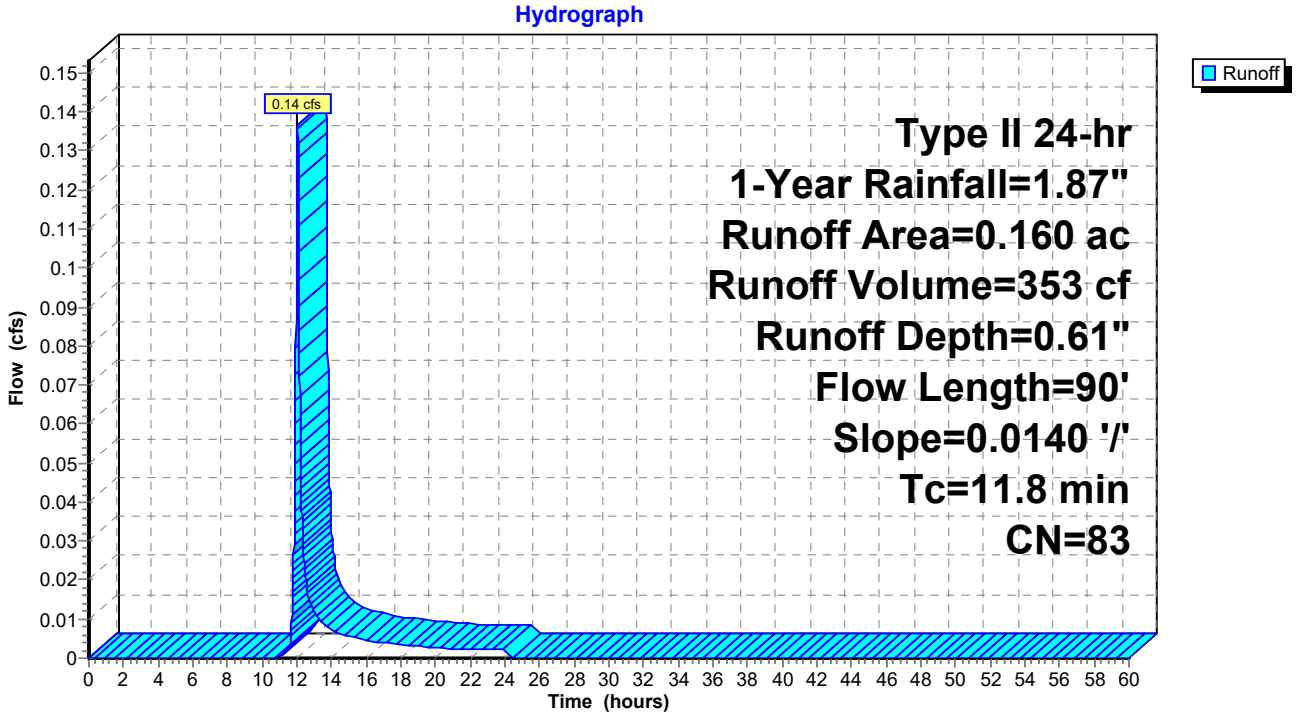
Runoff = 0.14 cfs @ 12.05 hrs, Volume= 353 cf, Depth= 0.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 1-Year Rainfall=1.87"

Area (ac)	CN	Description
0.030	98	Paved parking, HSG D
0.130	80	>75% Grass cover, Good, HSG D
0.160	83	Weighted Average
0.130		81.25% Pervious Area
0.030		18.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.8	90	0.0140	0.13		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 2S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 1P: Bioretention Area

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 1.12" for 1-Year event
Inflow = 3.95 cfs @ 11.98 hrs, Volume= 8,303 cf
Outflow = 1.60 cfs @ 12.08 hrs, Volume= 8,303 cf, Atten= 59%, Lag= 6.4 min
Primary = 1.60 cfs @ 12.08 hrs, Volume= 8,303 cf
Routed to Pond 2P : Dry Pond
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.34' @ 12.08 hrs Surf.Area= 2,195 sf Storage= 1,519 cf

Plug-Flow detention time= 7.6 min calculated for 8,302 cf (100% of inflow)
Center-of-Mass det. time= 7.6 min (823.7 - 816.1)

Volume	Invert	Avail.Storage	Storage Description
#1	701.50'	3,160 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.50	1,404	0	0
702.00	1,875	820	820
703.00	2,805	2,340	3,160

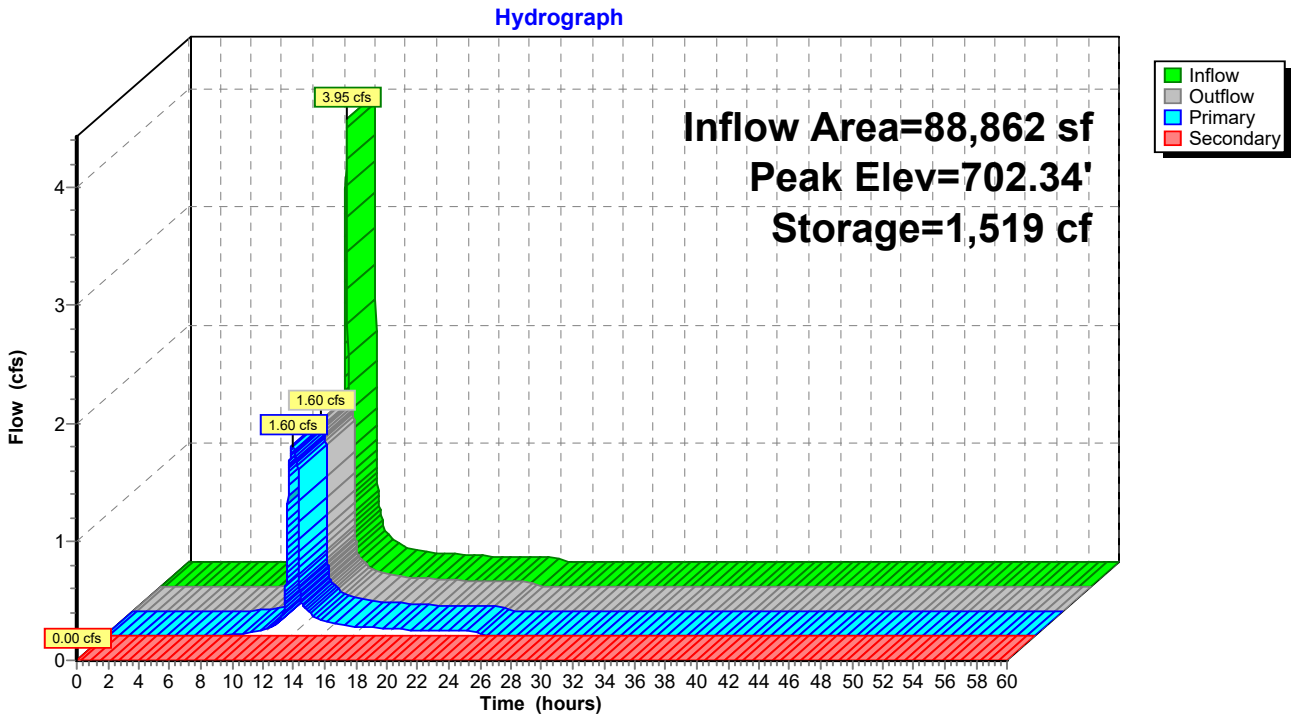
Device	Routing	Invert	Outlet Devices
#1	Primary	698.83'	**6.0" Round 6" pipe** L= 19.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 698.83' / 698.73' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	701.50'	**8.0" Horiz. Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	701.50'	**0.250 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 690.00'
#4	Secondary	702.50'	**20.0' long (Profile 1) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=1.60 cfs @ 12.08 hrs HW=702.34' (Free Discharge)
└**1=6" pipe** (Barrel Controls 1.60 cfs @ 8.17 fps)
└**2=Grate** (Passes < 4.63 cfs potential flow)
└**3=Exfiltration** (Passes < 0.01 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=701.50' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 1P: Bioretention Area



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 2P: Dry Pond

[81] Warning: Exceeded Pond 1P by 0.23' @ 12.54 hrs

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 1.12" for 1-Year event
Inflow = 1.60 cfs @ 12.08 hrs, Volume= 8,303 cf
Outflow = 0.90 cfs @ 11.78 hrs, Volume= 8,303 cf, Atten= 44%, Lag= 0.0 min
Discarded = 0.90 cfs @ 11.78 hrs, Volume= 8,303 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 701.83' @ 12.49 hrs Surf.Area= 2,966 sf Storage= 1,512 cf

Plug-Flow detention time= 8.1 min calculated for 8,302 cf (100% of inflow)
Center-of-Mass det. time= 8.1 min (831.8 - 823.7)

Volume	Invert	Avail.Storage	Storage Description
#1	701.00'	6,475 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

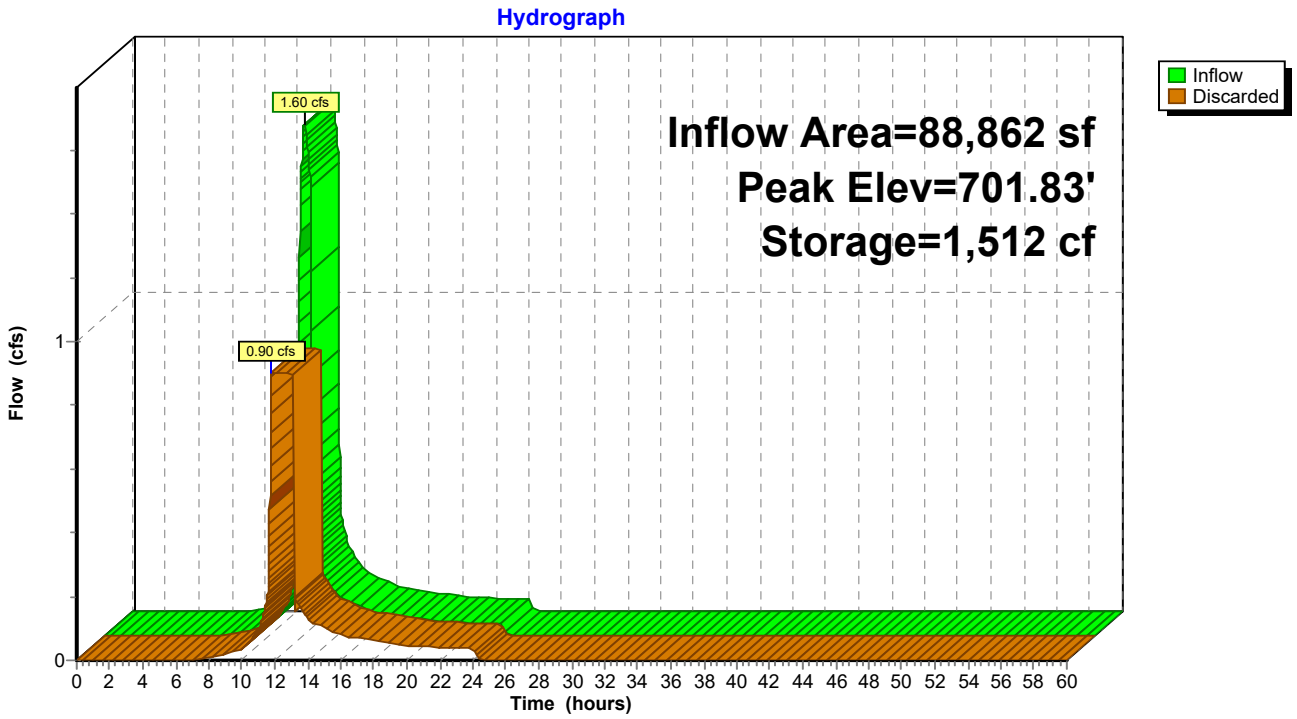
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.00	680	0	0
702.00	3,435	2,058	2,058
703.00	5,400	4,418	6,475

Device	Routing	Invert	Outlet Devices
#1	Discarded	701.00'	**0.90 cfs Well at all elevations**

Discarded OutFlow Max=0.90 cfs @ 11.78 hrs HW=701.02' (Free Discharge)
↑**1=Well** (Exfiltration Controls 0.90 cfs)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 2P: Dry Pond



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Proposed Runoff Area=2.040 ac 64.71% Impervious Runoff Depth=2.29"
Flow Length=305' Tc=6.5 min CN=92 Runoff=7.80 cfs 16,985 cf

Subcatchment2S: Main Street Runoff Area=0.160 ac 18.75% Impervious Runoff Depth=1.56"
Flow Length=90' Slope=0.0140 '/' Tc=11.8 min CN=83 Runoff=0.36 cfs 906 cf

Pond 1P: Bioretention Area Peak Elev=702.71' Storage=2,396 cf Inflow=7.80 cfs 16,985 cf
Primary=1.70 cfs 14,244 cf Secondary=5.79 cfs 2,741 cf Outflow=7.48 cfs 16,985 cf

Pond 2P: Dry Pond Peak Elev=702.15' Storage=2,590 cf Inflow=1.70 cfs 14,244 cf
Outflow=0.90 cfs 14,244 cf

Total Runoff Area = 95,832 sf Runoff Volume = 17,891 cf Average Runoff Depth = 2.24"
38.64% Pervious = 37,026 sf 61.36% Impervious = 58,806 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Proposed

[47] Hint: Peak is 400% of capacity of segment #3

Runoff = 7.80 cfs @ 11.98 hrs, Volume= 16,985 cf, Depth= 2.29"
Routed to Pond 1P : Bioretention Area

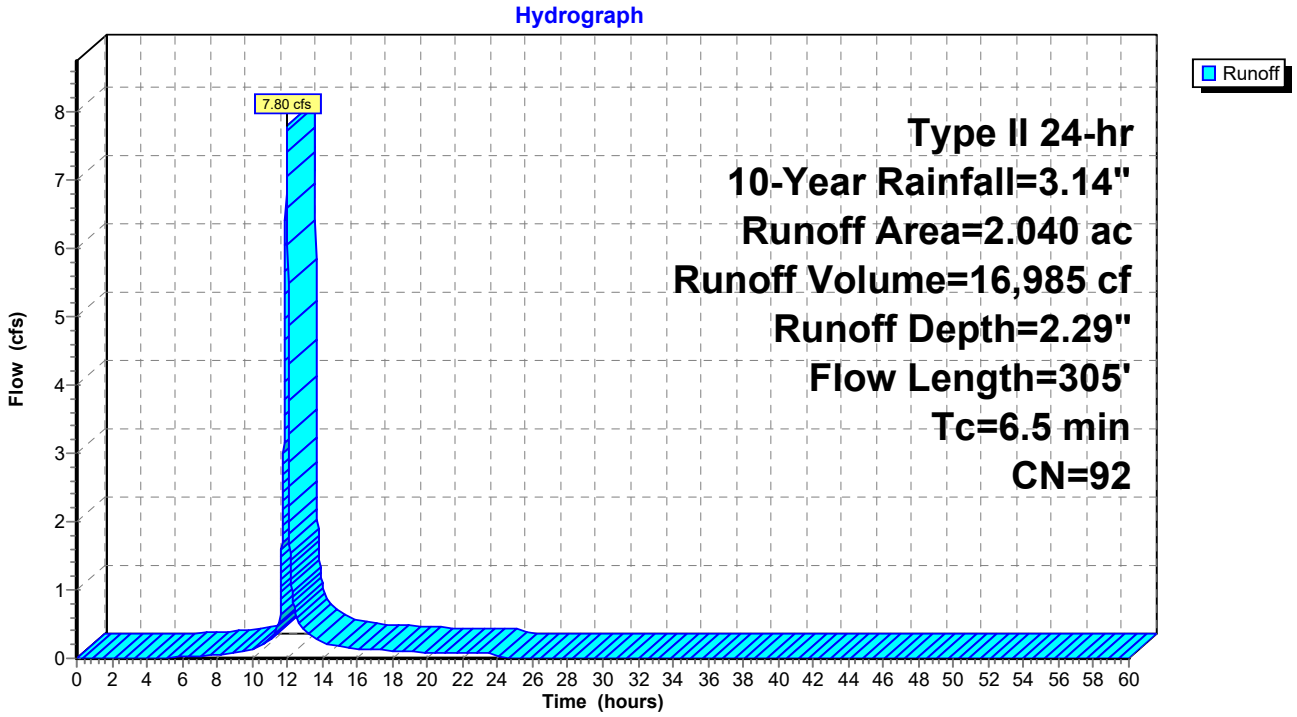
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (ac)	CN	Description
0.400	98	Roofs, HSG D
0.920	98	Paved parking, HSG D
0.720	80	>75% Grass cover, Good, HSG D
2.040	92	Weighted Average
0.720		35.29% Pervious Area
1.320		64.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	20	0.0100	0.08		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"
0.9	45	0.0120	0.84		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
1.6	240	0.0030	2.48	1.95	**Pipe Channel, Pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
6.5	305	Total			

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Subcatchment 1S: Proposed



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: Main Street

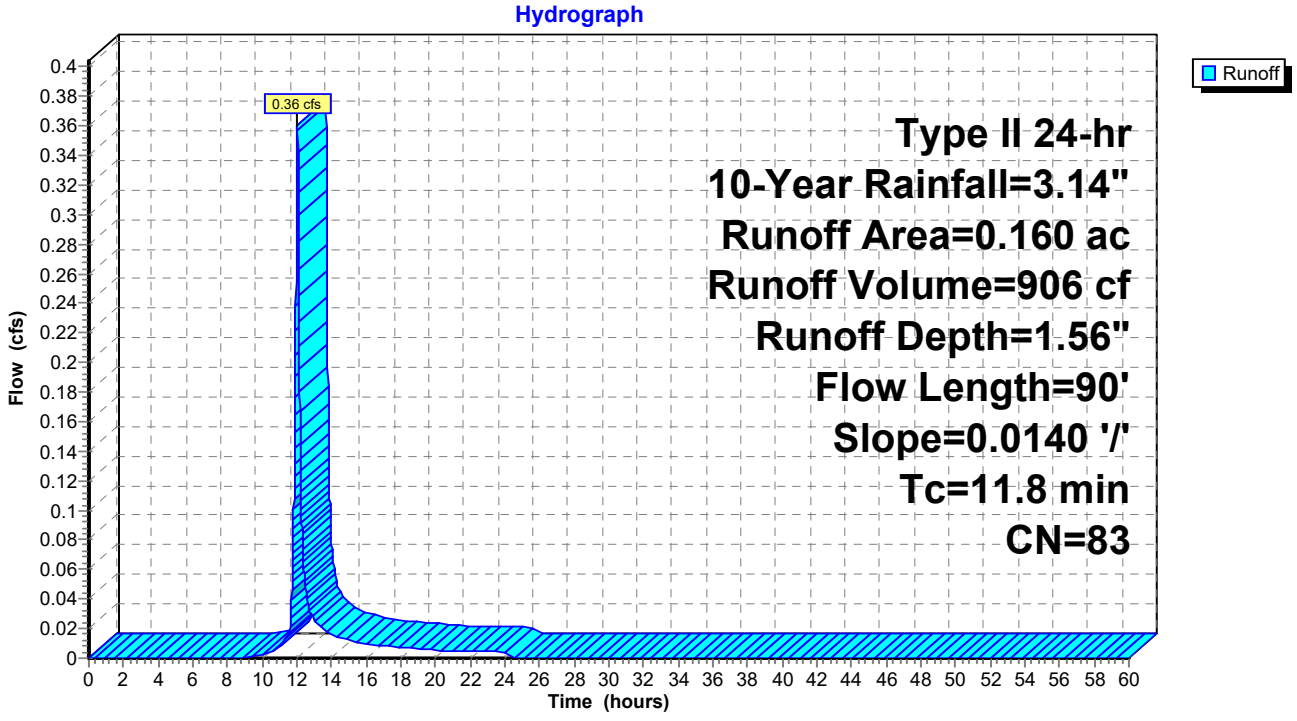
Runoff = 0.36 cfs @ 12.04 hrs, Volume= 906 cf, Depth= 1.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 10-Year Rainfall=3.14"

Area (ac)	CN	Description
0.030	98	Paved parking, HSG D
0.130	80	>75% Grass cover, Good, HSG D
0.160	83	Weighted Average
0.130		81.25% Pervious Area
0.030		18.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.8	90	0.0140	0.13		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 2S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 1P: Bioretention Area

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 2.29" for 10-Year event
Inflow = 7.80 cfs @ 11.98 hrs, Volume= 16,985 cf
Outflow = 7.48 cfs @ 12.00 hrs, Volume= 16,985 cf, Atten= 4%, Lag= 1.3 min
Primary = 1.70 cfs @ 12.00 hrs, Volume= 14,244 cf
Routed to Pond 2P : Dry Pond
Secondary = 5.79 cfs @ 12.00 hrs, Volume= 2,741 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.71' @ 12.00 hrs Surf.Area= 2,539 sf Storage= 2,396 cf

Plug-Flow detention time= 7.6 min calculated for 16,982 cf (100% of inflow)
Center-of-Mass det. time= 7.6 min (803.3 - 795.8)

Volume	Invert	Avail.Storage	Storage Description
#1	701.50'	3,160 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.50	1,404	0	0
702.00	1,875	820	820
703.00	2,805	2,340	3,160

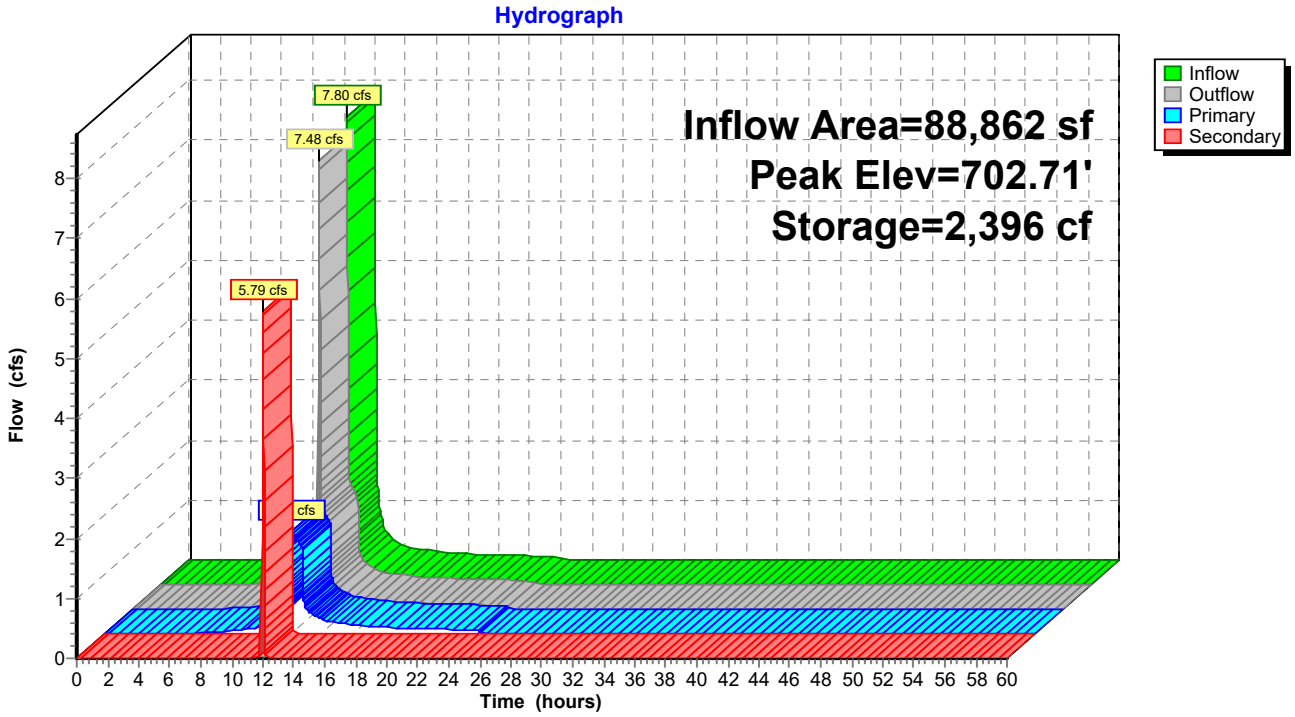
Device	Routing	Invert	Outlet Devices
#1	Primary	698.83'	**6.0" Round 6" pipe** L= 19.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 698.83' / 698.73' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	701.50'	**8.0" Horiz. Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	701.50'	**0.250 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 690.00'
#4	Secondary	702.50'	**20.0' long (Profile 1) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=1.70 cfs @ 12.00 hrs HW=702.71' (Free Discharge)
└**1=6" pipe** (Barrel Controls 1.70 cfs @ 8.64 fps)
└**2=Grate** (Passes < 5.56 cfs potential flow)
└**3=Exfiltration** (Passes < 0.02 cfs potential flow)

Secondary OutFlow Max=5.77 cfs @ 12.00 hrs HW=702.71' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Weir Controls 5.77 cfs @ 1.35 fps)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 1P: Bioretention Area



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 2P: Dry Pond

[81] Warning: Exceeded Pond 1P by 0.55' @ 12.82 hrs

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 1.92" for 10-Year event
Inflow = 1.70 cfs @ 12.00 hrs, Volume= 14,244 cf
Outflow = 0.90 cfs @ 11.67 hrs, Volume= 14,244 cf, Atten= 47%, Lag= 0.0 min
Discarded = 0.90 cfs @ 11.67 hrs, Volume= 14,244 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.15' @ 12.77 hrs Surf.Area= 3,727 sf Storage= 2,590 cf

Plug-Flow detention time= 14.0 min calculated for 14,241 cf (100% of inflow)
Center-of-Mass det. time= 14.0 min (833.1 - 819.1)

Volume	Invert	Avail.Storage	Storage Description
#1	701.00'	6,475 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

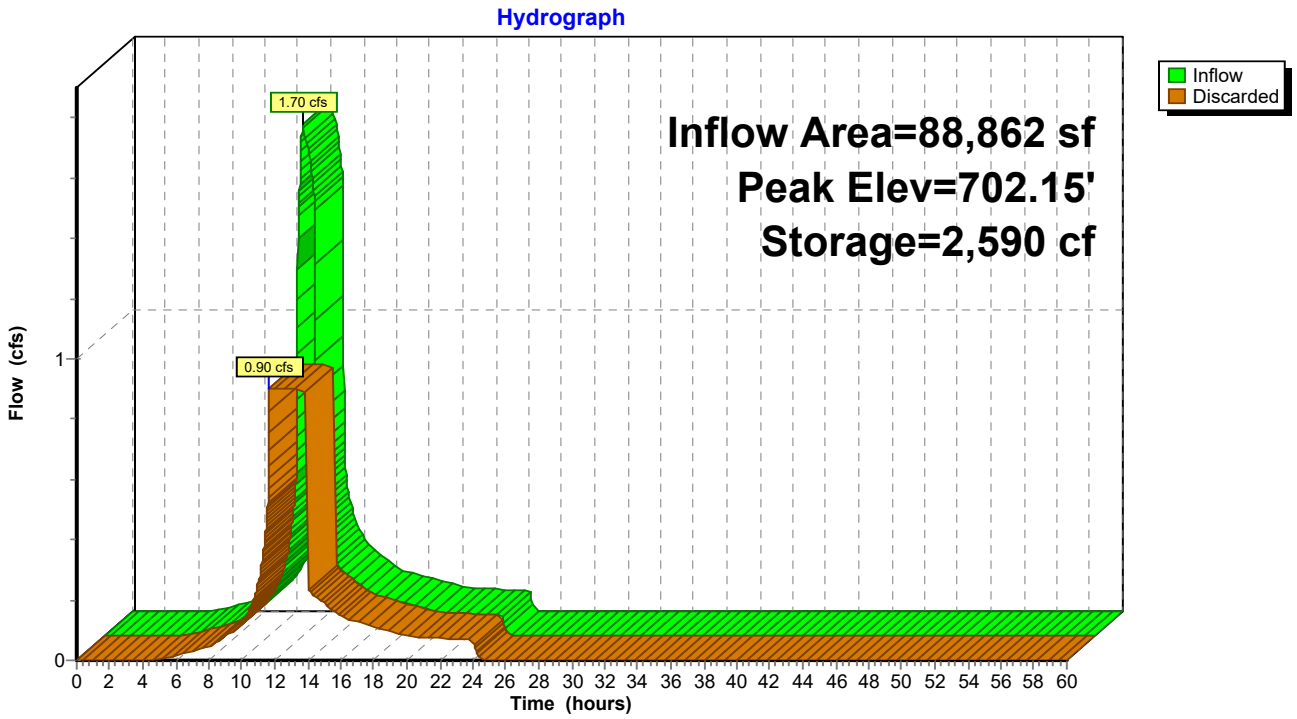
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.00	680	0	0
702.00	3,435	2,058	2,058
703.00	5,400	4,418	6,475

Device	Routing	Invert	Outlet Devices
#1	Discarded	701.00'	**0.90 cfs Well at all elevations**

Discarded OutFlow Max=0.90 cfs @ 11.67 hrs HW=701.02' (Free Discharge)
↑**1=Well** (Exfiltration Controls 0.90 cfs)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 2P: Dry Pond



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Proposed Runoff Area=2.040 ac 64.71% Impervious Runoff Depth=2.96"
Flow Length=305' Tc=6.5 min CN=92 Runoff=9.91 cfs 21,943 cf

Subcatchment2S: Main Street Runoff Area=0.160 ac 18.75% Impervious Runoff Depth=2.15"
Flow Length=90' Slope=0.0140 '/' Tc=11.8 min CN=83 Runoff=0.50 cfs 1,247 cf

Pond 1P: Bioretention Area Peak Elev=702.77' Storage=2,529 cf Inflow=9.91 cfs 21,943 cf
Primary=1.71 cfs 17,194 cf Secondary=8.02 cfs 4,749 cf Outflow=9.73 cfs 21,943 cf

Pond 2P: Dry Pond Peak Elev=702.25' Storage=2,980 cf Inflow=1.71 cfs 17,194 cf
Outflow=0.90 cfs 17,194 cf

Total Runoff Area = 95,832 sf Runoff Volume = 23,191 cf Average Runoff Depth = 2.90"
38.64% Pervious = 37,026 sf 61.36% Impervious = 58,806 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Proposed

[47] Hint: Peak is 508% of capacity of segment #3

Runoff = 9.91 cfs @ 11.97 hrs, Volume= 21,943 cf, Depth= 2.96"
Routed to Pond 1P : Bioretention Area

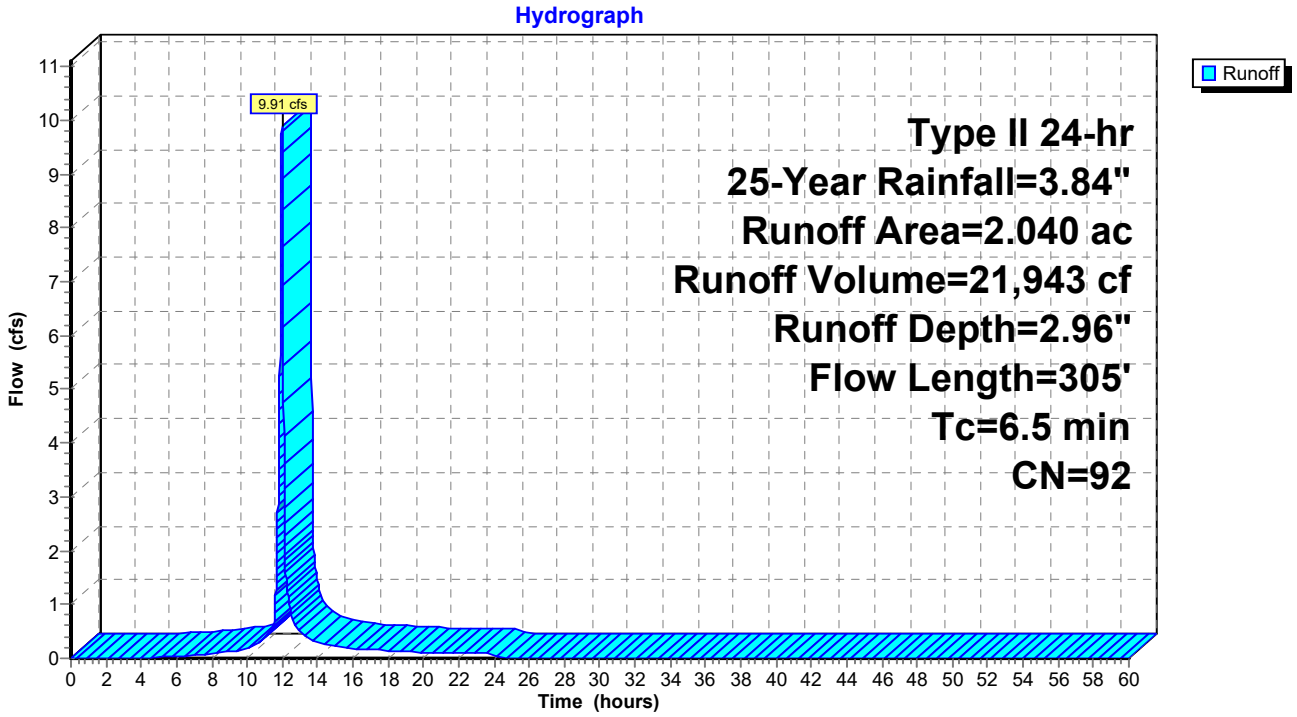
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (ac)	CN	Description
0.400	98	Roofs, HSG D
0.920	98	Paved parking, HSG D
0.720	80	>75% Grass cover, Good, HSG D
2.040	92	Weighted Average
0.720		35.29% Pervious Area
1.320		64.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	20	0.0100	0.08		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"
0.9	45	0.0120	0.84		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
1.6	240	0.0030	2.48	1.95	**Pipe Channel, Pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
6.5	305	Total			

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Subcatchment 1S: Proposed



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: Main Street

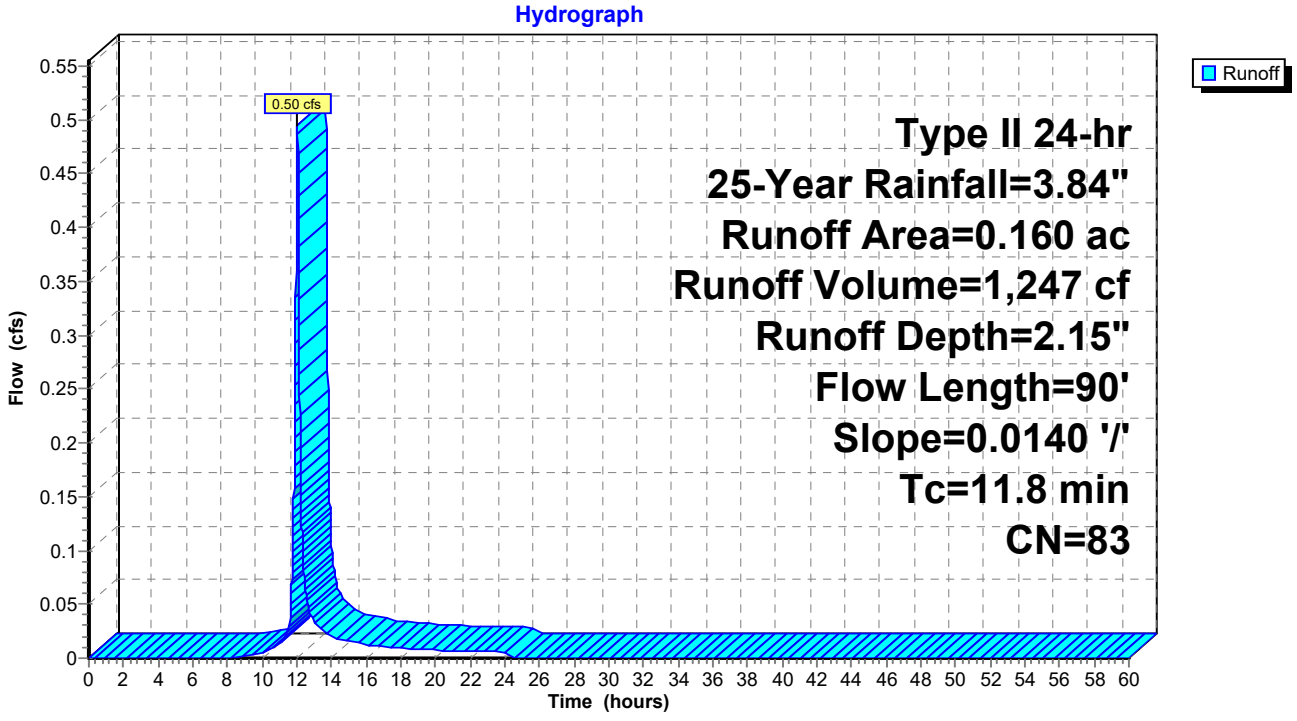
Runoff = 0.50 cfs @ 12.04 hrs, Volume= 1,247 cf, Depth= 2.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 25-Year Rainfall=3.84"

Area (ac)	CN	Description
0.030	98	Paved parking, HSG D
0.130	80	>75% Grass cover, Good, HSG D
0.160	83	Weighted Average
0.130		81.25% Pervious Area
0.030		18.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.8	90	0.0140	0.13		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 2S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 1P: Bioretention Area

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 2.96" for 25-Year event
Inflow = 9.91 cfs @ 11.97 hrs, Volume= 21,943 cf
Outflow = 9.73 cfs @ 11.99 hrs, Volume= 21,943 cf, Atten= 2%, Lag= 0.9 min
Primary = 1.71 cfs @ 11.99 hrs, Volume= 17,194 cf
Routed to Pond 2P : Dry Pond
Secondary = 8.02 cfs @ 11.99 hrs, Volume= 4,749 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.77' @ 11.99 hrs Surf.Area= 2,587 sf Storage= 2,529 cf

Plug-Flow detention time= 7.1 min calculated for 21,943 cf (100% of inflow)
Center-of-Mass det. time= 7.1 min (795.7 - 788.6)

Volume	Invert	Avail.Storage	Storage Description
#1	701.50'	3,160 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.50	1,404	0	0
702.00	1,875	820	820
703.00	2,805	2,340	3,160

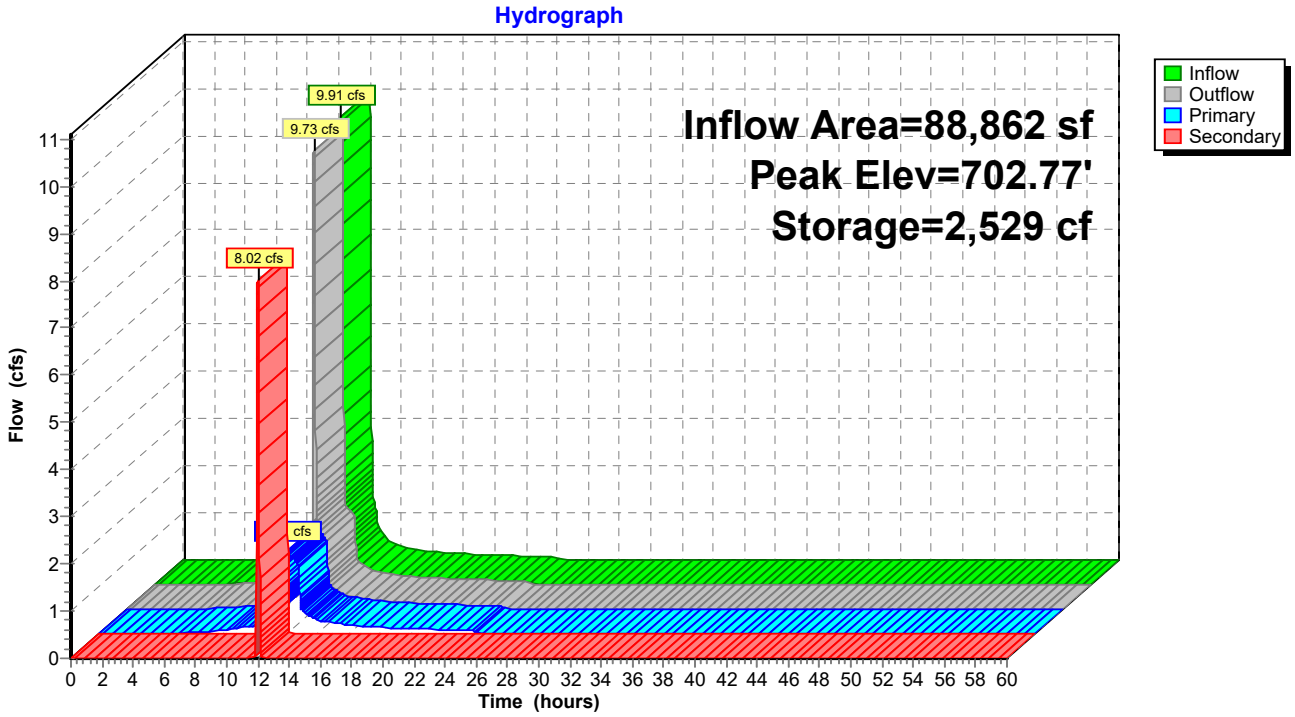
Device	Routing	Invert	Outlet Devices
#1	Primary	698.83'	**6.0" Round 6" pipe** L= 19.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 698.83' / 698.73' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	701.50'	**8.0" Horiz. Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	701.50'	**0.250 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 690.00'
#4	Secondary	702.50'	**20.0' long (Profile 1) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=1.71 cfs @ 11.99 hrs HW=702.77' (Free Discharge)
└**1=6" pipe** (Barrel Controls 1.71 cfs @ 8.71 fps)
└**2=Grate** (Passes < 5.67 cfs potential flow)
└**3=Exfiltration** (Passes < 0.02 cfs potential flow)

Secondary OutFlow Max=8.01 cfs @ 11.99 hrs HW=702.77' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Weir Controls 8.01 cfs @ 1.51 fps)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 1P: Bioretention Area



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 2P: Dry Pond

[81] Warning: Exceeded Pond 1P by 0.65' @ 12.94 hrs

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 2.32" for 25-Year event
Inflow = 1.71 cfs @ 11.99 hrs, Volume= 17,194 cf
Outflow = 0.90 cfs @ 11.63 hrs, Volume= 17,194 cf, Atten= 47%, Lag= 0.0 min
Discarded = 0.90 cfs @ 11.63 hrs, Volume= 17,194 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.25' @ 12.88 hrs Surf.Area= 3,927 sf Storage= 2,980 cf

Plug-Flow detention time= 15.9 min calculated for 17,191 cf (100% of inflow)
Center-of-Mass det. time= 15.9 min (832.3 - 816.5)

Volume	Invert	Avail.Storage	Storage Description
#1	701.00'	6,475 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

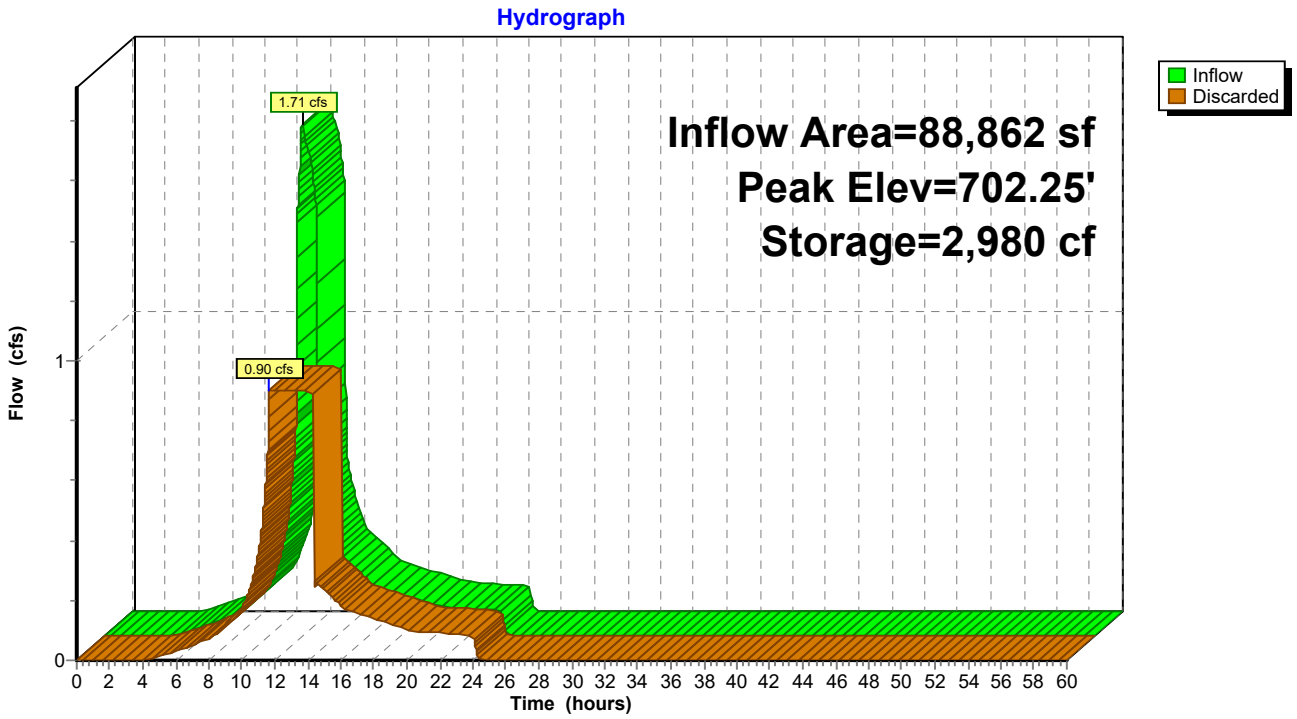
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.00	680	0	0
702.00	3,435	2,058	2,058
703.00	5,400	4,418	6,475

Device	Routing	Invert	Outlet Devices
#1	Discarded	701.00'	**0.90 cfs Well at all elevations**

Discarded OutFlow Max=0.90 cfs @ 11.63 hrs HW=701.02' (Free Discharge)
↑**1=Well** (Exfiltration Controls 0.90 cfs)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 2P: Dry Pond



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Proposed Runoff Area=2.040 ac 64.71% Impervious Runoff Depth=4.31"
Flow Length=305' Tc=6.5 min CN=92 Runoff=14.08 cfs 31,947 cf

Subcatchment2S: Main Street Runoff Area=0.160 ac 18.75% Impervious Runoff Depth=3.38"
Flow Length=90' Slope=0.0140 '/' Tc=11.8 min CN=83 Runoff=0.77 cfs 1,965 cf

Pond 1P: Bioretention Area Peak Elev=702.85' Storage=2,752 cf Inflow=14.08 cfs 31,947 cf
Primary=1.73 cfs 22,957 cf Secondary=12.15 cfs 8,990 cf Outflow=13.88 cfs 31,947 cf

Pond 2P: Dry Pond Peak Elev=702.44' Storage=3,758 cf Inflow=1.73 cfs 22,957 cf
Outflow=0.90 cfs 22,957 cf

Total Runoff Area = 95,832 sf Runoff Volume = 33,912 cf Average Runoff Depth = 4.25"
38.64% Pervious = 37,026 sf 61.36% Impervious = 58,806 sf

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 1S: Proposed

[47] Hint: Peak is 721% of capacity of segment #3

Runoff = 14.08 cfs @ 11.97 hrs, Volume= 31,947 cf, Depth= 4.31"
Routed to Pond 1P : Bioretention Area

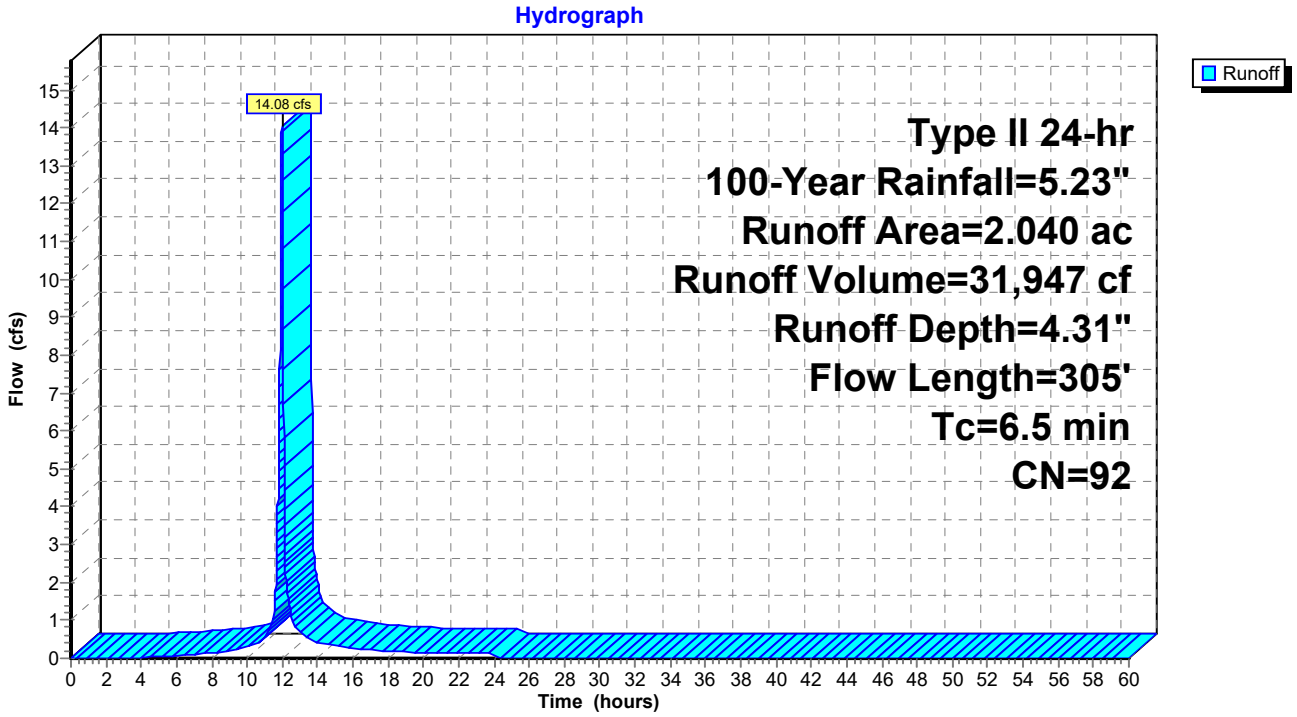
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.23"

Area (ac)	CN	Description
0.400	98	Roofs, HSG D
0.920	98	Paved parking, HSG D
0.720	80	>75% Grass cover, Good, HSG D
2.040	92	Weighted Average
0.720		35.29% Pervious Area
1.320		64.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	20	0.0100	0.08		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"
0.9	45	0.0120	0.84		**Sheet Flow, pavement** Smooth surfaces n= 0.011 P2= 2.50"
1.6	240	0.0030	2.48	1.95	**Pipe Channel, Pipe flow** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
6.5	305	Total			

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Subcatchment 1S: Proposed



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Subcatchment 2S: Main Street

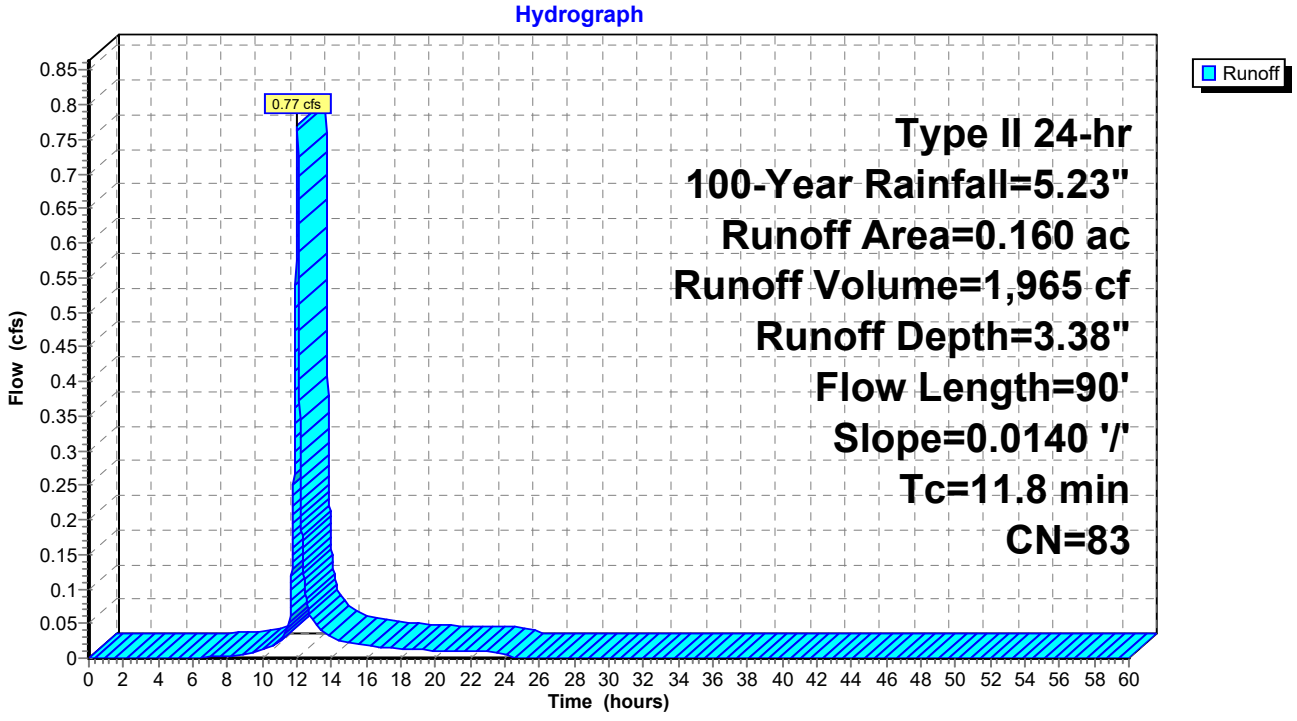
Runoff = 0.77 cfs @ 12.03 hrs, Volume= 1,965 cf, Depth= 3.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type II 24-hr 100-Year Rainfall=5.23"

Area (ac)	CN	Description
0.030	98	Paved parking, HSG D
0.130	80	>75% Grass cover, Good, HSG D
0.160	83	Weighted Average
0.130		81.25% Pervious Area
0.030		18.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.8	90	0.0140	0.13		**Sheet Flow, grass** Grass: Short n= 0.150 P2= 2.50"

Subcatchment 2S: Main Street



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 1P: Bioretention Area

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 4.31" for 100-Year event
Inflow = 14.08 cfs @ 11.97 hrs, Volume= 31,947 cf
Outflow = 13.88 cfs @ 11.99 hrs, Volume= 31,947 cf, Atten= 1%, Lag= 0.8 min
Primary = 1.73 cfs @ 11.99 hrs, Volume= 22,957 cf
Routed to Pond 2P : Dry Pond
Secondary = 12.15 cfs @ 11.99 hrs, Volume= 8,990 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.85' @ 11.99 hrs Surf.Area= 2,666 sf Storage= 2,752 cf

Plug-Flow detention time= 6.4 min calculated for 31,947 cf (100% of inflow)
Center-of-Mass det. time= 6.4 min (784.8 - 778.4)

Volume	Invert	Avail.Storage	Storage Description
#1	701.50'	3,160 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.50	1,404	0	0
702.00	1,875	820	820
703.00	2,805	2,340	3,160

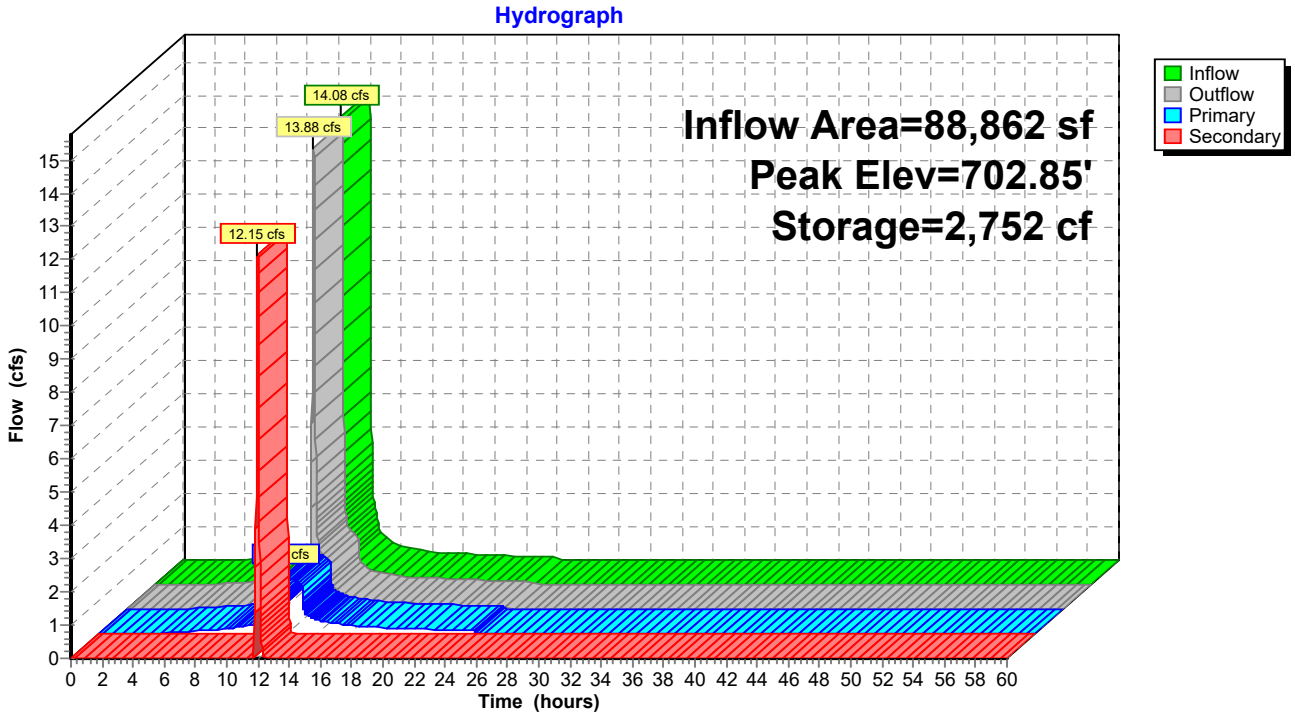
Device	Routing	Invert	Outlet Devices
#1	Primary	698.83'	**6.0" Round 6" pipe** L= 19.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 698.83' / 698.73' S= 0.0053 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	701.50'	**8.0" Horiz. Grate X 3.00** C= 0.600 Limited to weir flow at low heads
#3	Device 1	701.50'	**0.250 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 690.00'
#4	Secondary	702.50'	**20.0' long (Profile 1) Broad-Crested Rectangular Weir** Head (feet) 0.49 0.98 1.48 Coef. (English) 2.92 3.37 3.59

Primary OutFlow Max=1.73 cfs @ 11.99 hrs HW=702.85' (Free Discharge)
└**1=6" pipe** (Barrel Controls 1.73 cfs @ 8.81 fps)
└**2=Grate** (Passes < 5.86 cfs potential flow)
└**3=Exfiltration** (Passes < 0.02 cfs potential flow)

Secondary OutFlow Max=12.12 cfs @ 11.99 hrs HW=702.85' (Free Discharge)
└**4=Broad-Crested Rectangular Weir** (Weir Controls 12.12 cfs @ 1.73 fps)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 1P: Bioretention Area



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Summary for Pond 2P: Dry Pond

[81] Warning: Exceeded Pond 1P by 0.83' @ 13.17 hrs

Inflow Area = 88,862 sf, 64.71% Impervious, Inflow Depth = 3.10" for 100-Year event
Inflow = 1.73 cfs @ 11.99 hrs, Volume= 22,957 cf
Outflow = 0.90 cfs @ 11.46 hrs, Volume= 22,957 cf, Atten= 48%, Lag= 0.0 min
Discarded = 0.90 cfs @ 11.46 hrs, Volume= 22,957 cf

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Peak Elev= 702.44' @ 13.11 hrs Surf.Area= 4,299 sf Storage= 3,758 cf

Plug-Flow detention time= 20.1 min calculated for 22,954 cf (100% of inflow)
Center-of-Mass det. time= 20.1 min (830.5 - 810.4)

Volume	Invert	Avail.Storage	Storage Description
#1	701.00'	6,475 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

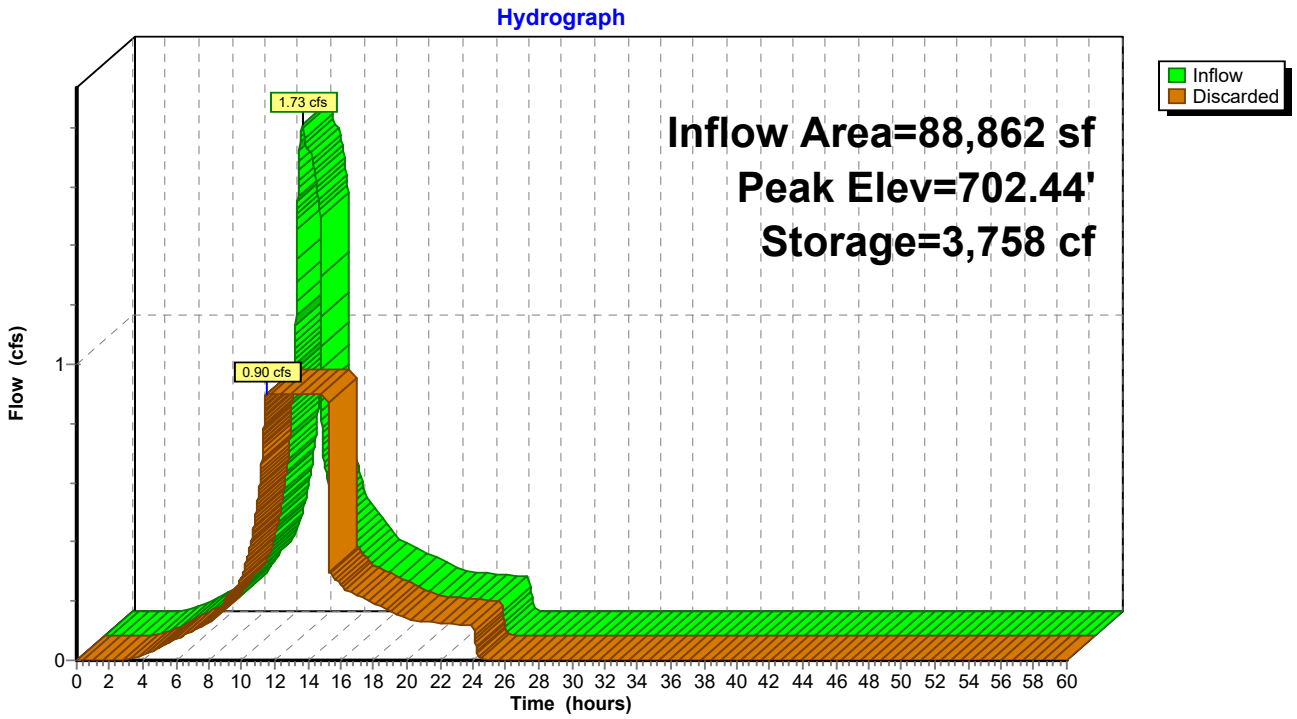
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
701.00	680	0	0
702.00	3,435	2,058	2,058
703.00	5,400	4,418	6,475

Device	Routing	Invert	Outlet Devices
#1	Discarded	701.00'	**0.90 cfs Well at all elevations**

Discarded OutFlow Max=0.90 cfs @ 11.46 hrs HW=701.02' (Free Discharge)
↑**1=Well** (Exfiltration Controls 0.90 cfs)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Pond 2P: Dry Pond



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Green Infrastructure & Water Quality Calculations

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Mixed Use Project - 6812-6832 Main Street, 29 37 Tennyson Terrace
Town of Amherst, Erie County, New York

WATER QUALITY REQUIRED FOR PROPOSED DEVELOPMENT AREA Area, Acres = 2.2
(Note: Reference Chap. 9 NYSDEC Stormwater Design Manual)

"Redevelopment Activity", Acres = 1.20 "New development", Acres = 1.00
(existing, disturbed impervious area)

Total proposed impervious, Acres = 1.35 Adjusted impervious, Acres = 0.45
"New" impervious, Acres = 0.15 (25% redevelopment, 100% new development)

Water Quality Volume (WQv) WQv=(P*Rv*A)/12

Where:	P=90% Rainfall Event Number	P= 1
	Rv= 0.05+0.009*(I)	Rv= 0.23
	IC=Impervious Cover, Acres	IC= 0.45
	I=Impervious Cover (%)	I= 20
	A=Runoff Area, Acres	A= 2.2

WQv (ac-ft)= 0.043
WQv (cf)= 1,873

RRv PROVIDED FOR PROPOSED DEVELOPMENT AREA (See NYSDEC worksheets)

		WQv, cf	RRv, cf
Min. RRv Req'd, cf = 310	RRv, Bioretention Areas	1,121	749
Min. RRv Req'd, ac-ft = 0.007	WQv, Detention Pond	0	0
	TOTAL, cf	1121	749
	TOTAL, ac-ft	0.026	0.017

WQ & RR SUMMARY (ac-ft):

TOTAL WATER QUALITY PROVIDED FOR PROPOSED DEVELOPMENT AREA 0.043

IS WATER QUALITY VOLUME REQUIREMENT MET? Yes
(WQv provided equal to or greater than WQv required)

IS RUNOFF REDUCTION VOLUME REQUIREMENT MET? Yes
(RRv provided equal to or greater than Min. RRv required)

Revised 08/09/2016

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Version 1.7
Last Updated: 10/02/2015

Total Water Quality Volume Calculation
WQv(acre-feet) = [(P)(Rv)(A)] /12

Is this project subject to Chapter 10 of the NYS Design Manual (i.e. WQv is equal to post-development 1 year runoff volume)?.....	

Design Point:	1	
P=	1.00	*inch*

Breakdown of Subcatchments

Catchment Number	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Rv	WQv *(ft^3)*	Description
1	2.20	0.45	20%	0.23	1,869	
2						
3						
4						
5						
6						
7						
8						
9						
10						
Subtotal (1-30)	2.20	0.45	20%	0.23	**1,869**	**Subtotal 1**
Total	2.20	0.45	20%	0.23	**1,869**	**Initial WQv**

Identify Runoff Reduction Techniques By Area

Technique	Total Contributing Area *(Acre)*	Contributing Impervious Area *(Acre)*	Notes
Conservation of Natural Areas	0.00	0.00	*minimum 10,000 sf*
Riparian Buffers	0.00	0.00	*maximum contributing length 75 feet to 150 feet*
Filter Strips	0.00	0.00	
Tree Planting	0.00	0.00	*Up to 100 sf directly connected impervious area may be subtracted per tree*
Total	**0.00**	**0.00**	

Recalculate WQv after application of Area Reduction Techniques

	Total Area *(Acres)*	Impervious Area *(Acres)*	Percent Impervious *%*	Runoff Coefficient Rv	WQv *(ft^3)*
"<<Initial WQv"	2.20	0.45	20%	0.23	1,869
Subtract Area	0.00	0.00			
WQv adjusted after Area Reductions	**2.20**	**0.45**	20%	0.23	1,869
Disconnection of Rooftops		0.00			
Adjusted WQv after Area Reduction and Rooftop Disconnect	2.20	0.45	20%	0.23	**1,869**
WQv reduced by Area Reduction techniques					0

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A		55%
B		40%
C		30%
D	**2.20**	20%
Total Area	2.2	
Calculate the Minimum RRv		
S =	**0.20**	
Impervious =	0.45	*acre*
Precipitation	1	*in*
Rv	0.95	
Minimum RRv	**310**	***ft3***
	0.01	af

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Bioretention Worksheet

(For use on HSG C or D Soils with underdrains)

Af=WQv*(df)/[k*(hf+df)(tf)]

Af	Required Surface Area (ft2)
WQv	Water Quality Volume (ft3)
df	Depth of the Soil Medium (feet)
hf	Average height of water above the planter bed
tf	Volume Through the Filter Media (days)

k — The hydraulic conductivity [ft/day], can be varied depending on the properties of the soil media. Some reported conductivity values are: ***Sand*** - 3.5 ft/day (City of Austin 1988); ***Peat*** - 2.0 ft/day (Galli 1990); ***Leaf Compost*** - 8.7 ft/day (Claytor and Schueler, 1996); ***Bioretention Soil*** (0.5 ft/day (Claytor &

Design Point:	1

Enter Site Data For Drainage Area to be Treated by Practice							
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Precipitation** *(in)*	**Description**
1	2.20	0.45	0.20	0.23	1869.45	1.00	
Enter Impervious Area Reduced by Disconnection of Rooftops			20%	0.23	1,869	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.						*ft^3*	

Soil Information			
Soil Group	C		
Soil Infiltration Rate	0.00	*in/hour*	*Okay*
Using Underdrains?	Yes	*Okay*	

Calculate the Minimum Filter Area				
		Value	Units	Notes
WQv		1,869	*ft^3*	
Enter Depth of Soil Media	*df*	1.5	*ft*	*2.5-4 ft*
Enter Hydraulic Conductivity	*k*	0.5	*ft/day*	
Enter Average Height of Ponding	*hf*	0.5	*ft*	*6 inches max.*
Enter Filter Time	*tf*	2	*days*	
Required Filter Area	***Af***	**1402**	***ft^2***	

Determine Actual Bio-Retention Area			
Filter Width	10.1	*ft*	
Filter Length	139	*ft*	
Filter Area	1403.9	*ft^2*	
Actual Volume Provided	1872	*ft^3*	

Determine Runoff Reduction				
Is the Bioretention contributing flow to another practice?		No	Select Practice	
RRv	749			
RRv applied	**749**	***ft^3***	***This is 40% of the storage provided or WQv whichever is less.***	
Volume Treated	1,121	*ft^3*	*This is the portion of the WQv that is not reduced in the practice.*	
Volume Directed	0	*ft^3*	This volume is directed another practice	
Sizing √	OK		*Check to be sure Area provided ≥ Af*	

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix C

Storm Pipe Sizing Calculations

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

The Chuck Storm Drainage Pipe Size

Structure CB/MH			Runoff Areas (acres)			Overland Flow				Pipe Flow		C	Tc				I	Q	Slope	Pipe Size	
			Runoff Area (acres)	Green Space (acres)	Impervious area (acres)	Green D	Green Slope	Imp. D	Imp. Slope	Pipe Length	Vel.		Green Tc	Imp. Tc	Pipe Tc	Tc					
CB 1	to	CB 2	0.254	0.026	0.227	25	1.00	30	1.80			0.83	1.80	1.62		3.42	5.50	1.15	0.3%	12" HDPE	✓
CB 3	to	CB 2	0.369	0.056	0.314	55	1.00	36	1.20			0.79	2.67	2.03		4.70	5.50	1.61	0.3%	12" HDPE	✓
CB 2	to	ST MH 1	0.434	0.056	0.378					124	2.70	0.81			0.77	5.47	5.50	1.93	0.3%	12" HDPE	✓
CB 4	to	ST MH 1	0.295	0.007	0.288	0	0.00	120	1.20			0.88	0.00	3.71		3.71	5.50	1.43	0.3%	12" HDPE	✓
CB 6	to	CB 5	0.132	0.016	0.116	0	0.00	112	1.00			0.81	0.00	3.81		3.81	5.50	0.59	0.3%	8" HDPE	✓
CB 5	to	ST MH 1	0.444	0.023	0.421					52	2.70	0.86			0.32	4.13	5.50	2.11	0.3%	12" HDPE	✓
ST MH 1	to	END SECT.	1.173	0.085	1.088					55	3.54	0.85			0.26	13.57	5.50	5.48	0.3%	18" HDPE	✓

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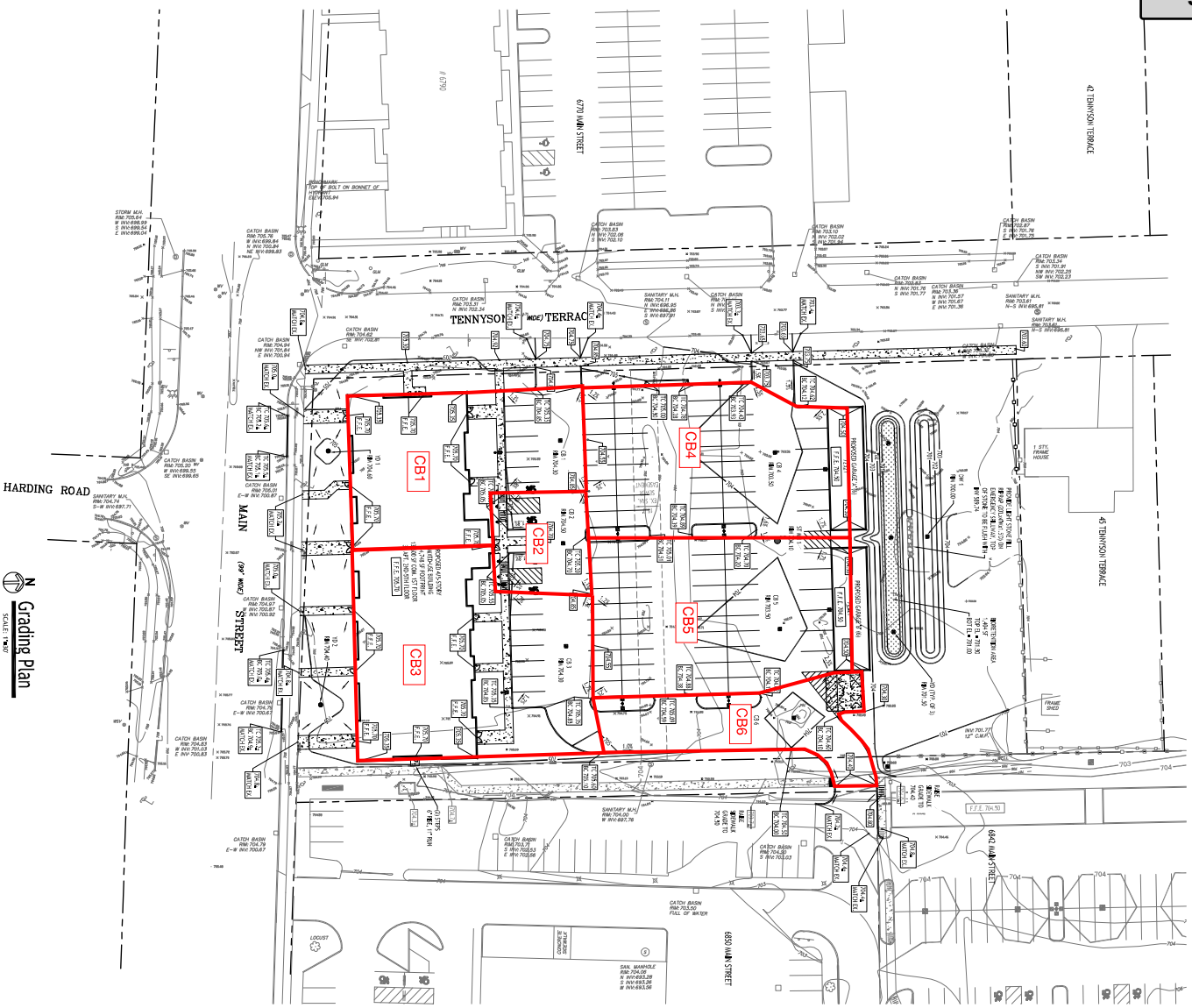

PROPOSED GRADING LEGEND

PROPOSED CONTOUR

PROPOSED SPOT ELEVATION

PROPOSED TOP BOTTOM OF CURB

PROPOSED CATCH BASIN

PROPOSED GRADING SLOPE

PROPOSED MANHOLE

PROPOSED SWALE

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

DRAWING NAME: Grading Plan

DRAWING NO. C-200

Project No: 24-4006

Date: 3/25/24

Drawn By: P. Sheedy

Scale: As Noted

REVISIONS:

No.	Description	Date

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace

Amherst, NY

CARMINAWOOD DES

Buffalo | Utica

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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Manning's Equation for Circular Pipes Flowing Ful

Slope(%) = 0.3

n = 0.012 hdpe

n = 0.013 concrete

n = 0.02 cmp

Diameter (ft)	Diameter (in)	Area (ft^2)	Wetted Perimeter (ft)	Hydraulic Radius (ft)	HDPE		CONCRETE		CMP	
					Flow (cfs)	Velocity (ft/s)	Flow (cfs)	Velocity (ft/s)	Flow (cfs)	Velocity (ft/s)
0.33	4	0.1	1.05	0.08	0.11	1.30	0.10	1.20	0.07	0.78
0.5	6	0.2	1.57	0.13	0.33	1.70	0.31	1.57	0.20	1.02
0.67	8	0.3	2.09	0.17	0.72	2.06	0.66	1.90	0.43	1.24
0.83	10	0.5	2.62	0.21	1.30	2.39	1.20	2.21	0.78	1.43
1	12	0.8	3.14	0.25	2.12	2.70	1.96	2.49	1.27	1.62
1.25	15	1.2	3.93	0.31	3.84	3.13	3.55	2.89	2.31	1.88
1.5	18	1.8	4.71	0.38	6.25	3.54	5.77	3.26	3.75	2.12
1.75	21	2.4	5.50	0.44	9.43	3.92	8.70	3.62	5.66	2.35
2	24	3.1	6.28	0.50	13.46	4.28	12.42	3.95	8.08	2.57
2.5	30	4.9	7.85	0.63	24.40	4.97	22.53	4.59	14.64	2.98
3	36	6.1	9.04	0.67	31.57	5.21	29.14	4.81	18.94	3.13
3.5	42	9.6	11.00	0.88	59.86	6.22	55.25	5.74	35.92	3.73
4	48	12.6	12.57	1.00	85.46	6.80	78.89	6.28	51.28	4.08
4.5	54	15.9	14.14	1.13	117.00	7.36	108.00	6.79	70.20	4.41
5	60	19.6	15.71	1.25	154.95	7.89	143.03	7.28	92.97	4.74
6	72	28.3	18.85	1.50	251.97	8.91	232.59	8.23	151.18	5.35
7	84	38.5	21.99	1.75	380.08	9.88	350.84	9.12	228.05	5.93
8	96	50.3	25.13	2.00	542.65	10.80	500.91	9.97	325.59	6.48

Appendix E

NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-20-001

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES

From

CONSTRUCTION ACTIVITY

Permit No. GP- 0-20-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70

of the Environmental Conservation Law

Effective Date: January 29, 2020

Expiration Date: January 28, 2025

John J. Ferguson

Chief Permit Administrator

1-23-20

Authorized Signature

Date

Address: NYS DEC
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, N.Y. 12233-1750

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

PREFACE

Pursuant to Section 402 of the Clean Water Act ("CWA"), stormwater *discharges* from certain *construction activities* are unlawful unless they are authorized by a *National Pollutant Discharge Elimination System ("NPDES")* permit or by a state permit program. New York administers the approved State Pollutant Discharge Elimination System (SPDES) program with permits issued in accordance with the New York State Environmental Conservation Law (ECL) Article 17, Titles 7, 8 and Article 70.

An *owner or operator* of a *construction activity* that is eligible for coverage under this permit must obtain coverage prior to the *commencement of construction activity*. Activities that fit the definition of "*construction activity*", as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to ECL section 17-0505 and 17-0701, the *owner or operator* must have coverage under a SPDES permit prior to *commencing construction activity*. The *owner or operator* cannot wait until there is an actual *discharge* from the *construction site* to obtain permit coverage.

***Note: The italicized words/phrases within this permit are defined in Appendix A.**

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

Table of Contents

Part 1. PERMIT COVERAGE AND LIMITATIONS 1
- A. Permit Application 1
- B. Effluent Limitations Applicable to Discharges from Construction Activities 1
- C. Post-construction Stormwater Management Practice Requirements 4
- D. Maintaining Water Quality 8
- E. Eligibility Under This General Permit 9
- F. Activities Which Are Ineligible for Coverage Under This General Permit 9

Part II. PERMIT COVERAGE 12
- A. How to Obtain Coverage 12
- B. Notice of Intent (NOI) Submittal 13
- C. Permit Authorization 13
- D. General Requirements For Owners or Operators With Permit Coverage 15
- E. Permit Coverage for Discharges Authorized Under GP-0-15-002 17
- F. Change of Owner or Operator 17

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) 18
- A. General SWPPP Requirements 18
- B. Required SWPPP Contents 20
- C. Required SWPPP Components by Project Type 24

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS 24
- A. General Construction Site Inspection and Maintenance Requirements 24
- B. Contractor Maintenance Inspection Requirements 24
- C. Qualified Inspector Inspection Requirements 25

Part V. TERMINATION OF PERMIT COVERAGE 29
- A. Termination of Permit Coverage 29

Part VI. REPORTING AND RETENTION RECORDS 31
- A. Record Retention 31
- B. Addresses 31

Part VII. STANDARD PERMIT CONDITIONS 31
- A. Duty to Comply 31
- B. Continuation of the Expired General Permit 32
- C. Enforcement 32
- D. Need to Halt or Reduce Activity Not a Defense 32
- E. Duty to Mitigate 33
- F. Duty to Provide Information 33
- G. Other Information 33
- H. Signatory Requirements 33
- I. Property Rights 35
- J. Severability 35

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

K. Requirement to Obtain Coverage Under an Alternative Permit....35
L. Proper Operation and Maintenance....36
M. Inspection and Entry....36
N. Permit Actions....37
O. Definitions....37
P. Re-Opener Clause....37
Q. Penalties for Falsification of Forms and Reports....37
R. Other Permits....38
APPENDIX A – Acronyms and Definitions....39
Acronyms....39
Definitions....40
APPENDIX B – Required SWPPP Components by Project Type....48
Table 1....48
Table 2....50
APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal....52
APPENDIX D – Watersheds with Lower Disturbance Threshold....58
APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)....59
APPENDIX F – List of NYS DEC Regional Offices....65

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Part 1. PERMIT COVERAGE AND LIMITATIONS

A. Permit Application

This permit authorizes stormwater *discharges* to *surface waters of the State* from the following *construction activities* identified within 40 CFR Parts 122.26(b)(14)(x), 122.26(b)(15)(i) and 122.26(b)(15)(ii), provided all of the eligibility provisions of this permit are met:

1. *Construction activities* involving soil disturbances of one (1) or more acres; including disturbances of less than one acre that are part of a *larger common plan of development or sale* that will ultimately disturb one or more acres of land; excluding *routine maintenance activity* that is performed to maintain the original line and grade, hydraulic capacity or original purpose of a facility;

2. *Construction activities* involving soil disturbances of less than one (1) acre where the Department has determined that a *SPDES* permit is required for stormwater *discharges* based on the potential for contribution to a violation of a *water quality standard* or for significant contribution of *pollutants* to *surface waters of the State.*

3. *Construction activities* located in the watershed(s) identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

B. Effluent Limitations Applicable to Discharges from Construction Activities

Discharges authorized by this permit must achieve, at a minimum, the effluent limitations in Part I.B.1. (a) – (f) of this permit. These limitations represent the degree of effluent reduction attainable by the application of best practicable technology currently available.

1. Erosion and Sediment Control Requirements - The *owner or operator* must select, design, install, implement and maintain control measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. The selection, design, installation, implementation, and maintenance of these control measures must meet the non-numeric effluent limitations in Part I.B.1.(a) – (f) of this permit and be in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, using sound engineering judgment. Where control measures are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must include in the *Stormwater Pollution Prevention Plan* ("SWPPP") the reason(s) for the

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

a. **Erosion and Sediment Controls.** Design, install and maintain effective erosion and sediment controls to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such controls must be designed, installed and maintained to:

   (i) *Minimize* soil erosion through application of runoff control and soil stabilization control measure to *minimize pollutant discharge*s;

   (ii) Control stormwater *discharge*s, including both peak flowrates and total stormwater volume, to *minimize* channel and *streambank* erosion and scour in the immediate vicinity of the *discharge* points;

   (iii) *Minimize* the amount of soil exposed during *construction activity*;

   (iv) *Minimize* the disturbance of *steep slopes*;

   (v) *Minimize* sediment *discharge*s from the site;

   (vi) Provide and maintain *natural buffer*s around surface waters, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce *pollutant discharge*s, unless *infeasible*;

   (vii) *Minimize* soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted;

   (viii) Unless *infeasible*, preserve a sufficient amount of topsoil to complete soil restoration and establish a uniform, dense vegetative cover; and

   (ix) *Minimize* dust. On areas of exposed soil, *minimize* dust through the appropriate application of water or other dust suppression techniques to control the generation of pollutants that could be discharged from the site.

b. **Soil Stabilization**. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within fourteen (14) days from the date the current soil disturbance activity ceased. For construction sites that *directly discharge* to one of the 303(d) segments

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

listed in Appendix E or is located in one of the watersheds listed in Appendix C, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. See Appendix A for definition of *Temporarily Ceased*.

c. **Dewatering**. *Discharge*s from *dewatering* activities, including *discharge*s from *dewatering* of trenches and excavations, must be managed by appropriate control measures.

d. **Pollution Prevention Measures**. Design, install, implement, and maintain effective pollution prevention measures to *minimize* the *discharge* of *pollutants* and prevent a violation of the *water quality standards*. At a minimum, such measures must be designed, installed, implemented and maintained to:

(i) *Minimize* the *discharge* of *pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters. This applies to washing operations that use clean water only. Soaps, detergents and solvents cannot be used;

(ii) *Minimize* the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, hazardous and toxic waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a *discharge* of *pollutants*, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use) ; and

(iii) Prevent the *discharge* of *pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.

e. **Prohibited *Discharges*.** The following *discharge*s are prohibited:

(i) Wastewater from washout of concrete;

(ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

(iii) Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance;

(iv) Soaps or solvents used in vehicle and equipment washing; and

(v) Toxic or hazardous substances from a spill or other release.

f. Surface Outlets. When discharging from basins and impoundments, the outlets shall be designed, constructed and maintained in such a manner that sediment does not leave the basin or impoundment and that erosion at or below the outlet does not occur.

C. Post-construction Stormwater Management Practice Requirements

1. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must select, design, install, and maintain the practices to meet the *performance criteria* in the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015, using sound engineering judgment. Where post-construction stormwater management practices ("SMPs") are not designed in conformance with the *performance criteria* in the Design Manual, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. The *owner or operator* of a *construction activity* that requires post-construction stormwater management practices pursuant to Part III.C. of this permit must design the practices to meet the applicable *sizing criteria* in Part I.C.2.a., b., c. or d. of this permit.

a. Sizing Criteria for New Development

(i) Runoff Reduction Volume ("RRv"): Reduce the total Water Quality Volume ("WQv") by application of RR techniques and standard SMPs with RRv capacity. The total WQv shall be calculated in accordance with the criteria in Section 4.2 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: Construction activities that cannot meet the criteria in Part I.C.2.a.(i) of this permit due to site limitations shall direct runoff from all newly constructed impervious areas to a RR technique or standard SMP with RRv capacity unless infeasible. The specific site limitations that prevent the reduction of 100% of the WQv shall be documented in the SWPPP.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

For each impervious area that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered infeasible.

In no case shall the runoff reduction achieved from the newly constructed impervious areas be less than the Minimum RRv as calculated using the criteria in Section 4.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume ("Cpv"): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site discharges directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria ("Qp"): Requires storage to attenuate the post-development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria ("Qf"): Requires storage to attenuate the post-development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site discharges directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

b. *Sizing Criteria* for *New Development* in Enhanced Phosphorus Removal Watershed

(i) Runoff Reduction Volume (RRv): Reduce the total Water Quality Volume (WQv) by application of RR techniques and standard SMPs with RRv capacity. The total WQv is the runoff volume from the 1-year, 24 hour design storm over the post-developed watershed and shall be

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

calculated in accordance with the criteria in Section 10.3 of the Design Manual.

(ii) Minimum RRv and Treatment of Remaining Total WQv: *Construction activities* that cannot meet the criteria in Part I.C.2.b.(i) of this permit due to *site limitations* shall direct runoff from all newly constructed *impervious areas* to a RR technique or standard SMP with RRv capacity unless *infeasible*. The specific *site limitations* that prevent the reduction of 100% of the WQv shall be documented in the SWPPP. For each *impervious area* that is not directed to a RR technique or standard SMP with RRv capacity, the SWPPP must include documentation which demonstrates that all options were considered and for each option explains why it is considered *infeasible.*

In no case shall the runoff reduction achieved from the newly constructed *impervious areas* be less than the Minimum RRv as calculated using the criteria in Section 10.3 of the Design Manual. The remaining portion of the total WQv that cannot be reduced shall be treated by application of standard SMPs.

(iii) Channel Protection Volume (Cpv): Provide 24 hour extended detention of the post-developed 1-year, 24-hour storm event; remaining after runoff reduction. The Cpv requirement does not apply when:
(1) Reduction of the entire Cpv is achieved by application of runoff reduction techniques or infiltration systems, or
(2) The site *discharge*s directly to tidal waters, or fifth order or larger streams.

(iv) *Overbank* Flood Control Criteria (Qp): Requires storage to attenuate the post-development 10-year, 24-hour peak *discharge* rate (Qp) to predevelopment rates. The Qp requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

(v) Extreme Flood Control Criteria (Qf): Requires storage to attenuate the post-development 100-year, 24-hour peak *discharge* rate (Qf) to predevelopment rates. The Qf requirement does not apply when:
(1) the site *discharge*s directly to tidal waters or fifth order or larger streams, or
(2) A downstream analysis reveals that *overbank* control is not required.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

(Part I.C.2.c)

c. Sizing Criteria for Redevelopment Activity

(i) Water Quality Volume (WQv): The WQv treatment objective for *redevelopment activity* shall be addressed by one of the following options. *Redevelopment activities* located in an Enhanced Phosphorus Removal Watershed (see Part III.B.3. and Appendix C of this permit) shall calculate the WQv in accordance with Section 10.3 of the Design Manual. All other *redevelopment activities* shall calculate the WQv in accordance with Section 4.2 of the Design Manual.

(1) Reduce the existing *impervious cover* by a minimum of 25% of the total disturbed, *impervious area*. The Soil Restoration criteria in Section 5.1.6 of the Design Manual must be applied to all newly created pervious areas, or

(2) Capture and treat a minimum of 25% of the WQv from the disturbed, *impervious area* by the application of standard SMPs; or reduce 25% of the WQv from the disturbed, *impervious area* by the application of RR techniques or standard SMPs with RRv capacity., or

(3) Capture and treat a minimum of 75% of the WQv from the disturbed, *impervious area* as well as any additional runoff from tributary areas by application of the alternative practices discussed in Sections 9.3 and 9.4 of the Design Manual., or

(4) Application of a combination of 1, 2 and 3 above that provide a weighted average of at least two of the above methods. Application of this method shall be in accordance with the criteria in Section 9.2.1(B) (IV) of the Design Manual.

If there is an existing post-construction stormwater management practice located on the site that captures and treats runoff from the *impervious area* that is being disturbed, the WQv treatment option selected must, at a minimum, provide treatment equal to the treatment that was being provided by the existing practice(s) if that treatment is greater than the treatment required by options 1 – 4 above.

(ii) Channel Protection Volume (Cpv): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iii) *Overbank* Flood Control Criteria (Qp): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site.

(iv) Extreme Flood Control Criteria (Qf): Not required if there are no changes to hydrology that increase the *discharge* rate from the project site

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

d. Sizing Criteria for Combination of Redevelopment Activity and New Development

Construction projects that include both New Development and Redevelopment Activity shall provide post-construction stormwater management controls that meet the sizing criteria calculated as an aggregate of the Sizing Criteria in Part I.C.2.a. or b. of this permit for the New Development portion of the project and Part I.C.2.c of this permit for Redevelopment Activity portion of the project.

D. Maintaining Water Quality

The Department expects that compliance with the conditions of this permit will control *discharge*s necessary to meet applicable *water quality standards*. It shall be a violation of the *ECL* for any discharge to either cause or contribute to a violation of *water quality standards* as contained in Parts 700 through 705 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York, such as:

1. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;

2. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages; and

3. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

If there is evidence indicating that the stormwater *discharge*s authorized by this permit are causing, have the reasonable potential to cause, or are contributing to a violation of the *water quality standards*; the *owner or operator* must take appropriate corrective action in accordance with Part IV.C.5. of this general permit and document in accordance with Part IV.C.4. of this general permit. To address the *water quality standard* violation the *owner or operator* may need to provide additional information, include and implement appropriate controls in the SWPPP to correct the problem, or obtain an individual SPDES permit.

If there is evidence indicating that despite compliance with the terms and conditions of this general permit it is demonstrated that the stormwater *discharge*s authorized by this permit are causing or contributing to a violation of *water quality standards*, or if the Department determines that a modification of the permit is necessary to prevent a violation of *water quality standards*, the authorized *discharge*s will no longer be eligible for coverage under this permit. The Department may require the *owner or operator* to obtain an individual SPDES permit to continue discharging.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

E. Eligibility Under This General Permit

1. This permit may authorize all *discharges* of stormwater from *construction activity* to *surface waters of the State* and *groundwaters* except for ineligible *discharges* identified under subparagraph F. of this Part.

2. Except for non-stormwater *discharges* explicitly listed in the next paragraph, this permit only authorizes stormwater *discharge*s; including stormwater runoff, snowmelt runoff, and surface runoff and drainage, from *construction activities*.

3. Notwithstanding paragraphs E.1 and E.2 above, the following non-stormwater discharges are authorized by this permit: those listed in 6 NYCRR 750-1.2(a)(29)(vi), with the following exception: “Discharges from firefighting activities are authorized only when the firefighting activities are emergencies/unplanned”; waters to which other components have not been added that are used to control dust in accordance with the SWPPP; and uncontaminated *discharge*s from *construction site* de-watering operations. All non-stormwater discharges must be identified in the SWPPP. Under all circumstances, the *owner or operator* must still comply with *water quality standards* in Part I.D of this permit.

4. The *owner or operator* must maintain permit eligibility to *discharge* under this permit. Any *discharges* that are not compliant with the eligibility conditions of this permit are not authorized by the permit and the *owner or operator* must either apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage.

F. Activities Which Are Ineligible for Coverage Under This General Permit

All of the following are **not** authorized by this permit:

1. *Discharge*s after *construction activities* have been completed and the site has undergone *final stabilization*;

2. *Discharges* that are mixed with sources of non-stormwater other than those expressly authorized under subsection E.3. of this Part and identified in the SWPPP required by this permit;

3. *Discharges* that are required to obtain an individual SPDES permit or another SPDES general permit pursuant to Part VII.K. of this permit;

4. *Construction activities* or *discharges* from *construction activities* that may adversely affect an *endangered or threatened species* unless the *owner or*

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

operator has obtained a permit issued pursuant to 6 NYCRR Part 182 for the project or the Department has issued a letter of non-jurisdiction for the project. All documentation necessary to demonstrate eligibility shall be maintained on site in accordance with Part II.D.2 of this permit;

5. *Discharges* which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;

6. *Construction activities* for residential, commercial and institutional projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb one (1) or more acres of land designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

7. *Construction activities* for linear transportation projects and linear utility projects:

   a. Where the *discharge*s from the *construction activities* are tributary to waters of the state classified as AA or AA-s; and

   b. Which are undertaken on land with no existing *impervious cover*; and

   c. Which disturb two (2) or more acres of land designated on the current USDA Soil Survey as Soil Slope Phase "D" (provided the map unit name is inclusive of slopes greater than 25%), or Soil Slope Phase "E" or "F" (regardless of the map unit name), or a combination of the three designations.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

8. *Construction activities* that have the potential to affect an *historic property*, unless there is documentation that such impacts have been resolved. The following documentation necessary to demonstrate eligibility with this requirement shall be maintained on site in accordance with Part II.D.2 of this permit and made available to the Department in accordance with Part VII.F of this permit:

   a. Documentation that the *construction activity* is not within an archeologically sensitive area indicated on the sensitivity map, and that the *construction activity* is not located on or immediately adjacent to a property listed or determined to be eligible for listing on the National or State Registers of Historic Places, and that there is no new permanent building on the *construction site* within the following distances from a building, structure, or object that is more than 50 years old, or if there is such a new permanent building on the *construction site* within those parameters that NYS Office of Parks, Recreation and Historic Preservation (OPRHP), a Historic Preservation Commission of a Certified Local Government, or a qualified preservation professional has determined that the building, structure, or object more than 50 years old is not historically/archeologically significant.

      - 1-5 acres of disturbance - 20 feet
      - 5-20 acres of disturbance - 50 feet
      - 20+ acres of disturbance - 100 feet, or

   b. DEC consultation form sent to OPRHP, and copied to the NYS DEC Agency Historic Preservation Officer (APO), and
      (i) the State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF) with a negative declaration or the Findings Statement, with documentation of OPRHP's agreement with the resolution; or
      (ii) documentation from OPRHP that the *construction activity* will result in No Impact; or
      (iii) documentation from OPRHP providing a determination of No Adverse Impact; or
      (iv) a Letter of Resolution signed by the owner/operator, OPRHP and the DEC APO which allows for this *construction activity* to be eligible for coverage under the general permit in terms of the State Historic Preservation Act (SHPA); or

   c. Documentation of satisfactory compliance with Section 106 of the National Historic Preservation Act for a coterminous project area:

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

(i) No Affect
(ii) No Adverse Affect
(iii) Executed Memorandum of Agreement, or

d. Documentation that:

(i) SHPA Section 14.09 has been completed by NYS DEC or another state agency.

9. *Discharge*s from *construction activities* that are subject to an existing SPDES individual or general permit where a SPDES permit for *construction activity* has been terminated or denied; or where the *owner or operator* has failed to renew an expired individual permit.

Part II. PERMIT COVERAGE

A. How to Obtain Coverage

1. An *owner or operator* of a *construction activity* that is not subject to the requirements of a regulated, traditional land use control MS4 must first prepare a SWPPP in accordance with all applicable requirements of this permit and then submit a completed Notice of Intent (NOI) to the Department to be authorized to discharge under this permit.

2. An *owner or operator* of a *construction activity* that is subject to the requirements of a *regulated, traditional land use control MS4* must first prepare a SWPPP in accordance with all applicable requirements of this permit and then have the SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department. The *owner or operator* shall have the "MS4 SWPPP Acceptance" form signed in accordance with Part VII.H., and then submit that form along with a completed NOI to the Department.

3. The requirement for an *owner or operator* to have its SWPPP reviewed and accepted by the *regulated, traditional land use control MS4* prior to submitting the NOI to the Department does not apply to an *owner or operator* that is obtaining permit coverage in accordance with the requirements in Part II.F. (Change of *Owner or Operator*) or where the *owner or operator* of the *construction activity* is the *regulated, traditional land use control MS4* . This exemption does not apply to *construction activities* subject to the New York City Administrative Code.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

B. Notice of Intent (NOI) Submittal

1. Prior to December 21, 2020, an owner or operator shall use either the electronic (eNOI) or paper version of the NOI that the Department prepared. Both versions of the NOI are located on the Department's website (http://www.dec.ny.gov/). The paper version of the NOI shall be signed in accordance with Part VII.H. of this permit and submitted to the following address:

   NOTICE OF INTENT
   NYS DEC, Bureau of Water Permits
   625 Broadway, 4th Floor
   Albany, New York 12233-3505

2. Beginning December 21, 2020 and in accordance with EPA's 2015 NPDES Electronic Reporting Rule (40 CFR Part 127), the *owner or operator* must submit the NOI electronically using the *Department's* online NOI.

3. The *owner or operator* shall have the SWPPP preparer sign the "SWPPP Preparer Certification" statement on the NOI prior to submitting the form to the Department.

4. As of the date the NOI is submitted to the Department, the *owner or operator* shall make the NOI and SWPPP available for review and copying in accordance with the requirements in Part VII.F. of this permit.

C. Permit Authorization

1. An *owner or operator* shall not *commence construction activity* until their authorization to *discharge* under this permit goes into effect.

2. Authorization to *discharge* under this permit will be effective when the *owner or operator* has satisfied all of the following criteria:

   a. project review pursuant to the State Environmental Quality Review Act ("SEQRA") have been satisfied, when SEQRA is applicable. See the Department's website (http://www.dec.ny.gov/) for more information,

   b. where required, all necessary Department permits subject to the *Uniform Procedures Act ("UPA")* (see 6 NYCRR Part 621), or the equivalent from another New York State agency, have been obtained, unless otherwise notified by the Department pursuant to 6 NYCRR 621.3(a)(4). *Owners or operators* of *construction activities* that are required to obtain *UPA* permits

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

must submit a preliminary SWPPP to the appropriate DEC Permit Administrator at the Regional Office listed in Appendix F at the time all other necessary *UPA* permit applications are submitted. The preliminary SWPPP must include sufficient information to demonstrate that the *construction activity* qualifies for authorization under this permit,

c. the final SWPPP has been prepared, and

d. a complete NOI has been submitted to the Department in accordance with the requirements of this permit.

3. An *owner or operator* that has satisfied the requirements of Part II.C.2 above will be authorized to *discharge* stormwater from their *construction activity* in accordance with the following schedule:

   a. For *construction activities* that are not subject to the requirements of a *regulated, traditional land use control MS4*:

      (i) Five (5) business days from the date the Department receives a complete electronic version of the NOI (eNOI) for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.; or

      (ii) Sixty (60) business days from the date the Department receives a complete NOI (electronic or paper version) for *construction activities* with a SWPPP that has not been prepared in conformance with the design criteria in technical standard referenced in Part III.B.1. or, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C., the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, or;

      (iii) Ten (10) business days from the date the Department receives a complete paper version of the NOI for *construction activities* with a SWPPP that has been prepared in conformance with the design criteria in the technical standard referenced in Part III.B.1 and the *performance criteria* in the technical standard referenced in Parts III.B., 2 or 3, for *construction activities* that require post-construction stormwater management practices pursuant to Part III.C.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

b. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*:

(i) Five (5) business days from the date the Department receives both a complete electronic version of the NOI (eNOI) and signed "*MS4* SWPPP Acceptance" form, or

(ii) Ten (10) business days from the date the Department receives both a complete paper version of the NOI and signed "MS4 SWPPP Acceptance" form.

4. Coverage under this permit authorizes stormwater *discharges* from only those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit a new NOI that addresses that phase of the development, unless otherwise notified by the Department. The *owner or operator* shall not *commence construction activity* on the future or additional areas until their authorization to *discharge* under this permit goes into effect in accordance with Part II.C. of this permit.

D. General Requirements For Owners or Operators With Permit Coverage

1. The *owner or operator* shall ensure that the provisions of the SWPPP are implemented from the *commencement of construction activity* until all areas of disturbance have achieved *final stabilization* and the Notice of Termination ("NOT") has been submitted to the Department in accordance with Part V. of this permit. This includes any changes made to the SWPPP pursuant to Part III.A.4. of this permit.

2. The *owner or operator* shall maintain a copy of the General Permit (GP-0-20-001), NOI, *NOI Acknowledgment Letter*, SWPPP, MS4 SWPPP Acceptance form, inspection reports, responsible contractor's or subcontractor's certification statement (see Part III.A.6.), and all documentation necessary to demonstrate eligibility with this permit at the *construction site* until all disturbed areas have achieved *final stabilization* and the NOT has been submitted to the Department. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox with lock. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

3. The *owner or operator* of a *construction activity* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the Department or, in areas under the jurisdiction of a *regulated, traditional land*

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

use control MS4, the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*). At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:

a. The *owner or operator* shall have a *qualified inspector* conduct **at least** two (2) site inspections in accordance with Part IV.C. of this permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

b. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date the current soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.

c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills.

d. The *owner or operator* shall install any additional site-specific practices needed to protect water quality.

e. The *owner or operator* shall include the requirements above in their SWPPP.

4. In accordance with statute, regulations, and the terms and conditions of this permit, the Department may suspend or revoke an *owner's or operator's* coverage under this permit at any time if the Department determines that the SWPPP does not meet the permit requirements or consistent with Part VII.K..

5. Upon a finding of significant non-compliance with the practices described in the SWPPP or violation of this permit, the Department may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

6. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4*, the *owner or operator* shall notify the

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

regulated, traditional land use control MS4 in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the SWPPP required by Part III.A. 4. and 5. of this permit. Unless otherwise notified by the *regulated, traditional land use control MS4*, the *owner or operator* shall have the SWPPP amendments or modifications reviewed and accepted by the *regulated, traditional land use control MS4* prior to commencing construction of the post-construction stormwater management practice.

E. Permit Coverage for Discharges Authorized Under GP-0-15-002

1. Upon renewal of SPDES General Permit for Stormwater Discharges from *Construction Activity* (Permit No. GP-0-15-002), an *owner or operator* of *a construction activity* with coverage under GP-0-15-002, as of the effective date of GP- 0-20-001, shall be authorized to *discharge* in accordance with GP- 0-20-001, unless otherwise notified by the Department.

   An *owner or operator* may continue to implement the technical/design components of the post-construction stormwater management controls provided that such design was done in conformance with the technical standards in place at the time of initial project authorization. However, they must comply with the other, non-design provisions of GP-0-20-001.

F. Change of Owner or Operator

1. When property ownership changes or when there is a change in operational control over the construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain permit coverage by submitting a NOI with the Department. For *construction activities* subject to the requirements of a *regulated, traditional land use control MS4,* the original *owner or operator* must also notify the MS4, in writing, of the change in ownership at least 30 calendar days prior to the change in ownership.

2. Once the new *owner or operator* obtains permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the Department at the address in Part II.B.1. of this permit. If the original *owner or operator* maintains ownership of a portion of the *construction activity* and will disturb soil, they must maintain their coverage under the permit.

3. Permit coverage for the new *owner or operator* will be effective as of the date the Department receives a complete NOI, provided the original *owner or*

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

operator was not subject to a sixty (60) business day authorization period that has not expired as of the date the Department receives the NOI from the new *owner or operator*.

Part III. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General SWPPP Requirements

1. A SWPPP shall be prepared and implemented by the *owner or operator* of each *construction activity* covered by this permit. The SWPPP must document the selection, design, installation, implementation and maintenance of the control measures and practices that will be used to meet the effluent limitations in Part I.B. of this permit and where applicable, the post-construction stormwater management practice requirements in Part I.C. of this permit. The SWPPP shall be prepared prior to the submittal of the NOI. The NOI shall be submitted to the Department prior to the *commencement of construction activity*. A copy of the completed, final NOI shall be included in the SWPPP.

2. The SWPPP shall describe the erosion and sediment control practices and where required, post-construction stormwater management practices that will be used and/or constructed to reduce the *pollutants* in stormwater *discharges* and to assure compliance with the terms and conditions of this permit. In addition, the SWPPP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater *discharges*.

3. All SWPPPs that require the post-construction stormwater management practice component shall be prepared by a *qualified professional* that is knowledgeable in the principles and practices of stormwater management and treatment.

4. The *owner or operator* must keep the SWPPP current so that it at all times accurately documents the erosion and sediment controls practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the site. At a minimum, the *owner or operator* shall amend the SWPPP, including construction drawings:

    a. whenever the current provisions prove to be ineffective in minimizing *pollutants* in stormwater *discharges* from the site;

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

b. whenever there is a change in design, construction, or operation at the *construction site* that has or could have an effect on the *discharge* of *pollutants*;

c. to address issues or deficiencies identified during an inspection by the *qualified inspector,* the Department or other regulatory authority; and

d. to document the final construction conditions.

5. The Department may notify the *owner or operator* at any time that the SWPPP does not meet one or more of the minimum requirements of this permit. The notification shall be in writing and identify the provisions of the SWPPP that require modification. Within fourteen (14) calendar days of such notification, or as otherwise indicated by the Department, the *owner or operator* shall make the required changes to the SWPPP and submit written notification to the Department that the changes have been made. If the *owner or operator* does not respond to the Department's comments in the specified time frame, the Department may suspend the *owner's or operator's* coverage under this permit or require the *owner or operator* to obtain coverage under an individual SPDES permit in accordance with Part II.D.4. of this permit.

6. Prior to the *commencement of construction activity*, the *owner or operator* must identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, replacing, inspecting and maintaining the erosion and sediment control practices included in the SWPPP; and the contractor(s) and subcontractor(s) that will be responsible for constructing the post-construction stormwater management practices included in the SWPPP. The *owner or operator* shall have each of the contractors and subcontractors identify at least one person from their company that will be responsible for implementation of the SWPPP. This person shall be known as the *trained contractor.* The *owner or operator* shall ensure that at least one *trained contractor* is on site on a daily basis when soil disturbance activities are being performed.

   The *owner or operator* shall have each of the contractors and subcontractors identified above sign a copy of the following certification statement below before they commence any *construction activity*:

   "I hereby certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the *qualified inspector* during a site inspection. I also understand that the *owner or operator* must comply with

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater *discharge*s from *construction activities* and that it is unlawful for any person to cause or contribute to a violation of *water quality standards*. Furthermore, I am aware that there are significant penalties for submitting false information, that I do not believe to be true, including the possibility of fine and imprisonment for knowing violations"

In addition to providing the certification statement above, the certification page must also identify the specific elements of the SWPPP that each contractor and subcontractor will be responsible for and include the name and title of the person providing the signature; the name and title of the *trained contractor* responsible for SWPPP implementation; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification statement is signed. The *owner or operator* shall attach the certification statement(s) to the copy of the SWPPP that is maintained at the *construction site*. If new or additional contractors are hired to implement measures identified in the SWPPP after construction has commenced, they must also sign the certification statement and provide the information listed above.

7. For projects where the Department requests a copy of the SWPPP or inspection reports, the *owner or operator* shall submit the documents in both electronic (PDF only) and paper format within five (5) business days, unless otherwise notified by the Department.

B. Required SWPPP Contents

1. Erosion and sediment control component - All SWPPPs prepared pursuant to this permit shall include erosion and sediment control practices designed in conformance with the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Where erosion and sediment control practices are not designed in conformance with the design criteria included in the technical standard, the *owner or operator* must demonstrate *equivalence* to the technical standard. At a minimum, the erosion and sediment control component of the SWPPP shall include the following:

   a. Background information about the scope of the project, including the location, type and size of project

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

b. A site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map shall show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); floodplain/floodway boundaries; wetlands and drainage patterns that could be affected by the *construction activity*; existing and final contours ; locations of different soil types with boundaries; material, waste, borrow or equipment storage areas located on adjacent properties; and location(s) of the stormwater *discharge*(s);

c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);

d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;

e. A description of the minimum erosion and sediment control practices to be installed or implemented for each *construction activity* that will result in soil disturbance. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;

f. A temporary and permanent soil stabilization plan that meets the requirements of this general permit and the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016, for each stage of the project, including initial land clearing and grubbing to project completion and achievement of *final stabilization*;

g. A site map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;

h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;

i. A maintenance inspection schedule for the contractor(s) identified in Part III.A.6. of this permit, to ensure continuous and effective operation of the erosion and sediment control practices. The maintenance inspection

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

schedule shall be in accordance with the requirements in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016;

j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the stormwater *discharges*;

k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the site, including, but not limited to, stormwater *discharges* from asphalt plants and concrete plants located on the *construction site*; and

l. Identification of any elements of the design that are not in conformance with the design criteria in the technical standard, New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

2. Post-construction stormwater management practice component – The *owner or operator* of any construction project identified in Table 2 of Appendix B as needing post-construction stormwater management practices shall prepare a SWPPP that includes practices designed in conformance with the applicable *sizing criteria* in Part I.C.2.a., c. or d. of this permit and the *performance criteria* in the technical standard, New York State Stormwater Management Design Manual dated January 2015

   Where post-construction stormwater management practices are not designed in conformance with the *performance criteria* in the technical standard, the *owner or operator* must include in the SWPPP the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the technical standard.

   The post-construction stormwater management practice component of the SWPPP shall include the following:

   a. Identification of all post-construction stormwater management practices to be constructed as part of the project. Include the dimensions, material specifications and installation details for each post-construction stormwater management practice;

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

b. A site map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;

c. A Stormwater Modeling and Analysis Report that includes:
   (i) Map(s) showing pre-development conditions, including watershed/subcatchments boundaries, flow paths/routing, and design points;

   (ii) Map(s) showing post-development conditions, including watershed/subcatchments boundaries, flow paths/routing, design points and post-construction stormwater management practices;

   (iii) Results of stormwater modeling (i.e. hydrology and hydraulic analysis) for the required storm events. Include supporting calculations (model runs), methodology, and a summary table that compares pre and post-development runoff rates and volumes for the different storm events;

   (iv) Summary table, with supporting calculations, which demonstrates that each post-construction stormwater management practice has been designed in conformance with the *sizing criteria* included in the Design Manual;

   (v) Identification of any *sizing criteria* that is not required based on the requirements included in Part I.C. of this permit; and

   (vi) Identification of any elements of the design that are not in conformance with the *performance criteria* in the Design Manual. Include the reason(s) for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is *equivalent* to the Design Manual;

d. Soil testing results and locations (test pits, borings);

e. Infiltration test results, when required; and

f. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

3. Enhanced Phosphorus Removal Standards - All construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the applicable *sizing criteria* in Part I.C.2. b., c. or d. of this permit and the *performance criteria,* Enhanced Phosphorus Removal Standards included in the Design Manual. At a minimum, the post-construction stormwater management practice component of the SWPPP shall include items 2.a - 2.f. above.

C. Required SWPPP Components by Project Type

Unless otherwise notified by the Department, *owners or operators* of *construction activities* identified in Table 1 of Appendix B are required to prepare a SWPPP that only includes erosion and sediment control practices designed in conformance with Part III.B.1 of this permit. *Owners or operators* of the *construction activities* identified in Table 2 of Appendix B shall prepare a SWPPP that also includes post-construction stormwater management practices designed in conformance with Part III.B.2 or 3 of this permit.

Part IV. INSPECTION AND MAINTENANCE REQUIREMENTS

A. General Construction Site Inspection and Maintenance Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices (including pollution prevention measures) and all post-construction stormwater management practices identified in the SWPPP are inspected and maintained in accordance with Part IV.B. and C. of this permit.

2. The terms of this permit shall not be construed to prohibit the State of New York from exercising any authority pursuant to the ECL, common law or federal law, or prohibit New York State from taking any measures, whether civil or criminal, to prevent violations of the laws of the State of New York or protect the public health and safety and/or the environment.

B. Contractor Maintenance Inspection Requirements

1. The *owner or operator* of each *construction activity* identified in Tables 1 and 2 of Appendix B shall have a *trained contractor* inspect the erosion and sediment control practices and pollution prevention measures being implemented within the active work area daily to ensure that they are being maintained in effective operating condition at all times. If deficiencies are identified, the contractor shall

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

begin implementing corrective actions within one business day and shall complete the corrective actions in a reasonable time frame.

2. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *trained contractor* can stop conducting the maintenance inspections. The *trained contractor* shall begin conducting the maintenance inspections in accordance with Part IV.B.1. of this permit as soon as soil disturbance activities resume.

3. For construction sites where soil disturbance activities have been shut down with partial project completion, the *trained contractor* can stop conducting the maintenance inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

C. Qualified Inspector Inspection Requirements

The *owner or operator* shall have a *qualified inspector* conduct site inspections in conformance with the following requirements:

[Note: The *trained contractor* identified in Part III.A.6. and IV.B. of this permit **cannot** conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* would have to be a:

- licensed Professional Engineer,
- Certified Professional in Erosion and Sediment Control (CPESC),
- New York State Erosion and Sediment Control Certificate Program holder
- Registered Landscape Architect, or
- someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity].

1. A *qualified inspector* shall conduct site inspections for all *construction activities* identified in Tables 1 and 2 of Appendix B, with the exception of:

   a. the construction of a single family residential subdivision with 25% or less *impervious cover* at total site build-out that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

b. the construction of a single family home that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres and is not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E;

c. construction on agricultural property that involves a soil disturbance of one (1) or more acres of land but less than five (5) acres; and

d. *construction activities* located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

2. Unless otherwise notified by the Department, the *qualified inspector* shall conduct site inspections in accordance with the following timetable:

a. For construction sites where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.

b. For construction sites where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part II.D.3 to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

c. For construction sites where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to reducing the frequency of inspections.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

d. For construction sites where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the DOW Water (SPDES) Program contact at the Regional Office (see contact information in Appendix F) or, in areas under the jurisdiction of a *regulated, traditional land use control MS4,* the *regulated, traditional land use control MS4* (provided the *regulated, traditional land use control MS4* is not the *owner or operator* of the *construction activity*) in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the *owner or operator* shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization,* and all temporary, structural erosion and sediment control measures have been removed*;* and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice" certification statements on the NOT. The *owner or operator* shall then submit the completed NOT form to the address in Part II.B.1 of this permit.

e. For construction sites that directly *discharge* to one of the 303(d) segments listed in Appendix E or is located in one of the watersheds listed in Appendix C, the *qualified inspector* shall conduct at least two (2) site inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.

3. At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices and pollution prevention measures to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization,* all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site*, and all points of *discharge* from the *construction site*.

4. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

(Part IV.C.4.a)

a. Date and time of inspection;

b. Name and title of person(s) performing inspection;

c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;

d. A description of the condition of the runoff at all points of *discharge* from the *construction site*. This shall include identification of any *discharges* of sediment from the *construction site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;

e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *construction site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;

f. Identification of all erosion and sediment control practices and pollution prevention measures that need repair or maintenance;

g. Identification of all erosion and sediment control practices and pollution prevention measures that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

h. Description and sketch of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized (temporary and/or final) since the last inspection;

i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and pollution prevention measures; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s);

k. Identification and status of all corrective actions that were required by previous inspection; and

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

l. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

5. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.A.6. of this permit of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.

6. All inspection reports shall be signed by the *qualified inspector.* Pursuant to Part II.D.2. of this permit, the inspection reports shall be maintained on site with the SWPPP.

Part V. TERMINATION OF PERMIT COVERAGE

A. Termination of Permit Coverage

1. An *owner or operator* that is eligible to terminate coverage under this permit must submit a completed NOT form to the address in Part II.B.1 of this permit. The NOT form shall be one which is associated with this permit, signed in accordance with Part VII.H of this permit.

2. An *owner or operator* may terminate coverage when one or more the following conditions have been met:

   a. Total project completion - All *construction activity* identified in the SWPPP has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

b. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational;

c. A new *owner or operator* has obtained coverage under this permit in accordance with Part II.F. of this permit.

d. The *owner or operator* obtains coverage under an alternative SPDES general permit or an individual SPDES permit.

3. For *construction activities* meeting subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to submitting the NOT. The *qualified inspector* shall, by signing the "*Final Stabilization*" and "Post-Construction Stormwater Management Practice certification statements on the NOT, certify that all the requirements in Part V.A.2.a. or b. of this permit have been achieved.

4. For *construction activities* that are subject to the requirements of a *regulated, traditional land use control MS4* and meet subdivision 2a. or 2b. of this Part, the *owner or operator* shall have the *regulated, traditional land use control MS4* sign the "MS4 Acceptance" statement on the NOT in accordance with the requirements in Part VII.H. of this permit. The *regulated, traditional land use control MS4* official, by signing this statement, has determined that it is acceptable for the *owner or operator* to submit the NOT in accordance with the requirements of this Part. The *regulated, traditional land use control MS4* can make this determination by performing a final site inspection themselves or by accepting the *qualified inspector*'s final site inspection certification(s) required in Part V.A.3. of this permit.

5. For *construction activities* that require post-construction stormwater management practices and meet subdivision 2a. of this Part, the *owner or operator* must, prior to submitting the NOT, ensure one of the following:

a. the post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain such practice(s) have been deeded to the municipality in which the practice(s) is located,

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

b. an executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s),

c. for post-construction stormwater management practices that are privately owned, the *owner or operator* has a mechanism in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the *owner or operator's* deed of record,

d. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university, hospital), government agency or authority, or public utility; the *owner or operator* has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

Part VI. REPORTING AND RETENTION RECORDS

A. Record Retention

The *owner or operator* shall retain a copy of the NOI, NOI Acknowledgment Letter, SWPPP, MS4 SWPPP Acceptance form and any inspection reports that were prepared in conjunction with this permit for a period of at least five (5) years from the date that the Department receives a complete NOT submitted in accordance with Part V. of this general permit.

B. Addresses

With the exception of the NOI, NOT, and MS4 SWPPP Acceptance form (which must be submitted to the address referenced in Part II.B.1 of this permit), all written correspondence requested by the Department, including individual permit applications, shall be sent to the address of the appropriate DOW Water (SPDES) Program contact at the Regional Office listed in Appendix F.

Part VII. STANDARD PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all conditions of this permit. All contractors and subcontractors associated with the project must comply with the terms of the SWPPP. Any non-compliance with this permit constitutes a violation of the Clean Water

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Act (CWA) and the ECL and is grounds for an enforcement action against the *owner or operator* and/or the contractor/subcontractor; permit revocation, suspension or modification; or denial of a permit renewal application. Upon a finding of significant non-compliance with this permit or the applicable SWPPP, the Department may order an immediate stop to all *construction activity* at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

If any human remains or archaeological remains are encountered during excavation, the *owner or operator* must immediately cease, or cause to cease, all *construction activity* in the area of the remains and notify the appropriate Regional Water Engineer (RWE). *Construction activity* shall not resume until written permission to do so has been received from the RWE.

B. Continuation of the Expired General Permit

This permit expires five (5) years from the effective date. If a new general permit is not issued prior to the expiration of this general permit, an *owner or operator* with coverage under this permit may continue to operate and *discharge* in accordance with the terms and conditions of this general permit, if it is extended pursuant to the State Administrative Procedure Act and 6 NYCRR Part 621, until a new general permit is issued.

C. Enforcement

Failure of the *owner or operator,* its contractors, subcontractors, agents and/or assigns to strictly adhere to any of the permit requirements contained herein shall constitute a violation of this permit. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this permit. Fines of up to $37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the *construction activity* in order to maintain compliance with the conditions of this permit.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

E. Duty to Mitigate

The *owner or operator* and its contractors and subcontractors shall take all reasonable steps to *minimize* or prevent any *discharge* in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the Department, within a reasonable specified time period of a written request, all documentation necessary to demonstrate eligibility and any information to determine compliance with this permit or to determine whether cause exists for modifying or revoking this permit, or suspending or denying coverage under this permit, in accordance with the terms and conditions of this permit. The NOI, SWPPP and inspection reports required by this permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business days of the *owner or operator* receiving a written request by any such person to review these documents. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the NOI or in any of the documents required by this permit , or have made substantive revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is a reduction in the sizing of the post-construction stormwater management practice, or there is an increase in the disturbance area or *impervious area*), which were not reflected in the original NOI submitted to the Department, they shall promptly submit such facts or information to the Department using the contact information in Part II.A. of this permit. Failure of the *owner or operator* to correct or supplement any relevant facts within five (5) business days of becoming aware of the deficiency shall constitute a violation of this permit.

H. Signatory Requirements

1. All NOIs and NOTs shall be signed as follows:

    a. For a corporation these forms shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) the manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

b. For a partnership or sole proprietorship these forms shall be signed by a general partner or the proprietor, respectively; or

c. For a municipality, State, Federal, or other public agency these forms shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) the chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. The SWPPP and other information requested by the Department shall be signed by a person described in Part VII.H.1. of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Part VII.H.1. of this permit;

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field,

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

superintendent, position of *equivalent* responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) and,

c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the SWPPP.

3. All inspection reports shall be signed by the *qualified inspector* that performs the inspection.

4. The MS4 SWPPP Acceptance form shall be signed by the principal executive officer or ranking elected official from the *regulated, traditional land use control MS4,* or by a duly authorized representative of that person.

   It shall constitute a permit violation if an incorrect and/or improper signatory authorizes any required forms, SWPPP and/or inspection reports.

I. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations. *Owners or operators* must obtain any applicable conveyances, easements, licenses and/or access to real property prior to *commencing construction activity*.

J. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. Requirement to Obtain Coverage Under an Alternative Permit

1. The Department may require any owner or operator authorized by this permit to apply for and/or obtain either an individual SPDES permit or another SPDES general permit. When the Department requires any discharger authorized by a general permit to apply for an individual SPDES permit, it shall notify the discharger in writing that a permit application is required. This notice shall

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

include a brief statement of the reasons for this decision, an application form, a statement setting a time frame for the owner or operator to file the application for an individual SPDES permit, and a deadline, not sooner than 180 days from owner or operator receipt of the notification letter, whereby the authorization to discharge under this general permit shall be terminated. Applications must be submitted to the appropriate Permit Administrator at the Regional Office. The Department may grant additional time upon demonstration, to the satisfaction of the Department, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with Part 621 of this Title.

2. When an individual SPDES permit is issued to a discharger authorized to *discharge* under a general SPDES permit for the same *discharge*(s), the general permit authorization for outfalls authorized under the individual SPDES permit is automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

L. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this permit and with the requirements of the SWPPP.

M. Inspection and Entry

The *owner or operator* shall allow an authorized representative of the Department, EPA, applicable county health department, or, in the case of a *construction site* which *discharges* through an *MS4*, an authorized representative of the *MS4* receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner’s or operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), practices or operations regulated or required by this permit.

4. Sample or monitor at reasonable times, for purposes of assuring permit compliance or as otherwise authorized by the Act or ECL, any substances or parameters at any location.

N. Permit Actions

This permit may, at any time, be modified, suspended, revoked, or renewed by the Department in accordance with 6 NYCRR Part 621. The filing of a request by the *owner or operator* for a permit modification, revocation and reissuance, termination, a notification of planned changes or anticipated noncompliance does not limit, diminish and/or stay compliance with any terms of this permit.

O. Definitions

Definitions of key terms are included in Appendix A of this permit.

P. Re-Opener Clause

1. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with construction activity covered by this permit, the owner or operator of such discharge may be required to obtain an individual permit or alternative general permit in accordance with Part VII.K. of this permit or the permit may be modified to include different limitations and/or requirements.

2. Any Department initiated permit modification, suspension or revocation will be conducted in accordance with 6 NYCRR Part 621, 6 NYCRR 750-1.18, and 6 NYCRR 750-1.20.

Q. Penalties for Falsification of Forms and Reports

In accordance with 6NYCRR Part 750-2.4 and 750-2.5, any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this permit, including reports of compliance or noncompliance shall, upon conviction, be punished in accordance with ECL §71-1933 and or Articles 175 and 210 of the New York State Penal Law.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

APPENDIX A – Acronyms and Definitions

Acronyms

APO – Agency Preservation Officer
BMP – Best Management Practice
CPESC – Certified Professional in Erosion and Sediment Control
Cpv – Channel Protection Volume
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DOW – Division of Water
EAF – Environmental Assessment Form
ECL - Environmental Conservation Law
EPA – U. S. Environmental Protection Agency
HSG – Hydrologic Soil Group
MS4 – Municipal Separate Storm Sewer System
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
OPRHP – Office of Parks, Recreation and Historic Places
Qf – Extreme Flood
Qp – Overbank Flood
RRv – Runoff Reduction Volume
RWE – Regional Water Engineer
SEQR – State Environmental Quality Review
SEQRA - State Environmental Quality Review Act
SHPA – State Historic Preservation Act
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
UPA – Uniform Procedures Act
USDA – United States Department of Agriculture
WQv – Water Quality Volume

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Definitions

All definitions in this section are solely for the purposes of this permit.

Agricultural Building – a structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products; excluding any structure designed, constructed or used, in whole or in part, for human habitation, as a place of employment where agricultural products are processed, treated or packaged, or as a place used by the public.

Agricultural Property –means the land for construction of a barn, *agricultural building*, silo, stockyard, pen or other structural practices identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State" prepared by the Department in cooperation with agencies of New York Nonpoint Source Coordinating Committee (dated June 2007).

Alter Hydrology from Pre to Post-Development Conditions - means the post-development peak flow rate(s) has increased by more than 5% of the pre-developed condition for the design storm of interest (e.g. 10 yr and 100 yr).

Combined Sewer - means a sewer that is designed to collect and convey both "sewage" and "stormwater".

Commence (Commencement of) Construction Activities - means the initial disturbance of soils associated with clearing, grading or excavation activities; or other construction related activities that disturb or expose soils such as demolition, stockpiling of fill material, and the initial installation of erosion and sediment control practices required in the SWPPP. See definition for "*Construction Activity(ies)*" also.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Construction Site – means the land area where *construction activity(ies)* will occur. See definition for "*Commence (Commencement of) Construction Activities"* and "*Larger Common Plan of Development or Sale" also.*

Dewatering – means the act of draining rainwater and/or groundwater from building foundations, vaults or excavations/trenches.

Direct Discharge (to a specific surface waterbody) - means that runoff flows from a *construction site* by overland flow and the first point of discharge is the specific surface waterbody, or runoff flows from a *construction site* to a separate storm sewer system

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

and the first point of discharge from the separate storm sewer system is the specific surface waterbody.

Discharge(s) - means any addition of any pollutant to waters of the State through an outlet or *point source*.

Embankment –means an earthen or rock slope that supports a road/highway.

Endangered or Threatened Species – see 6 NYCRR Part 182 of the Department's rules and regulations for definition of terms and requirements.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Equivalent (Equivalence) – means that the practice or measure meets all the performance, longevity, maintenance, and safety objectives of the technical standard and will provide an equal or greater degree of water quality protection.

Final Stabilization - means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

General SPDES permit - means a SPDES permit issued pursuant to 6 NYCRR Part 750-1.21 and Section 70-0117 of the ECL authorizing a category of discharges.

Groundwater(s) - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

Historic Property – means any building, structure, site, object or district that is listed on the State or National Registers of Historic Places or is determined to be eligible for listing on the State or National Registers of Historic Places.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and sidewalks); building rooftops and miscellaneous impermeable structures such as patios, pools, and sheds.

Infeasible – means not technologically possible, or not economically practicable and achievable in light of best industry practices.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Larger Common Plan of Development or Sale - means a contiguous area where multiple separate and distinct *construction activities* are occurring, or will occur, under one plan. The term "plan" in "larger common plan of development or sale" is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, marketing plan, advertisement, drawing, permit application, State Environmental Quality Review Act (SEQRA) environmental assessment form or other documents, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating that *construction activities* may occur on a specific plot.

For discrete construction projects that are located within a larger common plan of development or sale that are at least 1/4 mile apart, each project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed.

Minimize – means reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to surface waters of the State*;*
(ii) Designed or used for collecting or conveying stormwater;
(iii) Which is not a *combined sewer*; and
(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Natural Buffer –means an undisturbed area with natural cover running along a surface water (e.g. wetland, stream, river, lake, etc.).

New Development – means any land disturbance that does not meet the definition of Redevelopment Activity included in this appendix.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

New York State Erosion and Sediment Control Certificate Program – a certificate program that establishes and maintains a process to identify and recognize individuals who are capable of developing, designing, inspecting and maintaining erosion and sediment control plans on projects that disturb soils in New York State. The certificate program is administered by the New York State Conservation District Employees Association.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the general permit for stormwater discharges from *construction activity*.

Nonpoint Source - means any source of water pollution or pollutants which is not a discrete conveyance or *point source* permitted pursuant to Title 7 or 8 of Article 17 of the Environmental Conservation Law (see ECL Section 17-1403).

Overbank –means flow events that exceed the capacity of the stream channel and spill out into the adjacent floodplain.

Owner or Operator - means the person, persons or legal entity which owns or leases the property on which the *construction activity* is occurring; an entity that has operational control over the construction plans and specifications, including the ability to make modifications to the plans and specifications; and/or an entity that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions.

Performance Criteria – means the design criteria listed under the "Required Elements" sections in Chapters 5, 6 and 10 of the technical standard, New York State Stormwater Management Design Manual, dated January 2015. It does not include the Sizing Criteria (i.e. WQv, RRv, Cpv, Qp and Qf) in Part I.C.2. of the permit.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft, or landfill leachate collection system from which *pollutants* are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in 6 NYCRR Parts 700 et seq .

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Qualified Inspector - means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s). Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Redevelopment Activity(ies) – means the disturbance and reconstruction of existing impervious area, including impervious areas that were removed from a project site within five (5) years of preliminary project plan submission to the local government (i.e. site plan, subdivision, etc.).

Regulated, Traditional Land Use Control MS4 - means a city, town or village with land use control authority that is authorized to discharge under New York State DEC's

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

SPDES General Permit For Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s) or the City of New York's Individual SPDES Permit for their Municipal Separate Storm Sewer Systems (NY-0287890).

Routine Maintenance Activity - means *construction activity* that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility, including, but not limited to:

- Re-grading of gravel roads or parking lots,
- Cleaning and shaping of existing roadside ditches and culverts that maintains the approximate original line and grade, and hydraulic capacity of the ditch,
- Cleaning and shaping of existing roadside ditches that does not maintain the approximate original grade, hydraulic capacity and purpose of the ditch if the changes to the line and grade, hydraulic capacity or purpose of the ditch are installed to improve water quality and quantity controls (e.g. installing grass lined ditch),
- Placement of aggregate shoulder backing that stabilizes the transition between the road shoulder and the ditch or *embankment*,
- Full depth milling and filling of existing asphalt pavements, replacement of concrete pavement slabs, and similar work that does not expose soil or disturb the bottom six (6) inches of subbase material,
- Long-term use of equipment storage areas at or near highway maintenance facilities,
- Removal of sediment from the edge of the highway to restore a previously existing sheet-flow drainage connection from the highway surface to the highway ditch or *embankment*,
- Existing use of Canal Corp owned upland disposal sites for the canal, and
- Replacement of curbs, gutters, sidewalks and guide rail posts.

Site limitations – means site conditions that prevent the use of an infiltration technique and or infiltration of the total WQv. Typical site limitations include: seasonal high groundwater, shallow depth to bedrock, and soils with an infiltration rate less than 0.5 inches/hour. The existence of site limitations shall be confirmed and documented using actual field testing (i.e. test pits, soil borings, and infiltration test) or using information from the most current United States Department of Agriculture (USDA) Soil Survey for the County where the project is located.

Sizing Criteria – means the criteria included in Part I.C.2 of the permit that are used to size post-construction stormwater management control practices. The criteria include; Water Quality Volume (WQv), Runoff Reduction Volume (RRv), Channel Protection Volume (Cpv), *Overbank* Flood (Qp), and Extreme Flood (Qf).

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and 6 NYCRR Part 750 for issuance of permits authorizing discharges to the waters of the state.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Steep Slope – means land area designated on the current United States Department of Agriculture ("USDA") Soil Survey as Soil Slope Phase "D", (provided the map unit name is inclusive of slopes greater than 25%) , or Soil Slope Phase E or F, (regardless of the map unit name), or a combination of the three designations.

Streambank – as used in this permit, means the terrain alongside the bed of a creek or stream. The bank consists of the sides of the channel, between which the flow is confined.

Stormwater Pollution Prevention Plan (SWPPP) – means a project specific report, including construction drawings, that among other things: describes the construction activity(ies), identifies the potential sources of pollution at the *construction site*; describes and shows the stormwater controls that will be used to control the pollutants (i.e. erosion and sediment controls; for many projects, includes post-construction stormwater management controls); and identifies procedures the *owner or operator* will implement to comply with the terms and conditions of the permit. See Part III of the permit for a complete description of the information that must be included in the SWPPP.

Surface Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Temporarily Ceased – means that an existing disturbed area will not be disturbed again within 14 calendar days of the previous soil disturbance.

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and *nonpoint source*s. It is a calculation of the maximum amount of a pollutant that a waterbody can receive on a daily basis and still meet *water quality standards*, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations (WLAs) for *point source* discharges, load allocations (LAs) for *nonpoint source*s, and a margin of safety (MOS).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.A.6., that has received four (4) hours of Department endorsed

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

It can also mean an employee from the contracting (construction) company, identified in Part III.A.6., that meets the *qualified inspector* qualifications (e.g. licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, New York State Erosion and Sediment Control Certificate Program holder, or someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity).

The *trained contractor* is responsible for the day to day implementation of the SWPPP.

Uniform Procedures Act (UPA) Permit - means a permit required under 6 NYCRR Part 621 of the Environmental Conservation Law (ECL), Article 70.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

APPENDIX B – Required SWPPP Components by Project Type

Table 1
Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land, but less than five (5) acres:

- Single family home not located in one of the watersheds listed in Appendix C or not *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions with 25% or less impervious cover at total site build-out and not located in one of the watersheds listed in Appendix C and not directly discharging to one of the 303(d) segments listed in Appendix E
- Construction of a barn or other *agricultural building*, silo, stock yard or pen.

The following construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land:

All construction activities located in the watersheds identified in Appendix D that involve soil disturbances between five thousand (5,000) square feet and one (1) acre of land.

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Installation of underground, linear utilities; such as gas lines, fiber-optic cable, cable TV, electric, telephone, sewer mains, and water mains
- Environmental enhancement projects, such as wetland mitigation projects, stormwater retrofits and stream restoration projects
- Pond construction
- Linear bike paths running through areas with vegetative cover, including bike paths surfaced with an impervious cover
- Cross-country ski trails and walking/hiking trails
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are not part of residential, commercial or institutional development;
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that include incidental shoulder or curb work along an existing highway to support construction of the sidewalk, bike path or walking path.
- Slope stabilization projects
- Slope flattening that changes the grade of the site, but does not significantly change the runoff characteristics

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Table 1 (Continued) Construction Activities that Require the Preparation of a SWPPP That Only Includes Erosion and Sediment Controls

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Spoil areas that will be covered with vegetation
- Vegetated open space projects (i.e. recreational parks, lawns, meadows, fields, downhill ski trails) excluding projects that *alter hydrology from pre to post development* conditions,
- Athletic fields (natural grass) that do not include the construction or reconstruction of *impervious area* and do not *alter hydrology from pre to post development* conditions
- Demolition project where vegetation will be established, and no redevelopment is planned
- Overhead electric transmission line project that does not include the construction of permanent access roads or parking areas surfaced with *impervious cover*
- Structural practices as identified in Table II in the "Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State", excluding projects that involve soil disturbances of greater than five acres and construction activities that include the construction or reconstruction of impervious area
- Temporary access roads, median crossovers, detour roads, lanes, or other temporary impervious areas that will be restored to pre-construction conditions once the construction activity is complete

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Table 2
CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Single family home located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family home that disturbs five (5) or more acres of land
- Single family residential subdivisions located in one of the watersheds listed in Appendix C or *directly discharging* to one of the 303(d) segments listed in Appendix E
- Single family residential subdivisions that involve soil disturbances of between one (1) and five (5) acres of land with greater than 25% impervious cover at total site build-out
- Single family residential subdivisions that involve soil disturbances of five (5) or more acres of land, and single family residential subdivisions that involve soil disturbances of less than five (5) acres that are part of a larger common plan of development or sale that will ultimately disturb five or more acres of land
- Multi-family residential developments; includes duplexes, townhomes, condominiums, senior housing complexes, apartment complexes, and mobile home parks
- Airports
- Amusement parks
- Breweries, cideries, and wineries, including establishments constructed on agricultural land
- Campgrounds
- Cemeteries that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Commercial developments
- Churches and other places of worship
- Construction of a barn or other *agricultural building* (e.g. silo) and structural practices as identified in Table II in the “Agricultural Management Practices Catalog for Nonpoint Source Pollution in New York State” that include the construction or reconstruction of *impervious area*, excluding projects that involve soil disturbances of less than five acres.
- Golf courses
- Institutional development; includes hospitals, prisons, schools and colleges
- Industrial facilities; includes industrial parks
- Landfills
- Municipal facilities; includes highway garages, transfer stations, office buildings, POTW’s, water treatment plants, and water storage tanks
- Office complexes
- Playgrounds that include the construction or reconstruction of impervious area
- Sports complexes
- Racetracks; includes racetracks with earthen (dirt) surface
- Road construction or reconstruction, including roads constructed as part of the construction activities listed in Table 1

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Table 2 (Continued)

CONSTRUCTION ACTIVITIES THAT REQUIRE THE PREPARATION OF A SWPPP THAT INCLUDES POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICES

The following construction activities that involve soil disturbances of one (1) or more acres of land:

- Parking lot construction or reconstruction, including parking lots constructed as part of the construction activities listed in Table 1
- Athletic fields (natural grass) that include the construction or reconstruction of impervious area (>5% of disturbed area) or *alter the hydrology from pre to post development* conditions
- Athletic fields with artificial turf
- Permanent access roads, parking areas, substations, compressor stations and well drilling pads, surfaced with *impervious cover,* and constructed as part of an over-head electric transmission line project, wind-power project, cell tower project, oil or gas well drilling project, sewer or water main project or other linear utility project
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a residential, commercial or institutional development
- Sidewalk, bike path or walking path projects, surfaced with an impervious cover, that are part of a highway construction or reconstruction project
- All other construction activities that include the construction or reconstruction of *impervious area* or *alter the hydrology from pre to post development* conditions, and are not listed in Table 1

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

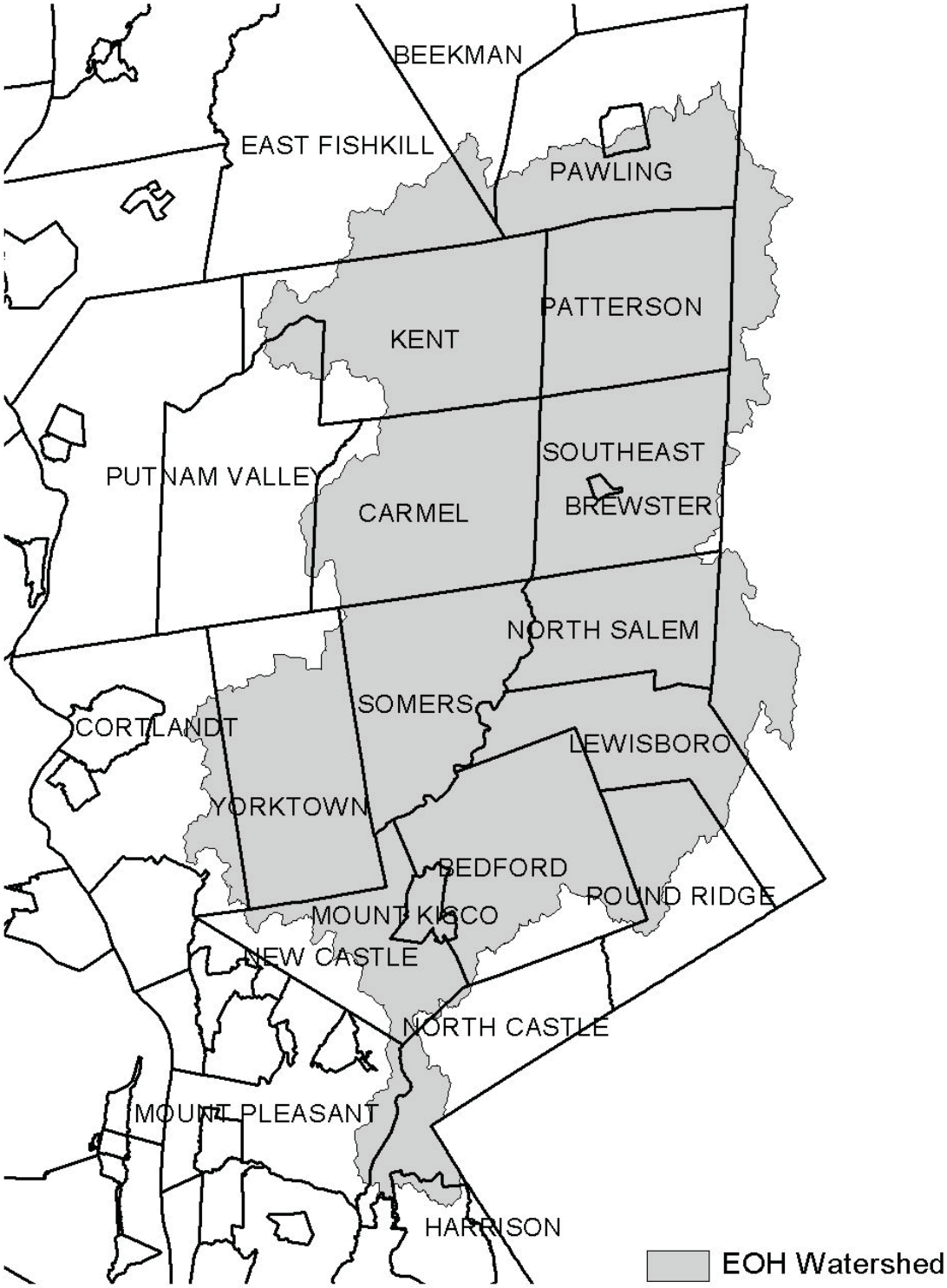
APPENDIX C – Watersheds Requiring Enhanced Phosphorus Removal

Watersheds where *owners or operators* of construction activities identified in Table 2 of Appendix B must prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the technical standard, New York State Stormwater Management Design Manual ("Design Manual").

- Entire New York City Watershed located east of the Hudson River **-** Figure 1
- Onondaga Lake Watershed **-** Figure 2
- Greenwood Lake Watershed **-**Figure 3
- Oscawana Lake Watershed – Figure 4
- Kinderhook Lake Watershed – Figure 5

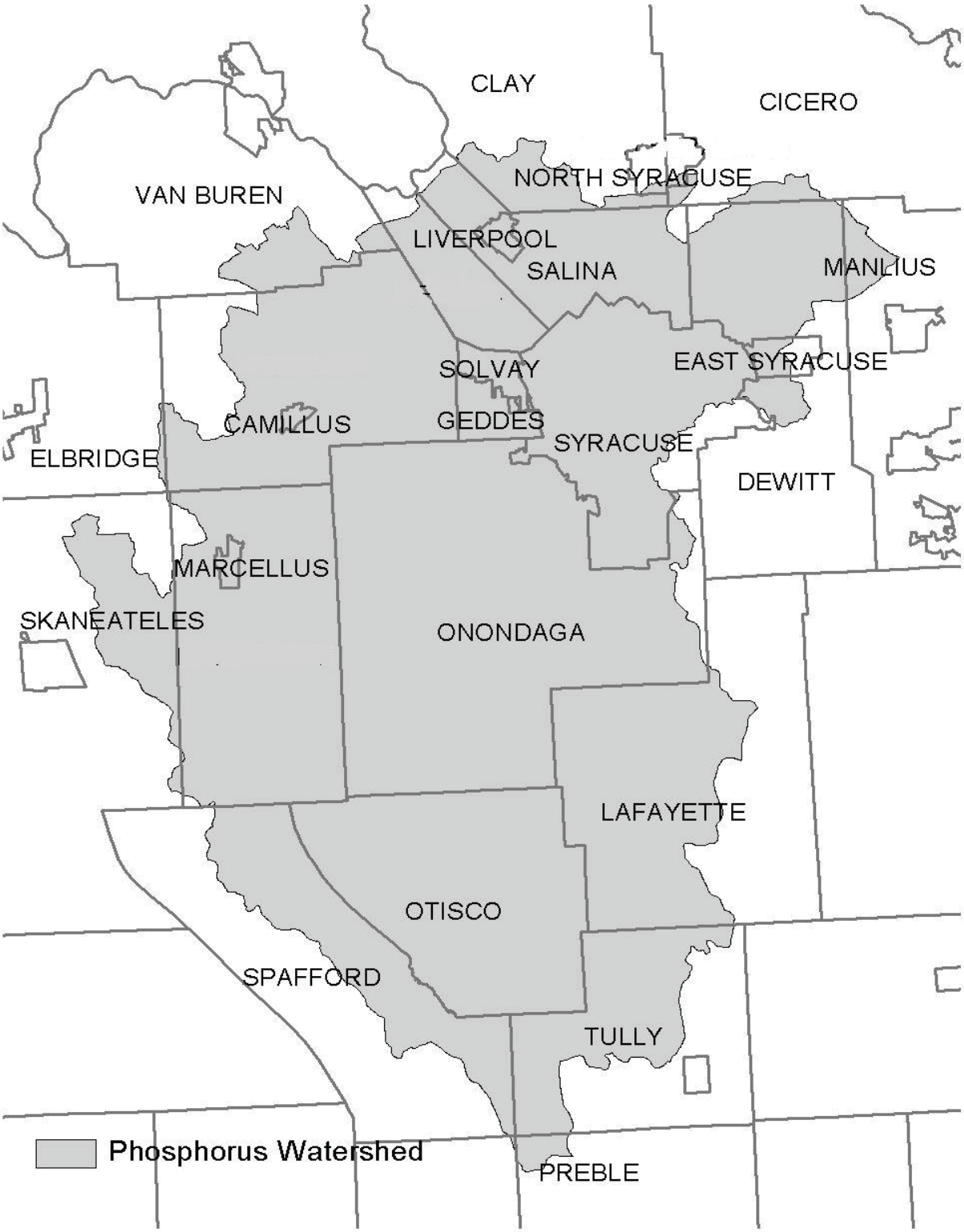
Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Figure 1 - New York City Watershed East of the Hudson



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Figure 2 - Onondaga Lake Watershed



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

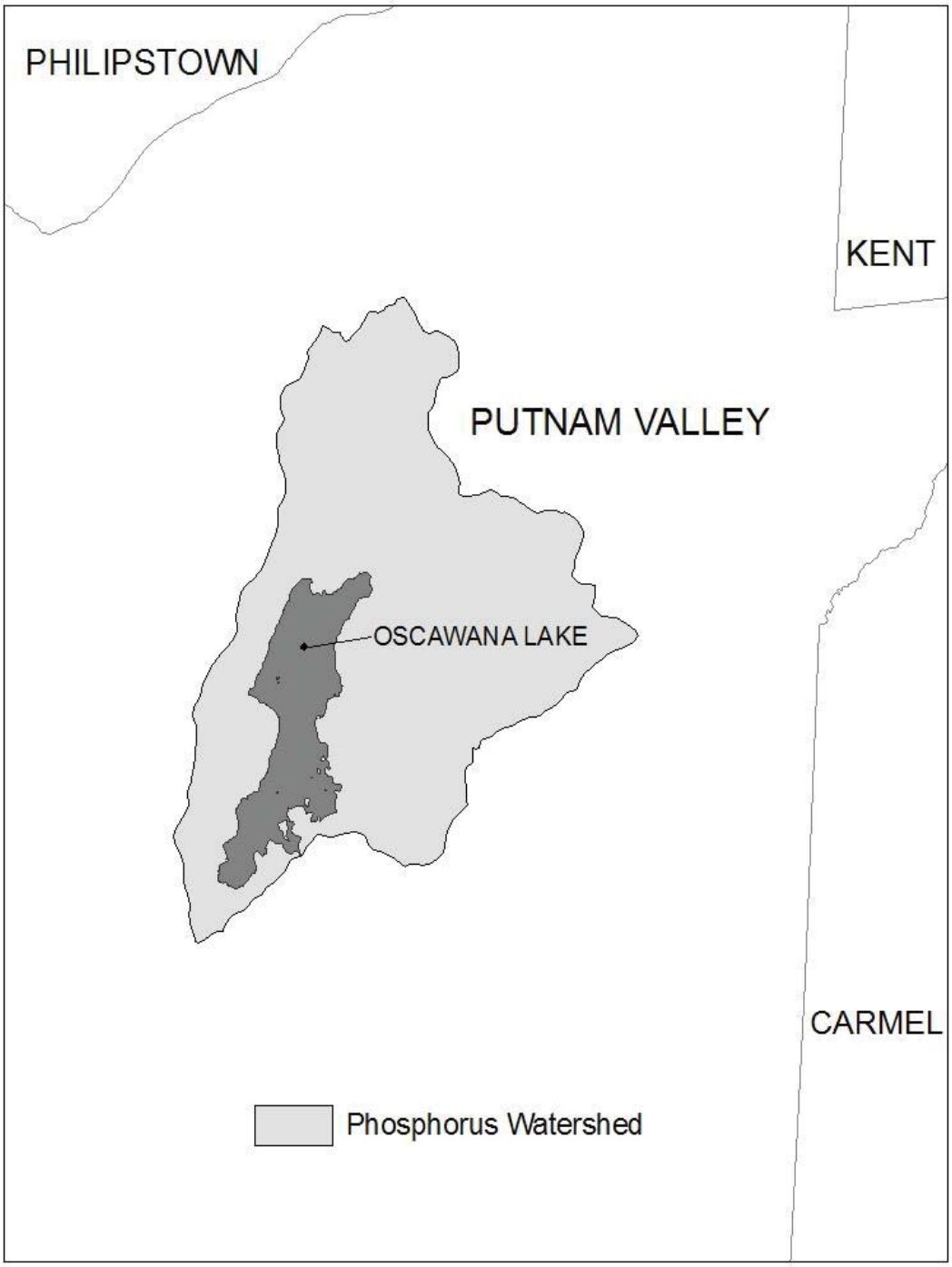
Appendix C

Figure 3 - Greenwood Lake Watershed



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

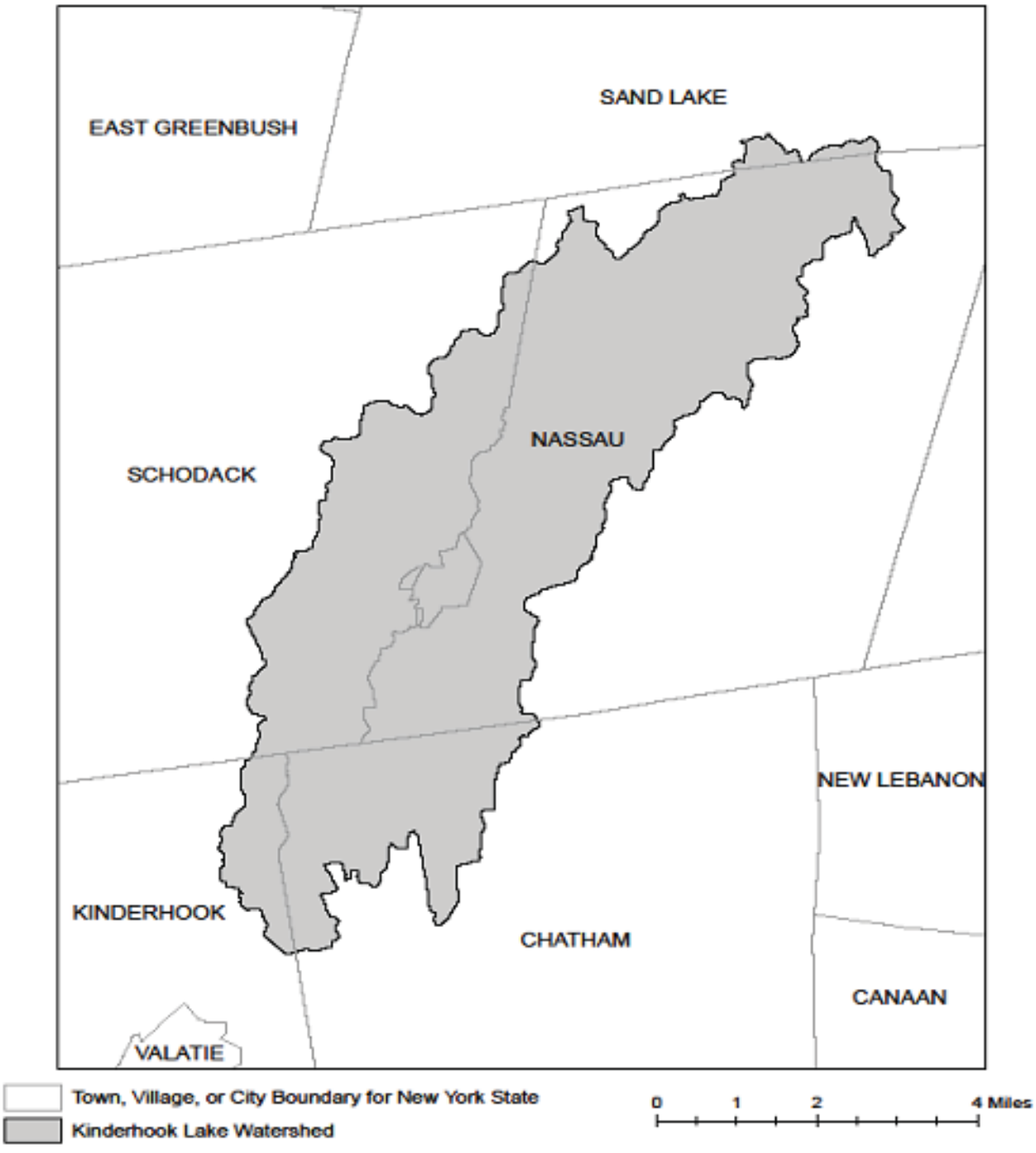
Figure 4 - Oscawana Lake Watershed



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix C

Figure 5 - Kinderhook Lake Watershed



Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

APPENDIX D – Watersheds with Lower Disturbance Threshold

Watersheds where *owners or operators* of construction activities that involve soil disturbances between five thousand (5000) square feet and one (1) acre of land must obtain coverage under this permit.

Entire New York City Watershed that is located east of the Hudson River **-** See Figure 1 in Appendix C

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

APPENDIX E – 303(d) Segments Impaired by Construction Related Pollutant(s)

List of 303(d) segments impaired by pollutants related to *construction activity* (e.g. silt, sediment or nutrients). The list was developed using "The Final New York State 2016 Section 303(d) List of Impaired Waters Requiring a TMDL/Other Strategy" dated November 2016. *Owners or operators* of single family home and single family residential subdivisions with 25% or less total impervious cover at total site build-out that involve soil disturbances of one or more acres of land, but less than 5 acres, and *directly discharge* to one of the listed segments below shall prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the New York State Stormwater Management Design Manual ("Design Manual"), dated January 2015.

COUNTY	WATERBODY	POLLUTANT
Albany	Ann Lee (Shakers) Pond, Stump Pond	Nutrients
Albany	Basic Creek Reservoir	Nutrients
Allegany	Amity Lake, Saunders Pond	Nutrients
Bronx	Long Island Sound, Bronx	Nutrients
Bronx	Van Cortlandt Lake	Nutrients
Broome	Fly Pond, Deer Lake, Sky Lake	Nutrients
Broome	Minor Tribs to Lower Susquehanna (north)	Nutrients
Broome	Whitney Point Lake/Reservoir	Nutrients
Cattaraugus	Allegheny River/Reservoir	Nutrients
Cattaraugus	Beaver (Alma) Lake	Nutrients
Cattaraugus	Case Lake	Nutrients
Cattaraugus	Linlyco/Club Pond	Nutrients
Cayuga	Duck Lake	Nutrients
Cayuga	Little Sodus Bay	Nutrients
Chautauqua	Bear Lake	Nutrients
Chautauqua	Chadakoin River and tribs	Nutrients
Chautauqua	Chautauqua Lake, North	Nutrients
Chautauqua	Chautauqua Lake, South	Nutrients
Chautauqua	Findley Lake	Nutrients
Chautauqua	Hulburt/Clymer Pond	Nutrients
Clinton	Great Chazy River, Lower, Main Stem	Silt/Sediment
Clinton	Lake Champlain, Main Lake, Middle	Nutrients
Clinton	Lake Champlain, Main Lake, North	Nutrients
Columbia	Kinderhook Lake	Nutrients
Columbia	Robinson Pond	Nutrients
Cortland	Dean Pond	Nutrients

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

303(d) Segments Impaired by Construction Related Pollutant(s)

Dutchess	Fall Kill and tribs	Nutrients
Dutchess	Hillside Lake	Nutrients
Dutchess	Wappingers Lake	Nutrients
Dutchess	Wappingers Lake	Silt/Sediment
Erie	Beeman Creek and tribs	Nutrients
Erie	Ellicott Creek, Lower, and tribs	Silt/Sediment
Erie	Ellicott Creek, Lower, and tribs	Nutrients
Erie	Green Lake	Nutrients
Erie	Little Sister Creek, Lower, and tribs	Nutrients
Erie	Murder Creek, Lower, and tribs	Nutrients
Erie	Rush Creek and tribs	Nutrients
Erie	Scajaquada Creek, Lower, and tribs	Nutrients
Erie	Scajaquada Creek, Middle, and tribs	Nutrients
Erie	Scajaquada Creek, Upper, and tribs	Nutrients
Erie	South Branch Smoke Cr, Lower, and tribs	Silt/Sediment
Erie	South Branch Smoke Cr, Lower, and tribs	Nutrients
Essex	Lake Champlain, Main Lake, South	Nutrients
Essex	Lake Champlain, South Lake	Nutrients
Essex	Willsboro Bay	Nutrients
Genesee	Bigelow Creek and tribs	Nutrients
Genesee	Black Creek, Middle, and minor tribs	Nutrients
Genesee	Black Creek, Upper, and minor tribs	Nutrients
Genesee	Bowen Brook and tribs	Nutrients
Genesee	LeRoy Reservoir	Nutrients
Genesee	Oak Orchard Cr, Upper, and tribs	Nutrients
Genesee	Tonawanda Creek, Middle, Main Stem	Nutrients
Greene	Schoharie Reservoir	Silt/Sediment
Greene	Sleepy Hollow Lake	Silt/Sediment
Herkimer	Steele Creek tribs	Silt/Sediment
Herkimer	Steele Creek tribs	Nutrients
Jefferson	Moon Lake	Nutrients
Kings	Hendrix Creek	Nutrients
Kings	Prospect Park Lake	Nutrients
Lewis	Mill Creek/South Branch, and tribs	Nutrients
Livingston	Christie Creek and tribs	Nutrients
Livingston	Conesus Lake	Nutrients
Livingston	Mill Creek and minor tribs	Silt/Sediment
Monroe	Black Creek, Lower, and minor tribs	Nutrients
Monroe	Buck Pond	Nutrients
Monroe	Cranberry Pond	Nutrients

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

303(d) Segments Impaired by Construction Related Pollutant(s)

Monroe	Lake Ontario Shoreline, Western	Nutrients
Monroe	Long Pond	Nutrients
Monroe	Mill Creek and tribs	Nutrients
Monroe	Mill Creek/Blue Pond Outlet and tribs	Nutrients
Monroe	Minor Tribs to Irondequoit Bay	Nutrients
Monroe	Rochester Embayment - East	Nutrients
Monroe	Rochester Embayment - West	Nutrients
Monroe	Shipbuilders Creek and tribs	Nutrients
Monroe	Thomas Creek/White Brook and tribs	Nutrients
Nassau	Beaver Lake	Nutrients
Nassau	Camaans Pond	Nutrients
Nassau	East Meadow Brook, Upper, and tribs	Silt/Sediment
Nassau	East Rockaway Channel	Nutrients
Nassau	Grant Park Pond	Nutrients
Nassau	Hempstead Bay	Nutrients
Nassau	Hempstead Lake	Nutrients
Nassau	Hewlett Bay	Nutrients
Nassau	Hog Island Channel	Nutrients
Nassau	Long Island Sound, Nassau County Waters	Nutrients
Nassau	Massapequa Creek and tribs	Nutrients
Nassau	Milburn/Parsonage Creeks, Upp, and tribs	Nutrients
Nassau	Reynolds Channel, west	Nutrients
Nassau	Tidal Tribs to Hempstead Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Nutrients
Nassau	Tribs (fresh) to East Bay	Silt/Sediment
Nassau	Tribs to Smith/Halls Ponds	Nutrients
Nassau	Woodmere Channel	Nutrients
New York	Harlem Meer	Nutrients
New York	The Lake in Central Park	Nutrients
Niagara	Bergholtz Creek and tribs	Nutrients
Niagara	Hyde Park Lake	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Niagara	Lake Ontario Shoreline, Western	Nutrients
Oneida	Ballou, Nail Creeks and tribs	Nutrients
Onondaga	Harbor Brook, Lower, and tribs	Nutrients
Onondaga	Ley Creek and tribs	Nutrients
Onondaga	Minor Tribs to Onondaga Lake	Nutrients
Onondaga	Ninemile Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Lower, and tribs	Nutrients
Onondaga	Onondaga Creek, Middle, and tribs	Nutrients

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

303(d) Segments Impaired by Construction Related Pollutant(s)

Onondaga	Onondaga Lake, northern end	Nutrients
Onondaga	Onondaga Lake, southern end	Nutrients
Ontario	Great Brook and minor tribs	Silt/Sediment
Ontario	Great Brook and minor tribs	Nutrients
Ontario	Hemlock Lake Outlet and minor tribs	Nutrients
Ontario	Honeoye Lake	Nutrients
Orange	Greenwood Lake	Nutrients
Orange	Monhagen Brook and tribs	Nutrients
Orange	Orange Lake	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Orleans	Lake Ontario Shoreline, Western	Nutrients
Oswego	Lake Neatahwanta	Nutrients
Oswego	Pleasant Lake	Nutrients
Putnam	Bog Brook Reservoir	Nutrients
Putnam	Boyd Corners Reservoir	Nutrients
Putnam	Croton Falls Reservoir	Nutrients
Putnam	Diverting Reservoir	Nutrients
Putnam	East Branch Reservoir	Nutrients
Putnam	Lake Carmel	Nutrients
Putnam	Middle Branch Reservoir	Nutrients
Putnam	Oscawana Lake	Nutrients
Putnam	Palmer Lake	Nutrients
Putnam	West Branch Reservoir	Nutrients
Queens	Bergen Basin	Nutrients
Queens	Flushing Creek/Bay	Nutrients
Queens	Jamaica Bay, Eastern, and tribs (Queens)	Nutrients
Queens	Kissena Lake	Nutrients
Queens	Meadow Lake	Nutrients
Queens	Willow Lake	Nutrients
Rensselaer	Nassau Lake	Nutrients
Rensselaer	Snyders Lake	Nutrients
Richmond	Grasmere Lake/Bradys Pond	Nutrients
Rockland	Congers Lake, Swartout Lake	Nutrients
Rockland	Rockland Lake	Nutrients
Saratoga	Ballston Lake	Nutrients
Saratoga	Dwaas Kill and tribs	Silt/Sediment
Saratoga	Dwaas Kill and tribs	Nutrients
Saratoga	Lake Lonely	Nutrients
Saratoga	Round Lake	Nutrients
Saratoga	Tribs to Lake Lonely	Nutrients

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

303(d) Segments Impaired by Construction Related Pollutant(s)

Schenectady	Collins Lake	Nutrients
Schenectady	Duane Lake	Nutrients
Schenectady	Mariaville Lake	Nutrients
Schoharie	Engleville Pond	Nutrients
Schoharie	Summit Lake	Nutrients
Seneca	Reeder Creek and tribs	Nutrients
St.Lawrence	Black Lake Outlet/Black Lake	Nutrients
St.Lawrence	Fish Creek and minor tribs	Nutrients
Steuben	Smith Pond	Nutrients
Suffolk	Agawam Lake	Nutrients
Suffolk	Big/Little Fresh Ponds	Nutrients
Suffolk	Canaan Lake	Silt/Sediment
Suffolk	Canaan Lake	Nutrients
Suffolk	Flanders Bay, West/Lower Sawmill Creek	Nutrients
Suffolk	Fresh Pond	Nutrients
Suffolk	Great South Bay, East	Nutrients
Suffolk	Great South Bay, Middle	Nutrients
Suffolk	Great South Bay, West	Nutrients
Suffolk	Lake Ronkonkoma	Nutrients
Suffolk	Long Island Sound, Suffolk County, West	Nutrients
Suffolk	Mattituck (Marratooka) Pond	Nutrients
Suffolk	Meetinghouse/Terrys Creeks and tribs	Nutrients
Suffolk	Mill and Seven Ponds	Nutrients
Suffolk	Millers Pond	Nutrients
Suffolk	Moriches Bay, East	Nutrients
Suffolk	Moriches Bay, West	Nutrients
Suffolk	Peconic River, Lower, and tidal tribs	Nutrients
Suffolk	Quantuck Bay	Nutrients
Suffolk	Shinnecock Bay and Inlet	Nutrients
Suffolk	Tidal tribs to West Moriches Bay	Nutrients
Sullivan	Bodine, Montgomery Lakes	Nutrients
Sullivan	Davies Lake	Nutrients
Sullivan	Evens Lake	Nutrients
Sullivan	Pleasure Lake	Nutrients
Tompkins	Cayuga Lake, Southern End	Nutrients
Tompkins	Cayuga Lake, Southern End	Silt/Sediment
Tompkins	Owasco Inlet, Upper, and tribs	Nutrients
Ulster	Ashokan Reservoir	Silt/Sediment
Ulster	Esopus Creek, Upper, and minor tribs	Silt/Sediment
Warren	Hague Brook and tribs	Silt/Sediment

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

303(d) Segments Impaired by Construction Related Pollutant(s)

Warren	Huddle/Finkle Brooks and tribs	Silt/Sediment
Warren	Indian Brook and tribs	Silt/Sediment
Warren	Lake George	Silt/Sediment
Warren	Tribs to L.George, Village of L George	Silt/Sediment
Washington	Cossayuna Lake	Nutrients
Washington	Lake Champlain, South Bay	Nutrients
Washington	Tribs to L.George, East Shore	Silt/Sediment
Washington	Wood Cr/Champlain Canal and minor tribs	Nutrients
Wayne	Port Bay	Nutrients
Westchester	Amawalk Reservoir	Nutrients
Westchester	Blind Brook, Upper, and tribs	Silt/Sediment
Westchester	Cross River Reservoir	Nutrients
Westchester	Lake Katonah	Nutrients
Westchester	Lake Lincolndale	Nutrients
Westchester	Lake Meahagh	Nutrients
Westchester	Lake Mohegan	Nutrients
Westchester	Lake Shenorock	Nutrients
Westchester	Long Island Sound, Westchester (East)	Nutrients
Westchester	Mamaroneck River, Lower	Silt/Sediment
Westchester	Mamaroneck River, Upper, and minor tribs	Silt/Sediment
Westchester	Muscoot/Upper New Croton Reservoir	Nutrients
Westchester	New Croton Reservoir	Nutrients
Westchester	Peach Lake	Nutrients
Westchester	Reservoir No.1 (Lake Isle)	Nutrients
Westchester	Saw Mill River, Lower, and tribs	Nutrients
Westchester	Saw Mill River, Middle, and tribs	Nutrients
Westchester	Sheldrake River and tribs	Silt/Sediment
Westchester	Sheldrake River and tribs	Nutrients
Westchester	Silver Lake	Nutrients
Westchester	Teatown Lake	Nutrients
Westchester	Titicus Reservoir	Nutrients
Westchester	Truesdale Lake	Nutrients
Westchester	Wallace Pond	Nutrients
Wyoming	Java Lake	Nutrients
Wyoming	Silver Lake	Nutrients

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

APPENDIX F – List of NYS DEC Regional Offices

Region	Covering the following counties:	DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators	DIVISION OF WATER (DOW) Water (SPDES) Program
1	Nassau and Suffolk	50 Circle Road Stony Brook, NY 11790 Tel. (631) 444-0365	50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405
2	Bronx, Kings, New York, Queens and Richmond	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997	1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester	21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059	100 Hillside Avenue, Suite 1w White Plains, NY 10603 Tel. (914) 428 - 2505
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie	1150 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069	1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045
5	Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington	1115 State Route 86, Po Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234	232 Golf Course Road Warrensburg, NY 12885-1172 Tel. (518) 623-1200
6	HERKIMER, JEFFERSON, LEWIS, ONEIDA AND ST. LAWRENCE	STATE OFFICE BUILDING 317 WASHINGTON STREET WATERTOWN, NY 13601-3787 TEL. (315) 785-2245	STATE OFFICE BUILDING 207 GENESEE STREET UTICA, NY 13501-2885 TEL. (315) 793-2554
7	BROOME, CAYUGA, CHENANGO, CORTLAND, MADISON, ONONDAGA, OSWEGO, TIOGA AND TOMPKINS	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7438	615 ERIE BLVD. WEST SYRACUSE, NY 13204-2400 TEL. (315) 426-7500
8	CHEMUNG, GENESEE, LIVINGSTON, MONROE, ONTARIO, ORLEANS, SCHUYLER, SENECA, STEUBEN, WAYNE AND YATES	6274 EAST AVON-LIMA ROADAVON, NY 14414-9519 TEL. (585) 226-2466	6274 EAST AVON-LIMA RD. AVON, NY 14414-9519 TEL. (585) 226-2466
9	ALLEGANY, CATTARAUGUS, CHAUTAUQUA, ERIE, NIAGARA AND WYOMING	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7165	270 MICHIGAN AVENUE BUFFALO, NY 14203-2999 TEL. (716) 851-7070

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix F

Forms

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

STORM WATER POLLUTION PREVENTION PLAN
CONTRACTOR'S CERTIFICATION STATEMENT

Mixed Use Project

CONTRACTOR'S CERTIFICATION:

"I certify under penalty of law that I understand and agree to comply with the terms and conditions of the SWPPP for the construction site identified in such SWPPP as a condition of authorization to discharge storm water. I also understand that the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System (SPDES) general permit for storm water discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards."

Note: The contractor shall have at least one NYSDEC trained individual onsite at all times when earthwork and other SWPPP associated work is being performed from each contractor(s) and subcontractor(s). Each contractor(s) and subcontractor(s) shall provide copies of these individuals' certifications to the Town of Amherst.

Name: _____
(Print)

Signature: _____

Title: _____

Company Name: _____

Address: _____

Telephone Number: _____

Date: _____

Scope of Services: _____

Trained Individual(s) Responsible for Implementation: _____

This form must be signed by a responsible corporate officer or other party meeting the "Signatory Requirements" of the NYSDEC SPDES General Permit

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

SWPPP Preparer Certification Form

SPDES General Permit for Stormwater Discharges From Construction Activity (GP-0-20-001)

Project Site Information

Project/Site Name

Mixed Use Project

Owner/Operator Information

Owner/Operator (Company Name/Private Owner/Municipality Name)

6812 Main Street, LLC

Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-20-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Christopher		Wood
First name	MI	Last Name

Signature

3/25/24

Date

Revised: January 2020

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Owner/Operator Certification Form

SPDES General Permit For Stormwater Discharges From Construction Activity (GP-0-20-001)

Project/Site Name: Mixed Use Project

eNOI Submission Number: _____

eNOI Submitted by: ☐ Owner/Operator ☑ SWPPP Preparer ☐ Other

Certification Statement - Owner/Operator

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Owner/Operator First Name	M.I.	Last Name
Paul		Bliss

Signature

3-25-24

Date

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix G

NYSDEC Notice of Termination (NOT)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submit completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name:

2. Street Address:

3. City/State/Zip:

4. Contact Person:	4a.Telephone:

4b. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:

6. Street Address:

7. City/Zip:

8. County:

III. Reason for Termination

9a. □ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP. ***Date final stabilization completed** (month/year): _____

9b. □ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. □ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? □ yes □ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed? □ yes □ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

_____

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? □ yes □ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

□ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

□ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

□ For post-construction stormwater management practices that are privately owned, a mechanism is in place that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan, such as a deed covenant in the owner or operator's deed of record.

□ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, university or hospital), government agency or authority, or public utility; policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? _____ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? □ yes □ no

(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:

(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:	
Title/Position:	
Signature:	Date:

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:	
Title/Position:	
Signature:	Date:

(NYS DEC Notice of Termination - January 2015)

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix H

Construction Documents

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

INLET PROTECTION DETAIL 1

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
2. GRADE APPROACH TO INLET UNIFORMLY AROUND THE BASIN.
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL.
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEDIMENT SHALL BE REMOVED FROM BASIN AND DISPOSED OF PROPERLY AND THE AREA BROUGHT TO GRADE. CONNECTIONS SHALL BE MADE WITH PERMANENT SEALING MATERIAL.

MAINTENANCE AREA 1:1 SLOPE

INLET PROTECTION DETAIL 2

NOT TO SCALE

NOTE: INSTALLING ONE OF THE INLET PROTECTION OPTIONS SHOWN PRIOR TO CONSTRUCTION

CONSTRUCTION SPECIFICATIONS

1. FILTER FRAME SHALL HAVE MINIMUM DIMENSIONS OF 4"X4" SQUARE AND BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FILTER FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NECESSARY, THEY SHALL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS SHALL BE 1"X2" HARDWOOD OR EQUIVALENT. METAL STAKES OF MINIMUM LENGTH OF 3 FEET MAY BE SUBSTITUTED FOR WOOD STAKES IF NECESSARY FOR STABILITY.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE EACH STAKE AT LEAST 1 FOOT DEEP. SPACE STAKES NO MORE THAN 3 FEET APART IF USING STANDARD STRENGTH FILTER CLOTH.
5. FRAME SHALL BE CONSTRUCTED FROM 2"X4" WOOD OR EQUIVALENT. FOOT FRAME FIRMLY INTO GROUND AND SECURELY ATTACH FILTER CLOTH TO THE STAKES AND FRAME.
6. A 2"x 4" WOOD FRAME SHALL BE CONSTRUCTED AROUND THE EDGES OF THE FRAME FOR EXTRA STRUCTURAL STABILITY.

MAINTENANCE AREA 1:1 SLOPE

INLET PROTECTION DETAIL 3

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE FOR SEPARATION. FOUNDATION SHALL BE EXCAVATED BELOW REST OF INLET AND BLOCKS SHALL BE PLACED FOR MAXIMUM STABILITY.
2. HARDWARE CLOTH OR WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL (1/2"-3") AS SHOWN IN DETAILED ENLARGED TOP OF THE BLOCKS ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, LAY FIRST COURSE OF BLOCKS FLAT. THE FIRST STONE AS SHOWN ON THE DRAWINGS.

MAINTENANCE AREA 1:1 SLOPE

CONCRETE WASHOUT DETAIL

NOT TO SCALE

NOTES

1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30'OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY REMOVAL SHALL BE BACKFILLED, COMPACTED AND STABILIZED TO PREVENT EROSION.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN 6 INCHES.
4. WIDTH - THE FULL WIDTH OF EACH POINT OF INGRESS OR EGRESS, BUT NOT LESS THAN THE FULL WIDTH OF ALL POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOOT (20') MINIMUM FOR A SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND SHALL BE PERFORMED AS NECESSARY TO PREVENT OR REMOVE MUD. IN ADDITION, WHEEL WASHING MAY BE REQUIRED.

SILT FENCE DETAIL

NOT TO SCALE

10' MAX. C. TO C.
FILTER CLOTH SECURED / ATTACHED TO STAKES
36" MIN. EMBEDMENT POSTS DRIVEN INTO GROUND
FILTER CLOTH
FLOW
FLOW
FLOW
FILTER CLOTH
FLOW
FILTER CLOTH
FLOW
FILTER CLOTH FOLDED AT POST
FILTER CLOTH ATTACHED TO POST
FLOW
COMPACTED SOIL
EMBED FILTER CLOTH DIRECTLY INTO GROUND
POSTS SHALL BE A MINIMUM OF 36" ABOVE THE EXISTING GRADE
EMBED FILTER CLOTH A MIN. OF 8" INTO GROUND
POSTS SHALL BE A MINIMUM OF 16" BELOW THE EXISTING GRADE
36" MIN. FENCE POST
SECTION B-B
FLOW
FLOW
FLOW

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Site Plan

SCALE: 1"=30'

Site Data

SITE AREA = 2.24 ac (TOTAL)
OWNED BY CARMINA BUILDERS, LLC
TAX PARCEL #: 57.08-1-1.1 & 1.2

ZONING REQUIREMENTS	REQUIRED	PROPOSED
FRONT	30 FT.	30 FT.
FRONT (FROM CL OF MAIN STREET)	115 FT.	69.4 FT. *
SIDE	15 FT.	21.1 FT.
REAR	25 FT.	N/A
ACCESSORY STRUCT.	10 FT.	35.0 FT.
SETBACKS - PARKING		
FRONT	10 FT.	10 FT.
SIDE	5 FT.	5.3 FT. (N/A)
REAR	5 FT.	N/A
TOTAL YARD SPACES	117	117
GREENSPACE		
MIN. GREENSPACE	100 (0.04 AC)	100 (0.04 AC)
OVERALL	N/A	28.68 (0.65 AC)
MAX. BUILDING HEIGHT	65'	65'
YARD BUILDING HEIGHT		

PARKING CALCULATION (per Section 232-54-AA)

APARTMENTS
2 Spaces per dwelling x 31 = 62 min or 68 spaces

COMMERCIAL
OFFICE: 1 space per 300 SF x 4,000 SF = 200 spaces
RESTAURANT: 1 space per 3 seats x 74 seats = 74 spaces
TOTAL REQ'D = 68 + 74 = 142 SPACES REQ'D

GENERAL NOTES

1. ALL WORK SHALL BE DONE UNLESS OTHERWISE NOTED.
2. ALL EXISTING AREAS SHALL MAINTAIN CONTOURS AND DRAINAGE PATTERNS AS EXISTING UNLESS NOTED OTHERWISE.
3. ALL CONSTRUCTION FENCING SHALL BE PLACED AT THE PROPERTY LINE.
4. CENTER ENTRANCE DRIVEWAYS ON ROOF OPENINGS.
5. ALL PARKING AREAS SHALL BE PAVED WITH ASPHALT AND CONCRETE AS INDICATED ON THE PLANS.
6. ALL EXISTING AND PROPOSED UTILITIES SHALL BE PLACED UNDERGROUND. ALL UTILITY CONNECTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANIES.
7. CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES BEFORE CONSTRUCTION.
8. ALL OTHER PERMITS REQUIRED BY STATE OF NEW YORK, COUNTY OF ERIE, AND TOWN OF AMHERST ARE THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER/OWNER.
9. ALL CURB AND REMOVAL OF CURB TO A DISTANCE SHALL BE MIN. CUT FULL-DEPTH AND NEATLY REMOVED FROM THE SOURCE. CUTTING TO HALF DEPTH SHALL NOT BE PERMITTED AND THE PAVEMENT EDGE SHALL BE SAWED TO A MIN. OF 1/2" DEPTH.
10. SANITARY SEWER EASEMENTS SHOWN ARE APPROXIMATE BASED ON RECORD PLANS PROVIDED BY THE AMHERST SEWER DEPARTMENT. CONTRACTOR TO FIELD LOCATE ALL SEWER EASEMENTS PRIOR TO CONSTRUCTION.

GENERAL NOTES

1. INSTALL ALL MATERIALS TO MANUFACTURER'S RECOMMENDATIONS AND OBJECTS STANDARDS OF TRADE INVOLVED.
2. SUBSTITUTIONS SHALL BE MADE ONLY WITH OWNER'S APPROVAL AND BE OF EQUIVALENT QUALITY TO WHAT IS SPECIFIED.
3. WORK SHALL BE COMPLETED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND OSHA SAFETY RULES AND REGULATIONS.
4. VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE. NOTIFY OWNER & ENGINEER OF ANY DISCREPANCIES OR CONDITIONS SHOWN ON DRAWINGS PRIOR TO PROCEEDING WITH THE WORK.
5. DO NOT INSTALL ANY EQUIPMENT OR MATERIAL NOT CALLED FOR ON THE WORKING DRAWINGS.
6. CONTRACTOR SHALL KEEP FREE OF DEBRIS AND MAINTAIN CLEAN JOB SITE.
7. CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ALL SAFETY PRECAUTIONS DURING CONSTRUCTION SO THAT THE WORK SHALL NOT BE HINDERED BY ACCIDENTS OR REGULATIONS.
8. ALL OTHER PERMITS REQUIRED BY STATE OF NEW YORK, COUNTY OF ERIE, AND TOWN OF AMHERST ARE THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER/OWNER.
9. ALL CURB AND REMOVAL OF CURB TO A DISTANCE SHALL BE MIN. CUT FULL-DEPTH AND NEATLY REMOVED FROM THE SOURCE. CUTTING TO HALF DEPTH SHALL NOT BE PERMITTED AND THE PAVEMENT EDGE SHALL BE SAWED TO A MIN. OF 1/2" DEPTH.
10. SANITARY SEWER EASEMENTS SHOWN ARE APPROXIMATE BASED ON RECORD PLANS PROVIDED BY THE AMHERST SEWER DEPARTMENT. CONTRACTOR TO FIELD LOCATE ALL SEWER EASEMENTS PRIOR TO CONSTRUCTION.

SITE LEGEND

- PROPERTY LINE
- PROPOSED BUILDING / CONCRETE PAD
- PROPOSED CONCRETE
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE CURB
- PROPOSED ASPHALT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED CONCRETE CURB
- PROPOSED CONCRETE APRON
- PROPOSED CONCRETE STEPS
- PROPOSED CONCRETE RAMP
- PROPOSED CONCRETE CURB RAMP
- PROPOSED CONCRETE CURB CUT
- PROPOSED CONCRETE CURB CUT RAMP
- PROPOSED CONCRETE CURB CUT RAMP
- PROPOSED CONCRETE CURB CUT RAMP

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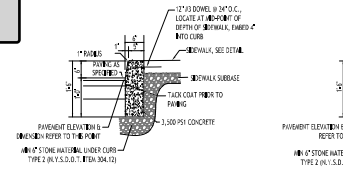
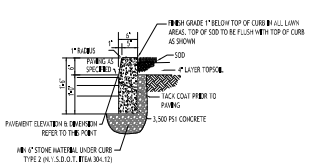


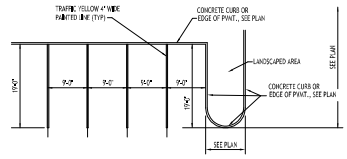
ABUTTING SIDEWALK



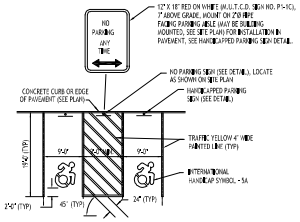
ABUTTING LANDSCAPE/GRASS

NOTES:
1. CONTROL JOINTS TO BE 2" DEEP AT 15'-0" O.C. - SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
2. WHERE THE CURB DROPS (IS FLUSH WITH ASPHALT) THE DEPTH OF CURB BELOW GRADE SHALL BE INCREASED TO 1'-6" AND OTHER DIMENSIONS ADJUSTED ACCORDINGLY.

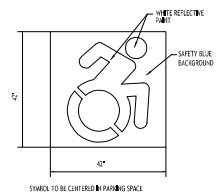
TYPE "A" CONCRETE CURB - 1
NOT TO SCALE



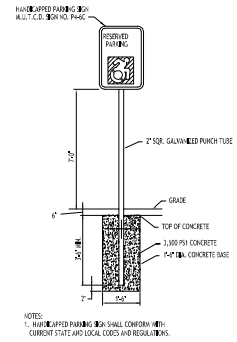
90° PARKING STALL LAYOUT - 2
NOT TO SCALE



HANDICAPPED PAVEMENT MARKINGS & SIGNAGE - 5
NOT TO SCALE



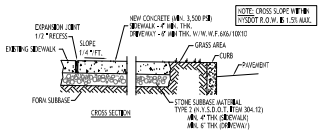
INTERNATIONAL HANDICAP SYMBOL - 5A
NOT TO SCALE



NOTES:
1. HANDICAPPED PARKING SIGN SHALL CONFORM WITH CURRENT STATE AND LOCAL CODES AND REGULATIONS.

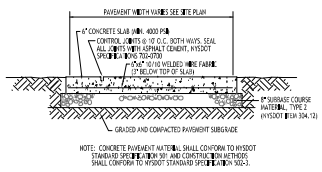
GRASS/LAWN AREA

HANDICAPPED PARKING SIGN - 6
NOT TO SCALE



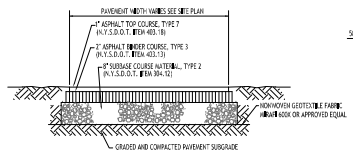
NOTES:
1. CONTROL JOINTS TO BE AT 5'-0" O.C., BOTH WAYS WHERE APPLICABLE. SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
2. CONCRETE SIDEWALK AND DRIVEWAY MATERIAL SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 501 AND CONSTRUCTION METHODS SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 608-3.
3. SUBBASE GRADE SHALL FOLLOW THE PROPOSED GRADE OF THE SIDEWALK AND SLOPE AWAY FROM BUILDING WHERE APPLICABLE, PROVIDE CONTINUOUS STONE PATH TO CURB UNDERDRAIN WHERE PROVIDED.
4. FULL DEPTH EXPANSION JOINTS SHALL BE INSTALLED EVERY 30' O.C., BOTHWAYS WHERE APPLICABLE. SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
5. SEE CURB DETAIL FOR DOWLING REQUIREMENTS WHERE ABUTTING CURB.
6. INSTALL 6" LONG #3 DOWELS @ 12" O.C. WHERE SIDEWALK ABUTS A BUILDING WALL AT AN ENTRANCE, THICKEN SIDEWALK TO 9" AT BUILDING WALL AND INSTALL DOWEL CENTERED IN THE 6" DEPTH. DOWELS AND THICKENING OF SIDEWALK SHALL EXTEND 18" EITHER SIDE OF ENTRANCE.
7. INSTALL 1/2" PREMOLDED EXPANSION JOINT WITH BACKER ROD & SEALANT WHERE SIDEWALK ABUTS BUILDING OR OTHER STRUCTURE.

CONCRETE SIDEWALK - 3
NOT TO SCALE



NOTE: CONCRETE PAVEMENT MATERIAL SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 501 AND CONSTRUCTION METHODS SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 502-3.

EXTERIOR CONCRETE SLAB-ON-GRADE SECTION - 7
NOT TO SCALE

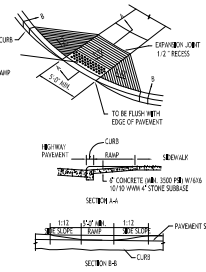


NOTE: CONSTRUCTION METHODS FOR ASPHALT PAVEMENT SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 401-3, WITH SUBBASE CONSTRUCTION METHODS CONFORMING TO NYSDOT STANDARD SPECIFICATION 304-3.

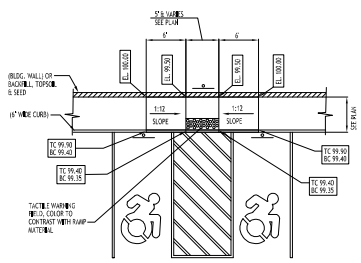
STANDARD DUTY ASPHALT SECTION - 4
NOT TO SCALE



NOTE: TACTILE WARNING DEVICES SHALL BE PER ICC/ANSI A117.1-1998, SECTION 705.3.1.2 OR CURRENT UPDATE

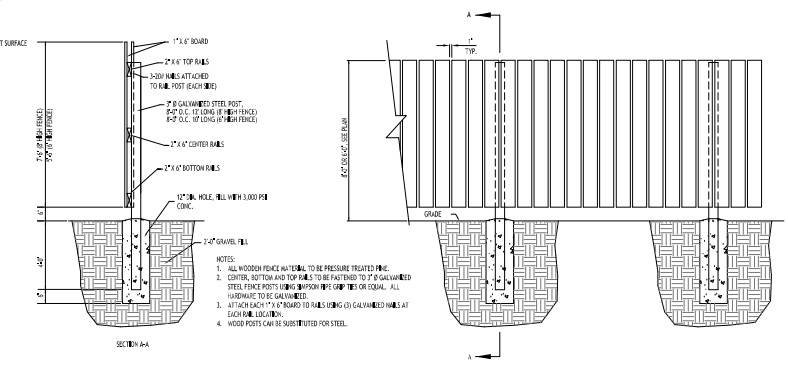


SIDEWALK CURB RAMP - 9
NOT TO SCALE



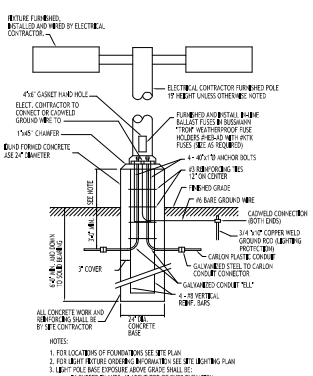
NOTE: ELEVATIONS & DIMENSIONS SHOWN ARE TO ILLUSTRATE GRADE CHANGE ONLY, SEE SITE & GRADING PLAN FOR ACTUAL DATUM & DIMENSIONS

HANDICAPPED PAVEMENT RAMP - 10
NOT TO SCALE



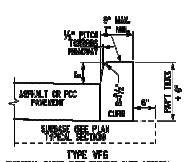
NOTES:
1. ALL WOODEN FENCE MATERIAL TO BE PRESSURE TREATED PINE.
2. CENTER, BOTTOM AND TOP RAILS TO BE FASTENED TO 3" Ø GALVANIZED STEEL FENCE POSTS USING SIMPSON PIPE GRIP TIES OR EQUAL. ALL HARDWARE TO BE GALVANIZED.
3. ATTACH EACH 1" X 6" BOARD TO RAILS USING (3) GALVANIZED NAILS AT EACH RAIL LOCATION.
4. WOOD POSTS CAN BE SUBSTITUTED FOR STEEL.

6' BOARD ON BOARD FENCE FOR DUMPSTER ENCLOSURE
NOT TO SCALE

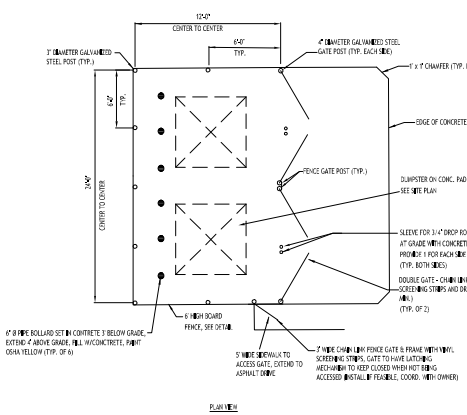


NOTES:
1. FOR LOCATIONS OF FOUNDATIONS SEE SITE PLAN
2. FOR LIGHT FIXTURE ORDERING INFORMATION SEE SITE LIGHTING PLAN
3. LIGHT POLE BASE EXPOSURE ABOVE GRADE SHALL BE:
IN CURBED ISLANDS: 6" ABOVE TOP OF CURB ELEVATION
IN PAVEMENT: 30" ABOVE GRADE
IN NON-CURBED GRASS AREAS: 6" ABOVE GRADE

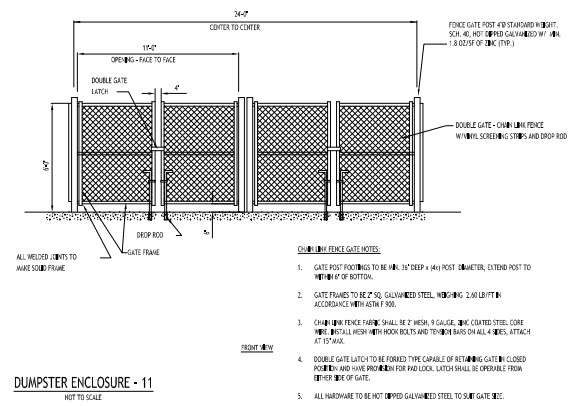
LIGHT POLE FOUNDATION - 8
NOT TO SCALE



NYSDOT CONCRETE CURB - 12
NOT TO SCALE



PLAN VIEW



NOTES:
1. GATE POST FOOTINGS TO BE MIN. 36" DEEP x (4x) POST DIAMETER, EXTEND POST TO WITHIN 6" OF BOTTOM.
2. GATE FRAMES TO BE 2" SQ. GALVANIZED STEEL, WEIGHING 2.60 LB/FT IN ACCORDANCE WITH ASTM F 900.
3. CHAIN LINK FENCE FABRIC SHALL BE 2" MESH, 9 GAUGE, ZINC COATED STEEL CORE WIRE. INSTALL MESH WITH HOOK BOLTS AND TENSION BARS ON ALL 4 SIDES, ATTACH AT 15" MAX.
4. DOUBLE GATE LATCH TO BE FORKED TYPE CAPABLE OF RETAINING GATE IN CLOSED POSITION AND HAVE PROVISION FOR PAD LOCK. LATCH SHALL BE OPERABLE FROM EITHER SIDE OF GATE.
5. ALL HARDWARE TO BE HOT DIPPED GALVANIZED STEEL TO SUIT GATE SIZE.

DUMPSTER ENCLOSURE - 11
NOT TO SCALE

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Mixed Use Project
6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:
No. Description Date

DRAWING NAME:
Site Details

Date: 3/25/24
Drawn By: P. Sheedy
Scale: As Noted

DRAWING NO.
C-101

Project No: 24-4006

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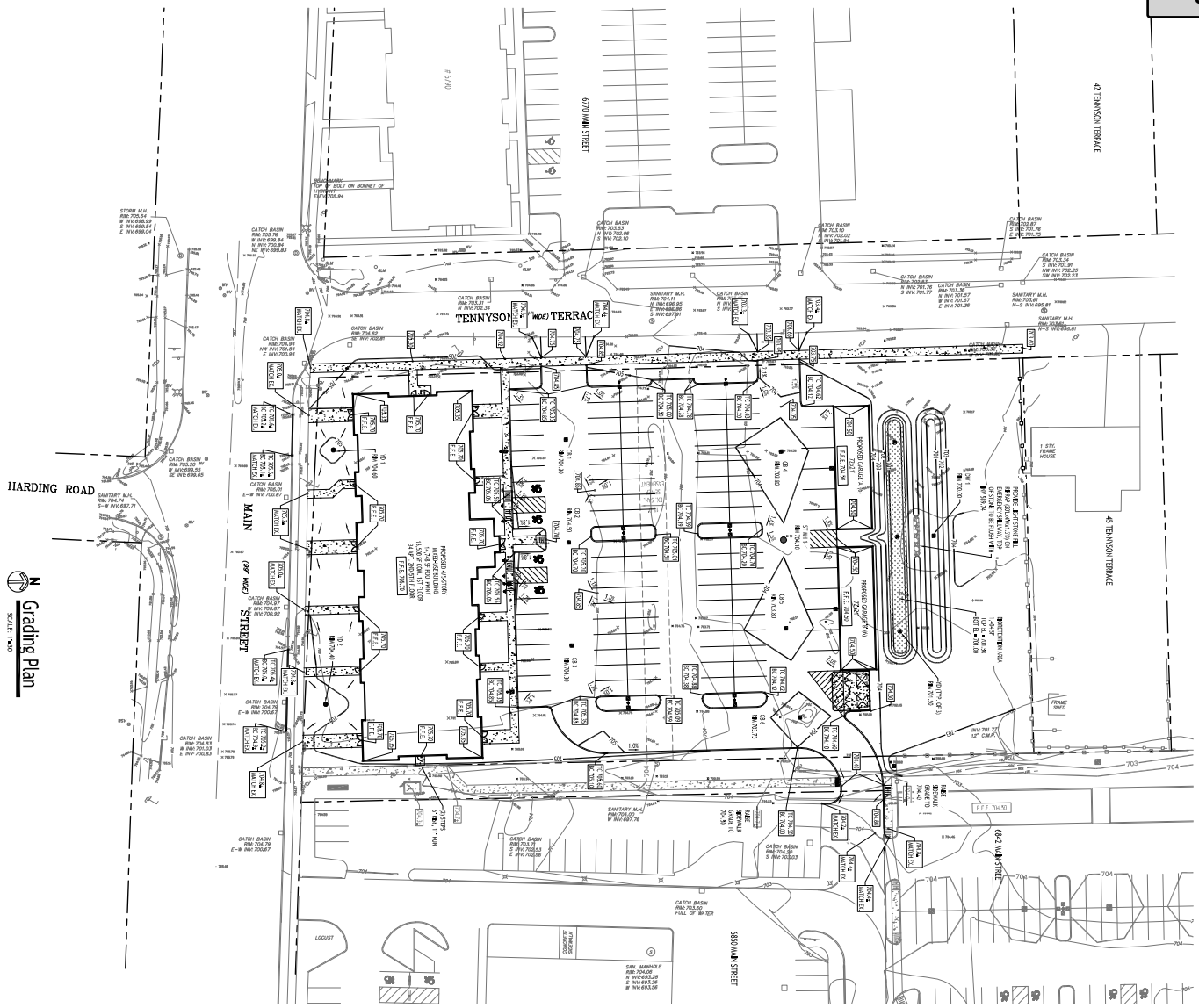

PROPOSED GRADING LEGEND

PROPOSED CONTOUR

PROPOSED SPOT ELEVATION

PROPOSED TOP BOTTOM OF CURB

PROPOSED CATCH BASIN

PROPOSED GARAGE FLOOR

PROPOSED MANHOLE

PROPOSED SWALE

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30 0 30 60 MIN.

DRAWING NAME: Grading Plan

DRAWING NO. C-200

Date: 3/25/24
Drawn By: P. Sheedy
Scale: As Noted

Project No: 24-4006

REVISIONS:

No.	Description	Date

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

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Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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PRE-DEVELOPMENT STORMWATER FLOW SUMMARY

Event	Peak Flow (cfs)	Runoff Volume (ac-ft)	Depth (inches)
1-Year	3.33	.657	1.65
10-Year	8.88	1.440	3.61
100-Year	17.01	1.984	4.99

POST-DEVELOPMENT STORMWATER FLOW SUMMARY

Event	Peak Flow (cfs)	Runoff Volume (ac-ft)	Depth (inches)	Elevation
1-Year	0.00	.000	.00	701.83
10-Year	1.36	.906	2.27	702.15
100-Year	2.77	1.365	3.43	702.44

PRE-DEVELOPMENT STORMWATER FLOW SUMMARY

Event	Peak Flow (cfs)	Runoff Volume (ac-ft)	Depth (inches)
1-Year	4.01	.657	2.10
10-Year	10.68	1.440	4.61
100-Year	14.46	1.984	6.37

POST-DEVELOPMENT STORMWATER FLOW SUMMARY

Event	Peak Flow (cfs)	Runoff Volume (ac-ft)	Depth (inches)	Elevation
1-Year	0.00	.000	.00	701.83
10-Year	2.90	.906	2.90	702.15
100-Year	5.78	1.365	4.37	702.44

PROPOSED STORM DRAINAGE LEGEND

PROPOSED STORM PIPE — ST —

PROPOSED PERFORATED STORM PIPE - - - - -

PROPOSED CATCH BASIN ■

PROPOSED MANHOLE ●

PROPOSED CLEANOUT ○

(E) CATCH BASIN

(E) MANHOLE

(E) GAS VALVE

(E) WATER WELL

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CARMINAWOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710 720 730 740 750 760 770 780 790 800 810 820 830 840 850 860 870 880 890 900 910 920 930 940 950 960 970 980 990 1000

SCALE: 1"=30'

DRAWING NAME: Storm Drainage Plan

DRAWING NO. C-300

Project No: 24-4006

Date: 3/25/24
Scale: 1"=30'
Drawn By: PJS
As Noted

REVISIONS:

No.	Description	Date

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

CARMINAWOOD DESIGN
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Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

REVISIONS:

No.	Description	Date

Mixed Use Project
6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

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DRAWING NAME:
Storm Drainage Details

Date: 3/25/24
Drawn By:
Scale: As Noted
DRAWING NO.
C-301
Project No: 24-4006

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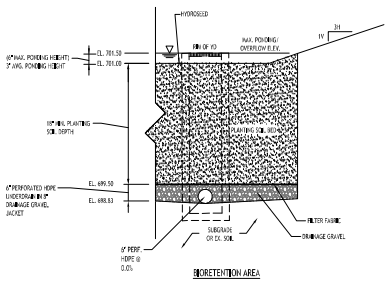


BIORETENTION AREA

BIORETENTION AREA - TYPICAL SECTION

NOT TO SCALE

NOTES:

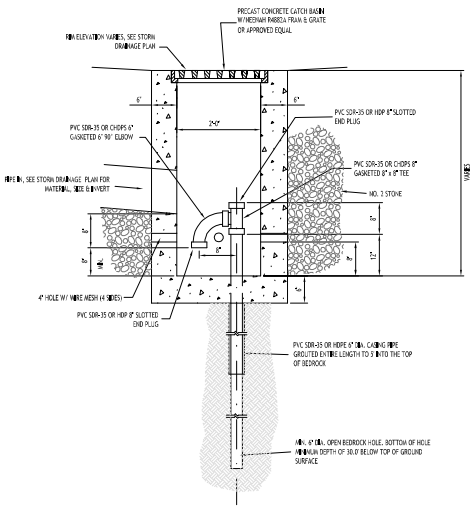
1. FILTER FABRIC TO BE NON-WOVEN (CLASS 1C, MIRAFI 180-4) OR APPROVED EQUIVALENT
2. DRAINAGE GRAVEL TO MEET AASHTO M-43, NO.67, SIZE 0.25" TO 0.75"
3. CONTRACTOR TO PROVIDE PLANTING SOIL SUBMITTAL SPECIFICATION FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

NOTE: PLANTING SOIL SHALL BE LOAMY SAND MIX CONTAINING A MINIMUM OF 35 TO 60% SAND BY VOLUME AND LESS THAN 25% CLAY. SOIL SHOULD FALL WITHIN USCS TYPES SW OR ML WITH PERMEABILITY OF AT LEAST 0.5 FEET PER DAY. SOIL SHOULD BE FREE FROM STONES, STUMPS, ROOTS OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12" TO 18", LOOSELY COMPACTED.

CHARACTERISTICS SHALL BE:
PH RANGE: 5.2 - 7.00
ORGANIC MATTER: 1.5 - 4.0%
MAGNESIUM: 35 LBS PER ACRE MIN.
PHOSPHORUS: 75 LBS PER ACRE MIN.
POTASSIUM: 85 LBS PER ACRE MIN.
SOLUBLE SALTS: 500 PPM
CLAY: 10 TO 25%
SILT: 30 TO 55%
SAND: 35 TO 60%

bio-retention area seeding spec (Northeast Wetland Grass Seed Mix):

Seed Mixture	Variety	Percent by No. of Seeds
Creeping Bentgrass	Agrostis stoneoliffera	63.0
Rough Bluegrass	Poa trivialis	17.0
Meadow Foxtail	Alopecurus arundinaceus	11.0
Annual Ryegrass	Lolium multiflorum	4.5
Deertongue	Panicum clandestinum	4.5



TYPICAL DRAINAGE WELL

NOT TO SCALE

NOTES:

1. CONSTRUCTION OF STORM DRAINAGE WELLS TO BE IN ACCORDANCE WITH RECOMMENDATIONS OF BUFFALO DRILLING COMPANY, INC.
2. STORM DRAINAGE WELLS TO BE CONSTRUCTED AS MINIMUM 6" DIAMETER OPEN BEDROCK WELLS EXTENDING MINIMUM OF 30 FEET BELOW EXISTING GROUND SURFACE.
3. EACH STORM DRAINAGE WELL TO BE FIELD TESTED TO DETERMINE INTAKE VALUE, THIS VALUE TO BE APPROVED BY OWNER.
4. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL STATUTES REGARDING THE PREVENTION AND ABATEMENT OF SOIL EROSION, SEDIMENTATION, WATER POLLUTION AND PRESERVATION OF EXISTING AQUIFERS.
5. REGULAR PERIODIC INSPECTION AND MAINTENANCE OF STORM DRAINAGE WELLS IS RECOMMENDED. MAINTENANCE TO INCLUDE REMOVAL OF ACCUMULATED OILS AND SEDIMENT FROM SUMPS IN CURB INLETS AND STORM DRAINAGE WELLS AS WELL AS PERIODIC FLUSHING OF STORM DRAINAGE WELLS WITH WATER AND AIR.

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Mixed Use Project
6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:

No.	Description	Date

DRAWING NAME:
Storm Drainage Details

Date: 3/25/24
Drawn By: P. Sheedy
Scale: As Noted

DRAWING NO.
C-302

Project No: 24-4006

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Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

GENERAL NOTES:

1. FOR ALL SANITARY SEWER INSTALLATION, SELECT BACKFILL SHALL EXTEND 5' BEYOND PAVEMENT LIMITS.
2. ELEVATIONS TO HAVE A MINIMUM COVER OF 7'-0" OVER TOP OF PIPE. THE ELEVATIONS SHOWN ON THE PLAN ARE TO TOP OF CURB OR TOP OF PIPE AS INDICATED. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY FOR CLARIFICATION.
3. COORDINATE GAS & ELEC. METER BANK LOCATIONS ON BUILDINGS WITH M.E.P. PLANS & UTILITY CO.'S.
4. COORDINATE LOCATION OF CT'S & TELEPHONE CONDUIT ON BUILDINGS WITH M.E.P. PLANS AND UTILITY CO.'S.
5. ANY EXISTING UTILITIES WHICH ARE TO BE ABANDONED IN PLACE SHALL BE CAPPED AT THE PROPERTY LINE. ALL ABANDONED WATER SERVICES SHALL BE CAPPED AT THE CORPORATION STOP.
6. ALL EXISTING UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD SURVEY AND RECORD INFORMATION. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND ELEVATION OF ALL UTILITIES AND STRUCTURES PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN ALL SURVEY, RECORD AND WATER SERVICE INFORMATION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
7. SELECT BACKFILL REQUIRED FOR ALL TRENCHES UNDER ROADWAY, CONCRETE SLABS, WATER, STORM, SANITARY, AND OTHER CROSS THROUGH CONCRETE AND ASPHALT PAVEMENT AREAS.

NOTES:

1. ALL SANITARY SEWER CONSTRUCTION SHALL CONFORM TO THE TOWN OF AMHERST SPECIFICATIONS AND DETAILS, AND THE ERIE COUNTY DEPARTMENT OF HEALTH RULES AND REGULATIONS.
2. PRIOR TO STARTING ANY WORK ASSOCIATED WITH THE SANITARY SEWER INSTALLATION, THE CONTRACTOR SHALL MEET WITH THE TOWN OF AMHERST TO REVIEW AND AGREE TO THE WORK.
3. THE FINAL ELEVATION, DIRECTION AND LOCATION OF ALL SANITARY SEWERS TO BE INSTALLED SHALL BE APPROVED BY THE SUPERVISING PROJECT ENGINEER.
4. ALL SANITARY SEWERS TO BE CONSTRUCTED IN ACCORDANCE WITH TOWN OF AMHERST SPECIFICATIONS, RULES AND REGULATIONS.
5. ALL OTHER REQUIRED PERMITS BY THE STATE OF NEW YORK, COUNTY OF ERIE AND TOWN OF AMHERST, ARE THE RESPONSIBILITY OF THE CONTRACTOR (CERTIFICATE).

WATER NOTE: (SEE#)

1. 6" CLASS 52 DUCTILE IRON
2. 6" VALVE AND BOX
3. 4" GATE VALVE AND BOX
4. 4" HYDRANT, COMPLETE WITH 6" STUB
5. 2" HYDRANT, COMPLETE WITH 6" STUB

PROPOSED UTILITY LEGEND

PROPOSED WATER LINE	W
PROPOSED SANITARY SEWER	SA
PROPOSED UTILITY CONNECTIONS (GAS, ELEC, CABLE, TEL, ETC.)	
PROPOSED GATE VALVE	
PROPOSED CLEANOUT	
INSTALL SELECT BACKFILL	

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CARMINAWOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

0 15 30 60 SCALE: 1"=30'

Date:	3/25/24
Submitted By:	SCS
Scale:	As Noted
DRAWING NO.	C-400
Project No:	24-4006

DRAWING NAME: Utility Plan

REVISIONS:		
No.	Description	Date

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

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Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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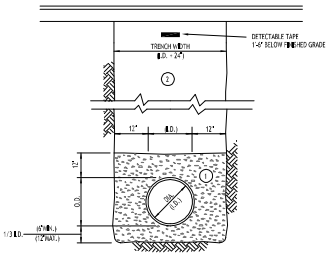


NOTES:

A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.

C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.

D. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

MATERIALS

PIPE BEDDING MATERIAL (NYSDOT 1985 EDITION)

1. NO. 1 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN ONE INCH AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

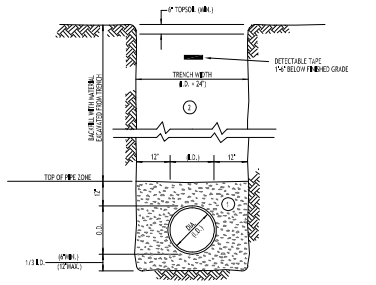
NO SLAG SHALL BE ALLOWED FOR MATERIAL (1)

2. TYPE 2 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 304-2.02 TYPE 2. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN TWO INCHES AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

NO SLAG SHALL BE ALLOWED FOR MATERIAL (2)

SEWER/WATERLINE TRENCH SECTION IN PAVED AREAS

NOT TO SCALE



NOTES:

A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.

C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.

D. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

MATERIALS

PIPE BEDDING MATERIAL (NYSDOT 1985 EDITION)

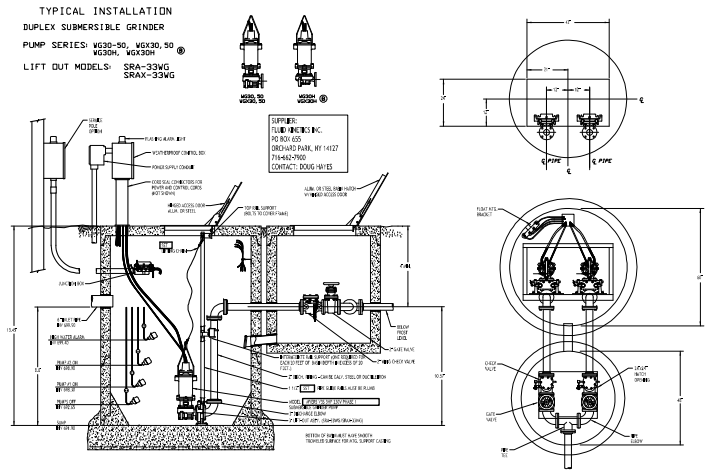
1. NO. 1 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN ONE INCH AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

NO SLAG SHALL BE ALLOWED FOR MATERIAL (1)

2. BACKFILL MATERIAL SHALL BE NATIVE SOIL CONTAINING NO UNSUITABLE MATERIAL COMPACTED IN 6" LIFTS.

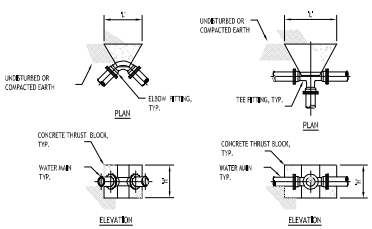
SEWER/WATERLINE TRENCH SECTION IN UNPAVED AREAS

NOT TO SCALE



PUMP STATION LAYOUT

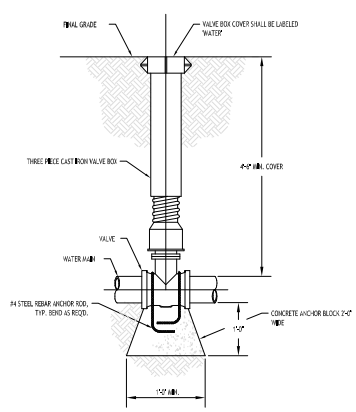
NOT TO SCALE



DIMENSION SCHEDULE								
PIPE SIZE	90° ELBOW		45° ELBOW		22.5° ELBOW		11.25° ELBOW	
	'M'	'L'	'M'	'L'	'M'	'L'	'M'	'L'
4"	1.5'	2.0'	1.0'	2.0'	1.0'	1.0'	1.0'	1.0'
6"	2.0'	2.5'	1.5'	2.0'	1.0'	1.5'	1.0'	1.5'
8"	2.5'	3.5'	2.0'	2.5'	1.5'	1.5'	1.0'	2.0'
10"	3.0'	4.5'	2.5'	3.0'	1.5'	3.0'	1.0'	2.5'
12"	3.5'	5.0'	3.0'	3.5'	2.5'	2.5'	1.5'	2.5'

DIMENSION SCHEDULE		
PIPE SIZE	TEE OR TAP SLEEVE	
---	'M'	'L'
4"	1.5'	1.0'
6"	1.5'	2.5'
8"	1.5'	3.5'
10"	2.5'	3.5'
12"	3.5'	3.5'

THRUST BLOCK SCHEDULE



TYPICAL GATE VALVE DETAIL

NOT TO SCALE

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Packet Pg. 1417

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:

No.	Description	Date

DRAWING NAME:
Utility Details

Date: 3/25/24
Drawn By: P. Sheedy
Scale: As Noted

DRAWING NO.
C-401

Project No: 24-4006

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Packet Pg. 1418

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
DECIDUOUS TREES					
AG	6	*Acer x freemanii 'Jeffersred'* PP#29,847	Autumn Blaze® Freeman Maple	2.5" Cal.	B&B; 7'-8' clear; Central Leader; Matures 40'-50'
AR	3	*Acer rubrum 'Bowhall'*	Bowhall Red Maple	2.5" Cal.	B&B; 7'-8' clear; Straight Trunk; Matures 40'-50'
CC	4	*Cercis canadensis*	Eastern Redbud	6' Min. Ht.	B&B; 7'-8' clear; Multi-stem; Matures 20'-30'
MT	4	*Cornus kousa 'Satomi'*	Pink Kousa Dogwood	2.5" Cal.	B&B; 7'-8' clear; Matures 20'-30'
QB	5	*Quercus bicolor 'Prinzreg001'*	Prinzregent Gallery Swamp White Oak	2.5" Cal.	B&B; Matures to 60' Ht. Width; 2:1 Ht. to Wdth
QC	5	*Quercus x bimundorum 'Crimschmidt'* PP#28,838; CBRAF 'Crimson Spire'	Crimson Spire® Hybrid Oak	2.5" Cal.	B&B; Matures to 50' Ht. Width; 3:1 Ht. to Wdth
QM	5	*Quercus muehlenbergii*	Chinkapin Oak	2.5" Cal.	B&B; Matures to 50' Ht. Width; 2:1 Ht. to Wdth
TC	5	*Tilia cordata*	Little Leaf Linden	2.5" Cal.	B&B; Matures to 80' Ht. Width; 2:1 Ht. to Wdth
EVERGREEN TREES					
CO	5	*Chamaecyparis obtusa 'Crippsii'*	Hinoki False Cypress	6' Min. Ht.	B&B; Pyramidal; Matures 60-70' Ht. 15'-20' Wdth
PA	5	*Picea abies*	Norway Spruce	6' Min. Ht.	B&B; Pyramidal; Matures 40-50' Ht. 15'-20' Wdth
SHRUBS					
AA	9	*Aronia x prunifolia 'Viking'* PP#20,433	Viking Aronia	5-6' ht. B&B	B&B; Multi-stem; Matures 8'-10' Ht. & Wdth
DK	41	*Diervilla x 'Kodiak Orange'* PP#28,159; CBRAF 'Kodiak Orange'	Kodiak® Orange Diervilla	24" - 30" Ht.	Bare Root; Matures 3-4' Ht. & Wdth
HS	33	*Hydrangea arborescens 'Strong Annabelle'* PP#24,444; CBRAF 'Strong Annabelle'	Strong Annabelle® Hydrangea	24" - 30" Ht.	Bare Root; Matures 5-6' Ht. & Wdth
HQ	20	*Hydrangea quercifolia 'Ruby Slippers'* PP#30,611; CBRAF 'Ruby Slippers'	Ruby Slippers® Oakleaf Hydrangea	24" - 30" Ht.	Bare Root; Matures 5-6' Ht. & Wdth
IB	35	*Ilex verticillata 'Winter Red'* PP#20,437; CBRAF 'Winter Red'	Winter Red Winterberry	24" - 30" Ht.	Bare Root; Matures 6-8' Ht. & Wdth
JP	33	*Juniperus chinensis 'Sea Green'* PP#5,644; CBRAF 'Sea Green'	Sea Green Juniper	24" - 30" Ht.	Bare Root; Matures 6-8' Ht. & 4-5' Wdth
PF	33	*Viburnum carlesii 'Alpa'*	Alpa Fragrant Korean Spice Viburnum	24" - 30" Ht.	Bare Root; Matures 4-5' Ht. & Wdth
ORNAMENTAL GRASSES/PERENNIALS					
KF	53	*Panicum virgatum 'Shenandoah'*	Shenandoah Switch Grass	1 Gal. Pot	Matures to 3-4' Ht. & Wdth
PA	14	*Pennisetum alopecuroides 'Hameln'*	Dwarf Fountain Grass	#1 Pot	Matures to 2-3' Ht. & Wdth

NOTE: All trees and planting beds shall mulched with a 3-inch layer of shredded bark mulch.

LANDSCAPE LEGEND
DECIDUOUS TREE
SMALL TREE
EVERGREEN TREE
SHRUB/GRASSES/PERENNIALS

NOTE: BOUNDARY AND TOPOGRAPHY INFORMATION PROVIDED BY OTHERS. CARMINAWOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

20 0 20 40ft

Date:	3/25/24
Issued By:	PJ
Scale:	As Noted
DRAWING NO.	L-100
Project No:	24-4006

DRAWING NAME: Landscape Plan

REVISIONS:

No.	Description	Date

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

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Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

LANDSCAPE NOTES:

1. ALL PLANTS NOTED AS TREES SHALL MEET OR EXCEED THE MINIMUM REQUIREMENTS AS NOTED ON THE PLANS AND IN THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, BY THE AMERICAN ASSOCIATION OF NURSERYMEN, ANSI Z60.1
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN QUANTITY TAKEOFF. THE QUANTITIES SHOWN ARE A MINIMUM AND ARE FOR REFERENCE ONLY.
3. THE CONTRACTOR SHALL PERFORM A THOROUGH TAKEOFF OF ALL PLANTING MATERIAL LOCATIONS AND CONFLICTS WITH THE OWNER'S REPRESENTATIVE PRIOR TO ACTUAL INSTALLATION. THE PLANTING MATERIAL LOCATIONS SHOWN ON THE PLANS ARE TO CONVEY THE DESIGN INTENT ONLY. ACTUAL LOCATIONS SHALL BE FINALIZED BY THE OWNER'S REPRESENTATIVE IN THE FIELD.
4. THE CONTRACTOR IS HEREBY NOTIFIED THAT IF UNFORESEEN OBSTRUCTIONS ARE ENCOUNTERED DURING THE COURSE OF THE PLANTING WORK SHOWN ON THE PLANS, RELATIVE TO THE LOCATION OF UTILITIES OR STRUCTURES, THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IMMEDIATELY SO THAT ADJUSTMENTS CAN BE MADE IN THE LOCATIONS OF THE PLANTINGS SHOWN ON THE PLANS.
5. ALL TREES SHALL BE INSTALLED A MINIMUM OF 20' FROM ANY OVERHEAD ELECTRIC LINES.
6. PLANTING BEDS SHALL BE EDGED AS SHOWN ON THE PLANS. EDGING SHALL CONSIST OF 3 PARTS TOPSOIL TO 1 PART PEAT MOSS, BY PART MEASUREMENT.
7. STAKE TREES AS NECESSARY TO ENSURE PROPER INSTALLATION.
8. ALL PLANTED AREAS SHALL RECEIVE 4" LAYER OF SHREDDED HARDWOOD BARK MULCH UNLESS OTHERWISE NOTED.
9. ALL DISTURBED AREAS NOT RECEIVING PLANTINGS OR HARDSCAPE SHALL BE SEEDED WITH "PREEN".
10. THE AREAS ON THE PLAN TO BE SEEDED SHALL HAVE A MINIMUM OF TOPSOIL AS NOTED, LIGHTLY RAKED AND RAKED SMOOTH. SURFACE SHALL BE ROLLED TO REMOVE LUMPS.
11. ALL SEEDED AREAS SHALL BE WATERED AS NECESSARY WITH THE AMOUNT OF WATER AND FREQUENCY AS NECESSARY TO ESTABLISH GRASS. WATERING SHALL BE DONE AS REQUIRED BY THE OWNER'S REPRESENTATIVE AND SHALL CONTINUE UNTIL THE SEASON OF PLANTING, 500 MAY BE LIMITED FOR WATERING. WATER AND WATER MAY BE WITHHELD BY THE OWNER'S REPRESENTATIVE AND SHALL CONTINUE UNTIL THE PROJECT IS ACCEPTED BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING, WHETHER OR NOT WATER MAY BE WITHHELD BY THE OWNER'S REPRESENTATIVE AND SHALL CONTINUE UNTIL THE PROJECT IS ACCEPTED BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING, WHETHER OR NOT WATER MAY BE WITHHELD BY THE OWNER'S REPRESENTATIVE AND SHALL CONTINUE UNTIL THE PROJECT IS ACCEPTED BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING, WHETHER OR NOT WATER MAY BE WITHHELD BY THE OWNER'S REPRESENTATIVE AND SHALL CONTINUE UNTIL THE PROJECT IS ACCEPTED BY THE OWNER.
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13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING, WHETHER OR NOT WATER MAY BE WITHHELD BY THE OWNER'S REPRESENTATIVE AND SHALL CONTINUE UNTIL THE PROJECT IS ACCEPTED BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING, WHETHER OR NOT WATER MAY BE WITHHELD BY THE OWNER'S REPRESENTATIVE AND SHALL CONTINUE UNTIL THE PROJECT IS ACCEPTED BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING, WHETHER OR NOT WATER MAY BE WITHHELD BY THE OWNER'S REPRESENTATIVE AND SHALL CONTINUE UNTIL THE PROJECT IS ACCEPTED BY THE OWNER.

NOTES:

1. ALL PLANTING BEDS & TREE PITS SHALL RECEIVE 4" MIN. DEPTH OF SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE NOTED ON PLANS.
2. ALL PLANT MATERIALS SHALL BE INSPECTED, TAGGED AND APPROVED PRIOR TO DELIVERY TO THE SITE BY THE LANDSCAPE ARCHITECT. ALL PLANTS SHALL BE INSPECTED AT THE NURSERY BEFORE THE NEED GROWING SEASON. TREES AND SHRUBS THAT DO NOT MEET THE SPECIFICATIONS AS TO SIZE, BRANCHING HABIT, OR OVERALL QUALITY SHALL BE REJECTED BY THE LANDSCAPE ARCHITECT.
3. ALL MARKERS, TAGS, STRAPS AND BURLAP SHALL BE CUT AWAY FROM BRANCHES AND REMOVED AT THE TIME OF INSTALLATION OF ALL PLANT MATERIALS AND SHOULD BE LABELED "PROCURED - THEN DISPOSED OF" THE DAY THEY ARE DELIVERED.
4. ALL TREES AND SHRUBS SHALL BE PLANTED IN A MANNER THAT WILL ALLOW FOR NATURAL GROWTH AND DEVELOPMENT OF THEIR NATURAL FORM. PRUNING SHALL BE DONE ONLY AFTER PLANTING AND ONLY TO REMOVE DEAD OR BROKEN BRANCHES.

"PREEN" NATURAL PROTECTED GLOBAL WEED BARRIER

PLANTING NOTES:

1. ALL BEDS AND UNDISTURBED AREAS SHALL HAVE A MINIMUM PLANTING SOIL DEPTH OF FIVE (5) FEET AND BE FREE FROM ALL FORMS OF CONSTRUCTION DEBRIS AND TOXIC MATERIALS.
2. FINISH GRADE OF PLANTING BEDS, ORNAMENTAL GRASS SEED, AND SHREDDED HARDWOOD BARK MULCH.
3. ALL SEASONAL FLOWER BEDS SHALL BE A MINIMUM OF TWELVE (12) INCHES DEEP WITH A WELL-ENRICHED MIXTURE OF 50% PEAT MOSS & 50% SCREENED TOPSOIL. NO MULCH SHALL BE INSTALLED IN THE SEASONAL FLOWER BEDS.
4. ALL DECIDUOUS AND EVERGREEN TREES SHALL BE STAKED WITH THREE (3) TREE STAKES PER TREE PLANTING DETAIL.

STD. SHRUB PLANTING

STD. DECIDUOUS TREE PLANTING

STD. EVERGREEN PLANTING

STD. DECIDUOUS TREE PLANTING

REVISIONS:		
No.	Description	Date

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

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DRAWING NAME: Landscape Details

Date: 3/25/24
Drawn By: JS
Scale: As Noted

DRAWING NO. L-101

Project No: 24-4006

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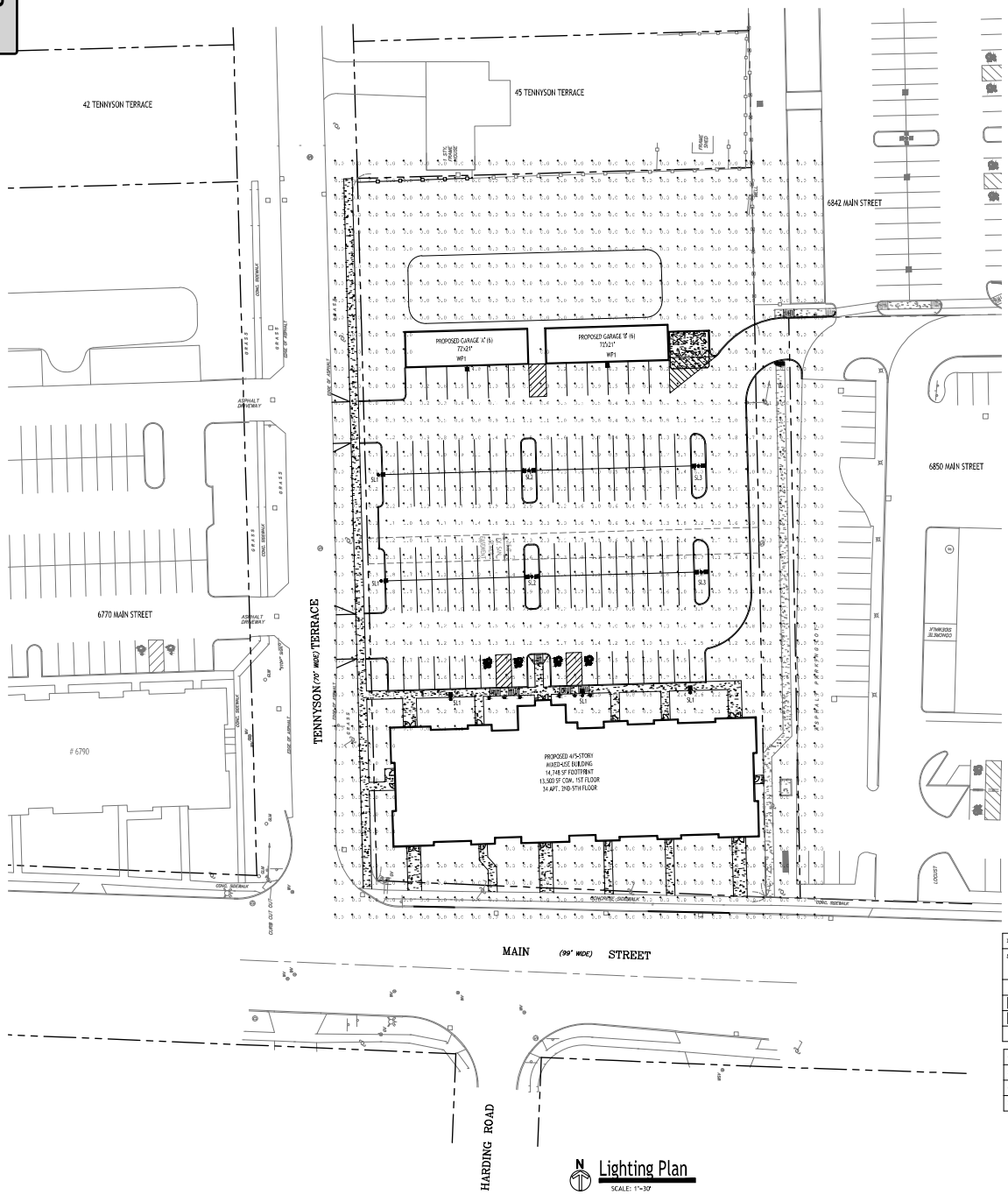

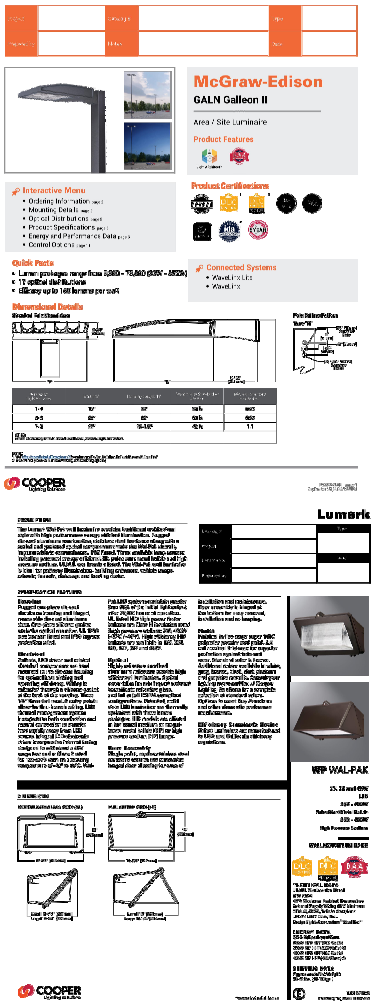

Lighting Calculations Prepared by Quality Lighting Systems
For pricing please contact Paul Speicher at pspeicher@qlany.com

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description	LLF	Luminaire Lumens	Luminaire Watts	Total Watts	Mounting Height	BUG Rating
	5	SL1	Single	GALN-SA1B-740-U-T4FT-HSS	0.900	4146	44	220	15	B1-U0-G2
	2	SL2	Back-Back	GALN-SA1B-740-U-5WQ	0.900	6026	44	176	15	B3-U0-G1
	2	SL3	Back-Back	GALN-SA1B-740-U-T3	0.900	5710	44	176	15	B1-U0-G1
	2	WP1	Single	LDWP-FC-3B-ED	0.900	1911	27.1	54.2	10	B1-U0-G1

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CalcPts_1	Illuminance	Fc	0.99	6.3	0.0	N.A.	N.A.
PARKING LOT SURFACE	Illuminance	Fc	1.45	6.3	0.0	N.A.	N.A.

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS, CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30' 0 30 60Ft.

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Packet Pg. 1420

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:

No.	Description	Date

DRAWING NAME:
Lighting Plan

Date: 3/25/24
Drawn By: P. Sheedy
Scale: As Noted

DRAWING NO.
LP-100

Project No: 24-4006

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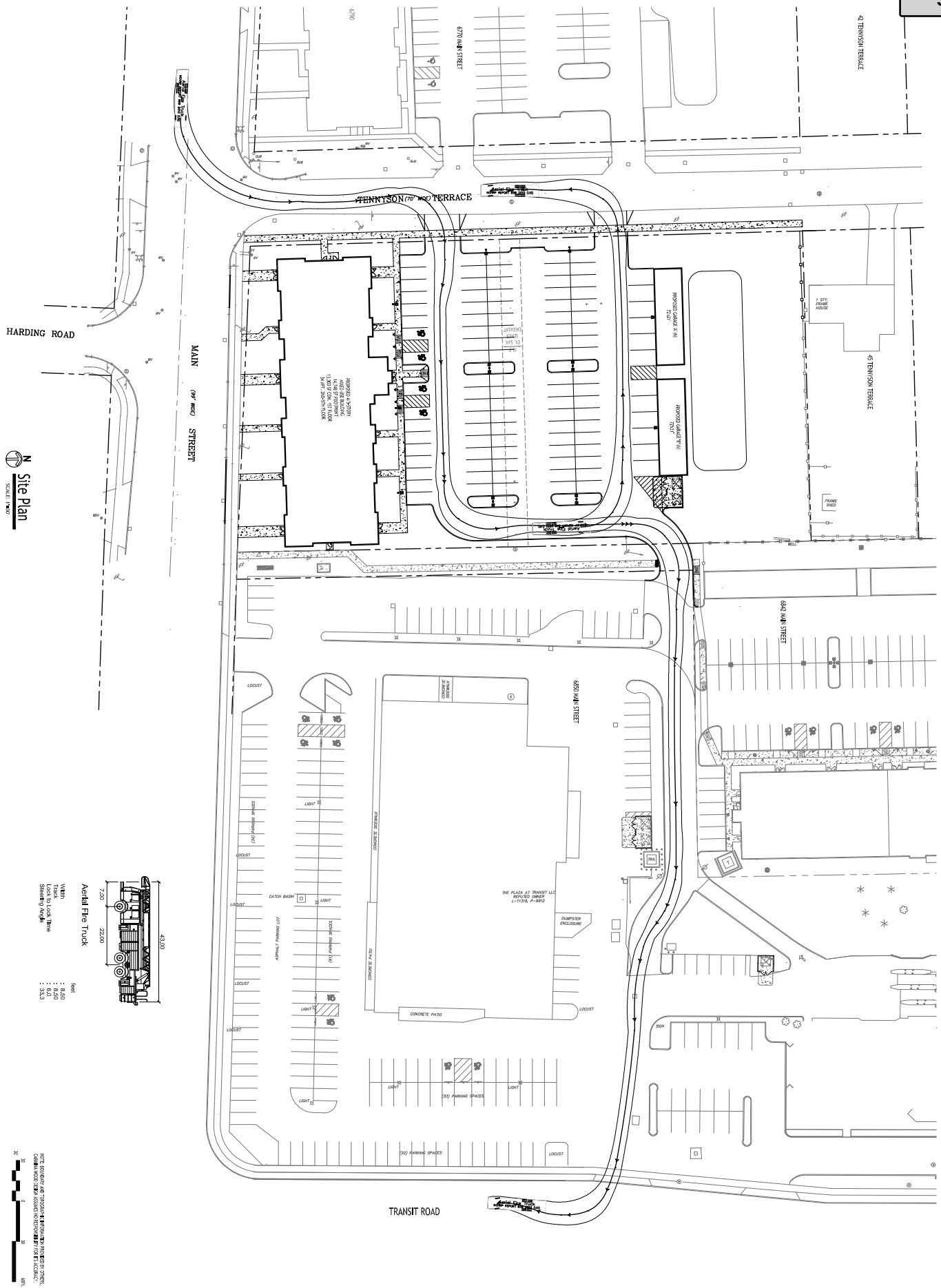

DRAWING NAME: Fire Truck Plan

Date: 3/25/24
Drawn By: P. Sheedy
Scale: As Noted

DRAWING NO. CF-100

Project No: 24-4006

REVISIONS:

No.	Description	Date

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

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Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix I

Soils Information

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Hydrologic Soil Group—Erie County, New York



Map Scale: 1:739 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 35 70 140 210

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Erie County, New York
Survey Area Data: Version 22, Sep 10, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 4, 2020—Jul 10, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Packet Pg. 1424
3.a
Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ne	Newstead loam	C/D	1.6	68.0%
WaA	Wassaic silt loam, 0 to 3 percent slopes	C	0.8	32.0%
Totals for Area of Interest			**2.4**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Erie County, New York

Ne—Newstead loam

Map Unit Setting

National map unit symbol: 9rnp
Elevation: 350 to 1,800 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Newstead and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Newstead

Setting

Landform: Till plains, ridges, benches
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy till derived from limestone, with varying amounts of sandstone, shale, and granite

Typical profile

H1 - 0 to 10 inches: loam
H2 - 10 to 21 inches: loam
H3 - 21 to 27 inches: gravelly loam
H4 - 27 to 31 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: About 6 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F101XY013NY - Moist Till

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Hydric soil rating: No

Minor Components

Appleton
Percent of map unit: 5 percent
Hydric soil rating: No

Lyons
Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Kendaia
Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed soils
Percent of map unit: 5 percent
Hydric soil rating: No

Wassaic
Percent of map unit: 5 percent
Hydric soil rating: No

Data Source Information

Soil Survey Area: Erie County, New York
Survey Area Data: Version 22, Sep 10, 2022

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Erie County, New York

WaA—Wassaic silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9rr3
Elevation: 800 to 1,750 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Wassaic and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wassaic

Setting

Landform: Till plains, ridges, benches
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till derived mainly from limestone, with varying amounts of sandstone, shale, and crystalline rock

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 23 inches: gravelly silt loam
C - 23 to 28 inches: gravelly loam
R - 28 to 32 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: About 19 to 39 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C
Ecological site: F101XY012NY - Till Upland

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Hydric soil rating: No

Minor Components

Honeoye
Percent of map unit: 5 percent
Hydric soil rating: No

Newstead
Percent of map unit: 5 percent
Hydric soil rating: No

Lima
Percent of map unit: 5 percent
Hydric soil rating: No

Cazenovia
Percent of map unit: 5 percent
Hydric soil rating: No

Farmington
Percent of map unit: 5 percent
Hydric soil rating: No

Data Source Information

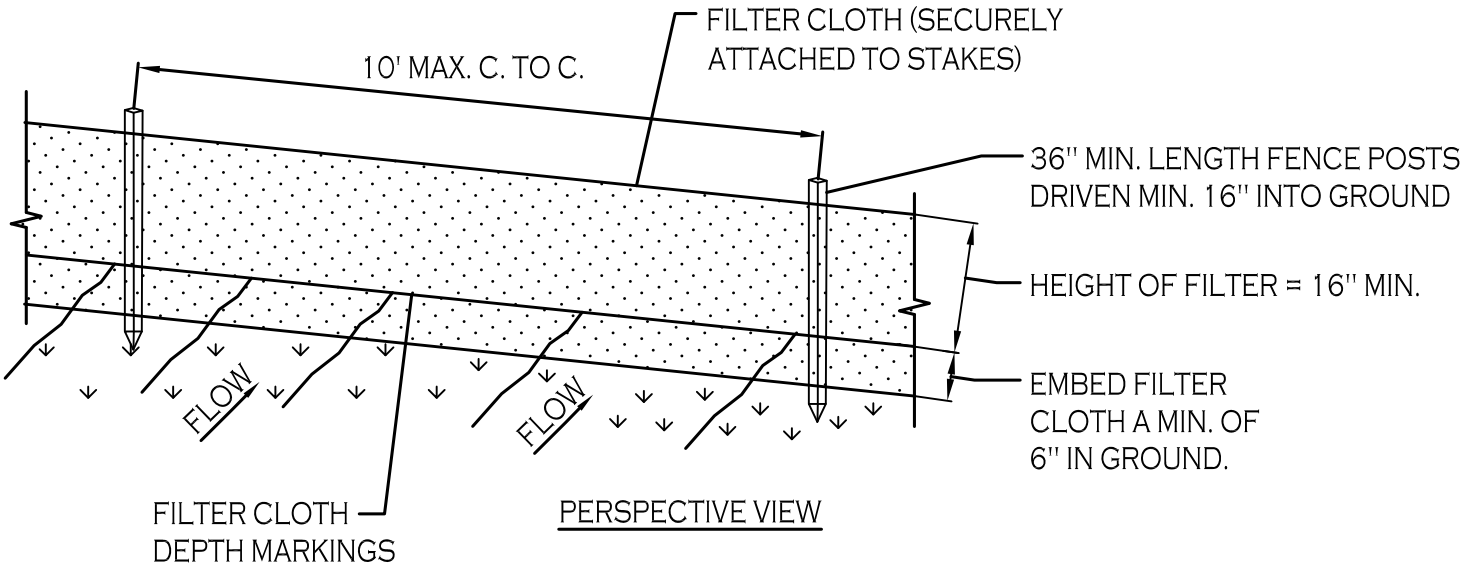
Soil Survey Area: Erie County, New York
Survey Area Data: Version 22, Sep 10, 2022

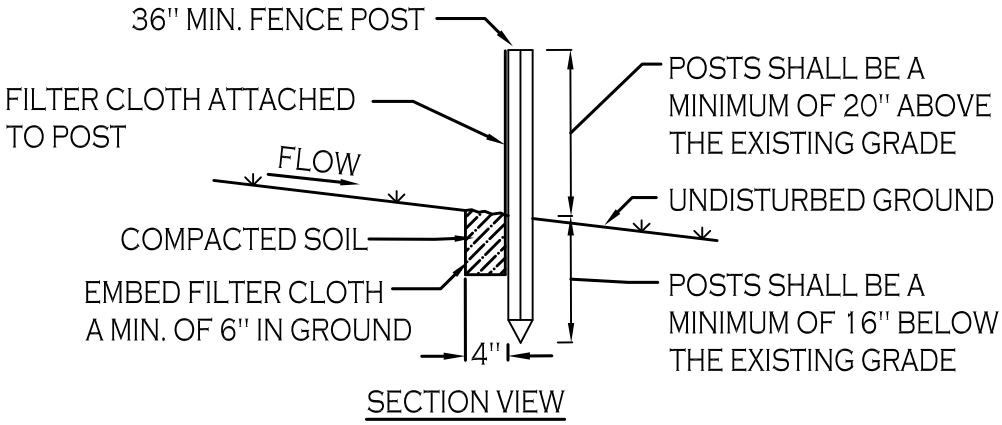
Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix J

Standard Erosion Control Details

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)





CONSTRUCTION SPECIFICATIONS

1. WOVEN FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.

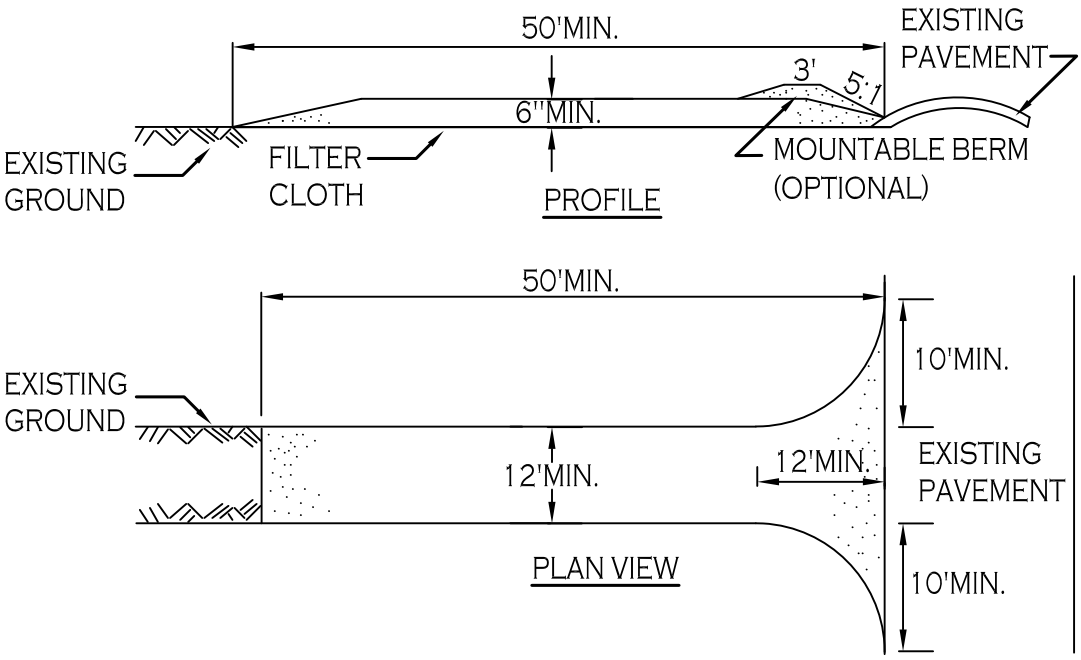
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.

3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

SILT FENCE DETAIL

NOT TO SCALE

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.

2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).

3. THICKNESS - NOT LESS THAN SIX (6) INCHES.

4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.

5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.

6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.

7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

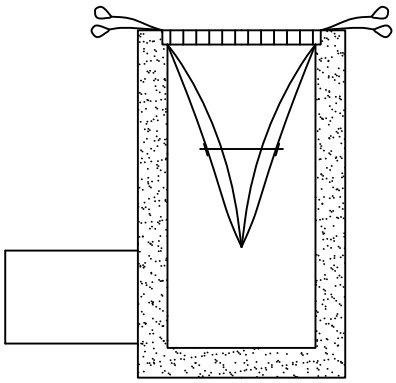
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

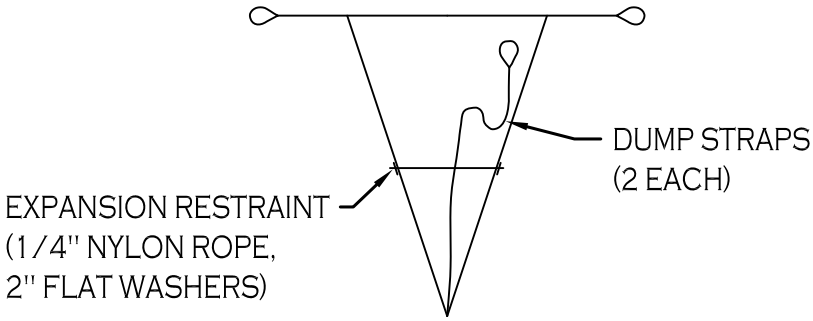
STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

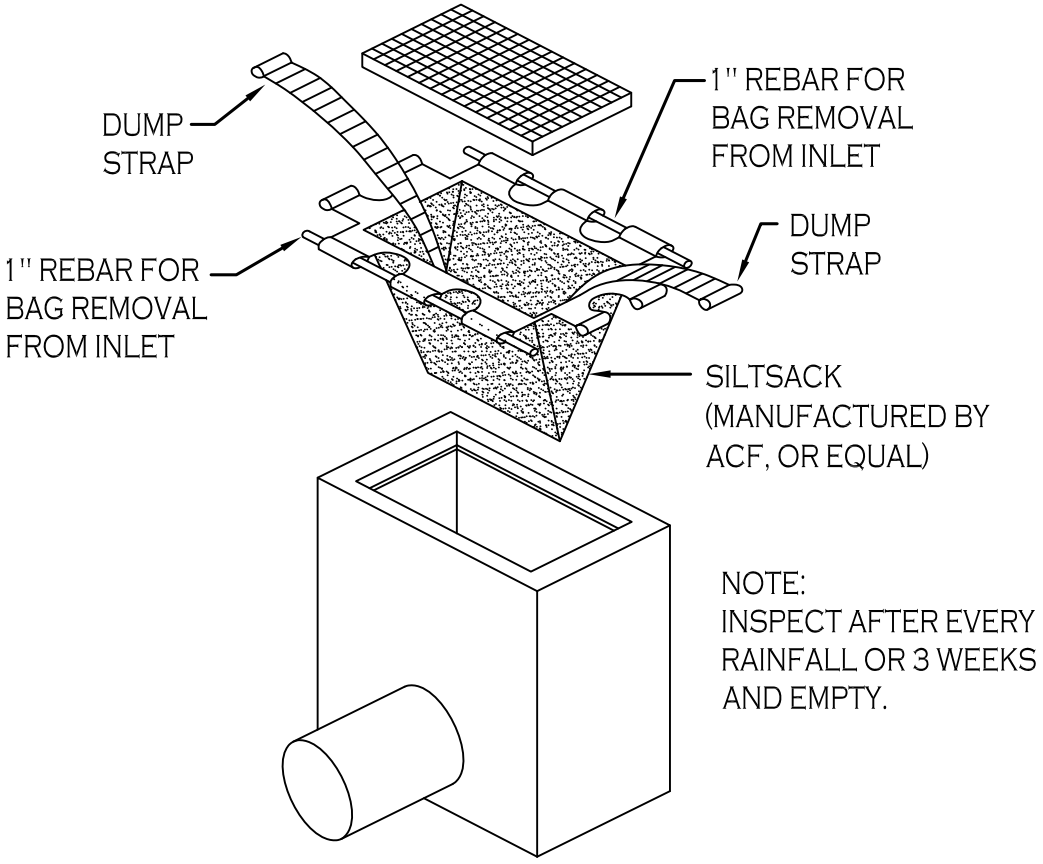
Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



INSTALLATION DETAIL



BAG DETAIL



NOTE:
INSPECT AFTER EVERY
RAINFALL OR 3 WEEKS
AND EMPTY.

SILT SACK DETAIL

NOT TO SCALE

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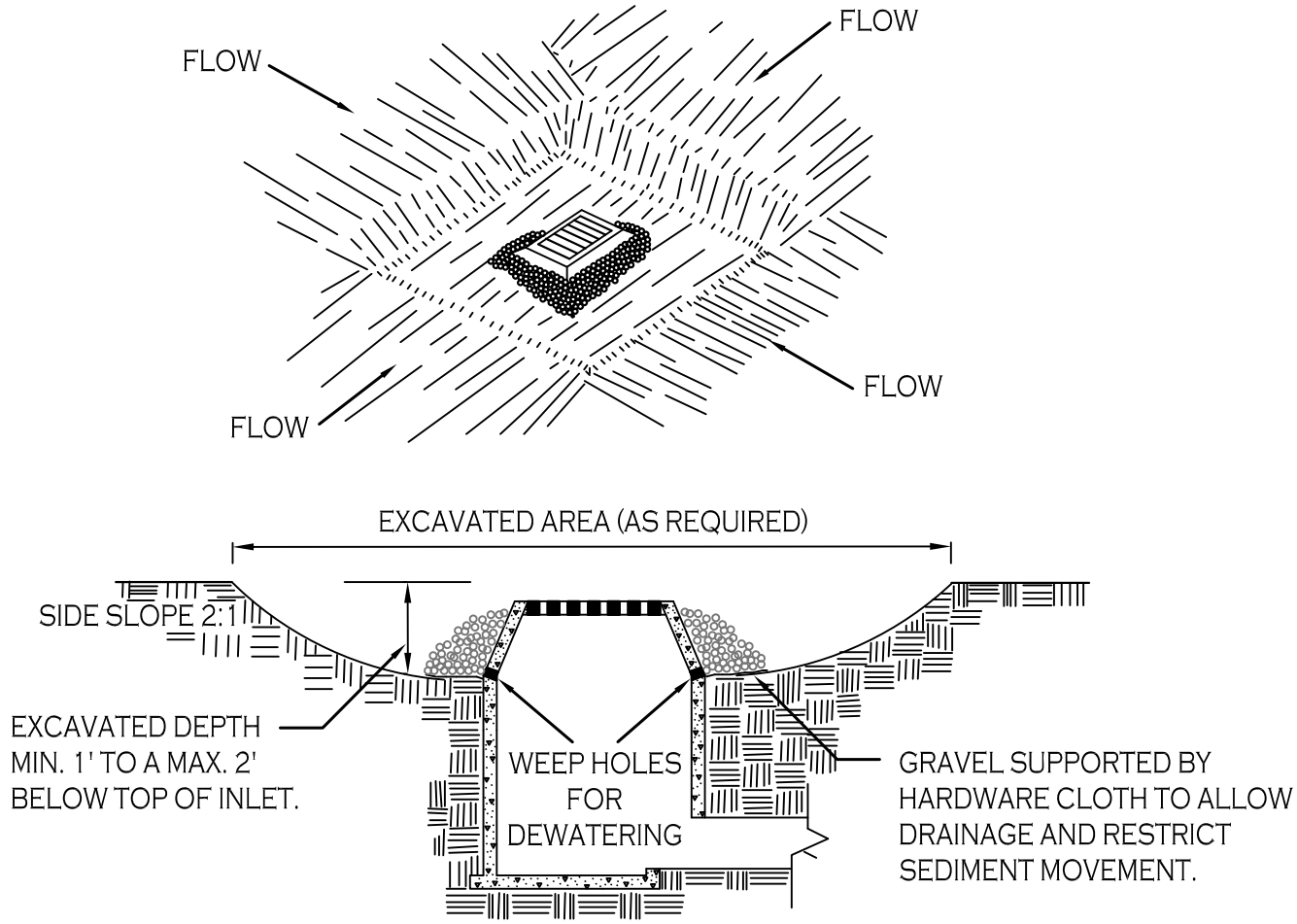


CONSTRUCTION SPECIFICATIONS

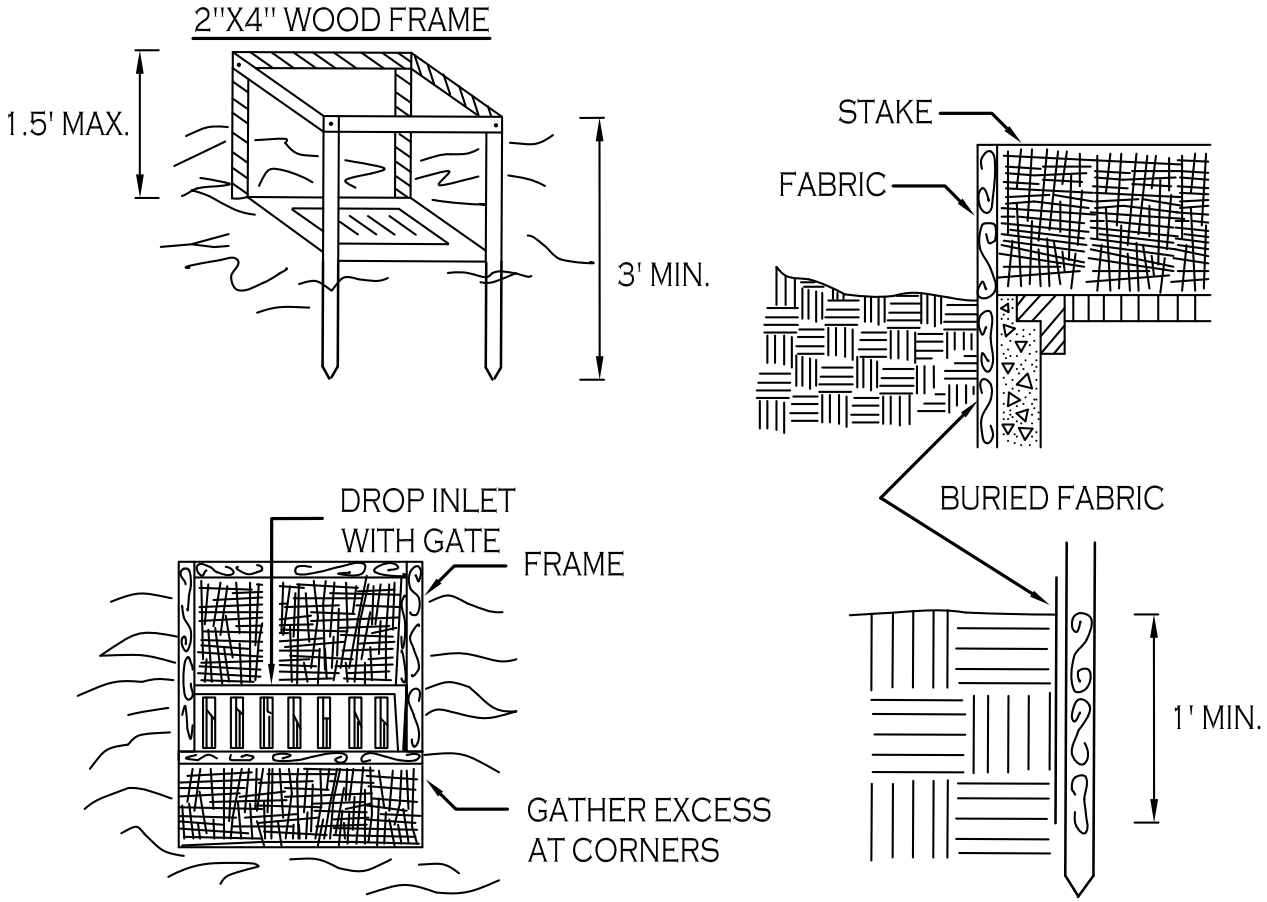
1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL.
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL BASIN WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.

MAXIMUM DRAINAGE AREA 1 ACRE

INLET PROTECTION DETAIL 1

NOT TO SCALE

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.

2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.

3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.

4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.

5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.

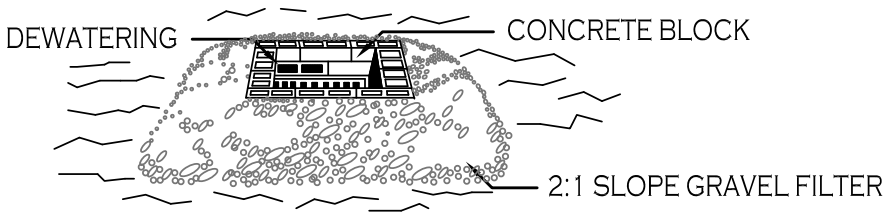
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

MAXIMUN DRAINAGE AREA 1 ACRE

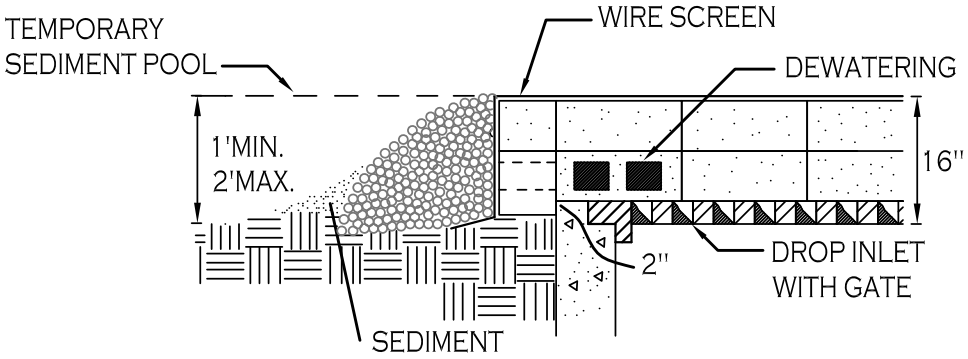
INLET PROTECTION DETAIL 2

NOT TO SCALE

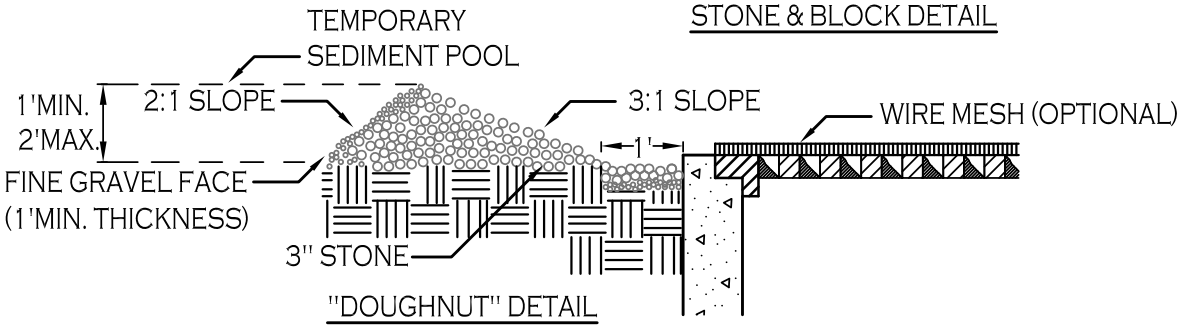
Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



STONE & BLOCK PLAN VIEW



STONE & BLOCK DETAIL



"DOUGHNUT" DETAIL

CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.

2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.

3. USE CLEAN STONE OR GRAVEL 1/2-3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.

4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS.

MAXIMUM DRAINAGE AREA 1 ACRE

INLET PROTECTION DETAIL 3

NOT TO SCALE

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

EXISTING TREE PROTECTION FENCE

MATERIALS

MATERIALS FOR TEMPORARY PLASTIC BARRIER FENCES SHALL MEET THE FOLLOWING REQUIREMENTS:

- FENCE: HIGH-DENSITY POLYETHYLENE MESH, ULTRAVIOLET-STABILIZED MIN. 2 YEARS; MINIMUM HEIGHT 4.0 FEET. COLOR: HIGH-VISIBILITY ORANGE OR GREEN. WHEN USED TO PROTECT TREES OR OTHER VEGETATION, COLOR SHALL BE HIGH-VISIBILITY ORANGE.
- POSTS: RIGID METAL OR WOOD POSTS, MINIMUM LENGTH 6.0 FEET.
- TIES: STEEL WIRE, #14 GAUGE OR NYLON CABLE TIES.
- WARNING SIGNS: SHEET METAL, PLASTIC OR OTHER RIGID, WATERPROOF MATERIAL, 1.5 FEET BY 2.0 FEET WITH 4 INCH BLACK LETTERS ON A WHITE BACKGROUND. TEXT SHALL BE: "PROTECTED SITE - KEEP OUT" UNLESS OTHERWISE SPECIFIED.

DETAILS

FENCES SHALL BE ERECTED PRIOR TO MOVING CONSTRUCTION EQUIPMENT ONTO ANY AREA DESIGNATED FOR PROTECTION.

THE LINE OF FENCES SHALL BE STAKED OR MARKED OUT ON THE GROUND BY THE CONTRACTOR AND APPROVED BY THE ENGINEER/OWNER BEFORE ANY FENCE IS INSTALLED. WHERE USED FOR PROTECTION OF INDIVIDUAL TREES, FENCE SHALL BE PLACED AT THE DRIP LINE (EXTENT OF CANOPY). IF NOT POSSIBLE, PLACEMENT SHALL BE AS CLOSE TO THE DRIP LINE AS POSSIBLE AND IN NO CASE LESS THAN 5.0 FEET AWAY FROM THE TREE TRUNK.

ON APPROVAL OF THE STAKEOUT, POSTS SHALL BE SECURELY DRIVEN ON 6.0 FOOT-MAXIMUM CENTERS, NORMAL TO THE GROUND, TO A DEPTH 1/3 OF THE TOTAL POST LENGTH. PLASTIC BARRIER FENCE SHALL BE PLACED ALONG THE SIDE OF ALL POSTS. ENDS OF FENCING SEGMENTS SHALL OVERLAP A DISTANCE OF AT LEAST ONE HALF THE FENCE HEIGHT.

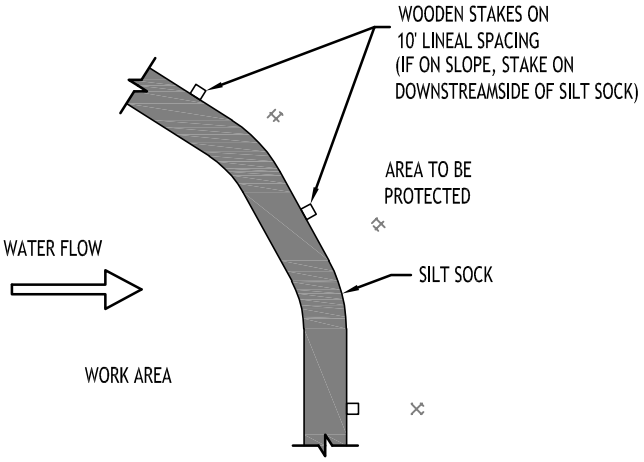
FENCING SHALL BE SECURED TO POSTS WITH WIRE OR CABLE TIES AT TOP, MIDDLE AND BOTTOM OF POST. FASTENER SHALL BE TIGHT ENOUGH TO PREVENT THE FENCING FROM SLIPPING DOWN. OVERLAPS SHALL ALSO BE SECURELY FASTENED.

BARRIER FENCE WHICH IS NOT ORANGE IN COLOR SHALL BE FLAGGED AT 6.0 FOOT INTERVALS WITH RED OR ORANGE FLORESCENT TAPE. WARNING SIGNS SHALL BE MOUNTED ON THE FENCE AT NO MORE THAN 100 FOOT INTERVALS.

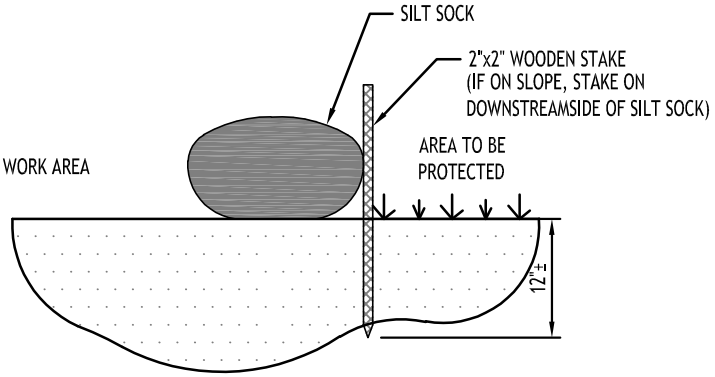
MAINTENANCE SHALL COMMENCE IMMEDIATELY AFTER ERECTION OF THE FENCE AND CONTINUE UNTIL ONE WEEK PRIOR TO ACCEPTANCE OF THE CONTRACT, AND SHALL CONSIST OF: REPLACING DAMAGED POST(S) AND FENCING; RE-FASTENING AND TIGHTENING FENCING; AND RESTORING FENCE TO ITS INTENDED HEIGHT.

FENCING USED FOR TREE OR OTHER VEGETATION PROTECTION SHALL NOT BE TEMPORARILY REMOVED TO ALLOW EQUIPMENT ACCESS OVER A PROTECTED AREA, EXCEPT AS REQUIRED FOR ITEMS OF WORK SPECIFICALLY SHOWN ON THE PLANS AND APPROVED BY THE ENGINEER IN WRITING.

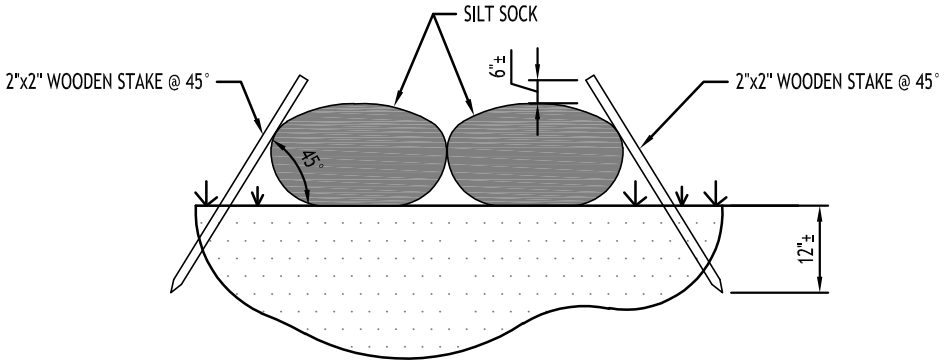
Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



PLAN VIEW



SECTION VIEW



SECTION VIEW @ JOINT OVERLAP

NOTES:

CONTRACTOR SHALL INSPECT AND MAINTAIN SILT SOCK AS NEEDED DURING THE DURATION OF CONSTRUCTION PROJECT.

CONTRACTOR SHALL REMOVE SEDIMENT COLLECTED AT THE BASE OF THE SILT SOCK WHEN IT HAS REACHED $\frac{1}{2}$ OF THE EXPOSED HEIGHT OF THE SILT SOCK. ALTERNATIVELY, RATHER THAN CREATE A SOIL DISTURBING ACTIVITY, THE ENGINEER MAY CALL FOR ADDITIONAL SILT SOCK TO BE ADDED AT AREAS OF HIGH SEDIMENTATION, PLACED IMMEDIATELY ON TOP OF THE EXISTING SEDIMENT LADEN SILT SOCK.

SILT SOCK SHALL BE OVERLAPPED 12" AT JOINTS AND STAKED ON EACH SIDE OF THE SOCK AT A 45° ANGLE

SILT SOCK DETAIL

NOT TO SCALE

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix K

NYSDEC Stormwater Management Inspection Lists

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Bioretetion Areas (F-5)



Description: Shallow stormwater basin or landscaped area which utilizes engineered soils and vegetation to capture and treat runoff. The practice is often located in parking lot islands, and can also be used to treat residential areas.

KEY CONSIDERATIONS

CONVEYANCE

- Provide overflow for the 10-year storm to the conveyance system.
- Conveyance to the system is typically overland flow delivered to the surface of the system, typically through curb cuts or over a concrete lip.

PRETREATMENT

- Pretreatment consists of a grass channel or grass filter strip, a gravel diaphragm, and a mulch layer, sized based on the methodologies described in Section 6.4.2.

TREATMENT

- Treatment area should have a four foot deep planting soil bed, a surface mulch layer, and a 6" ponding layer.
- Size the treatment area using equations provided in Chapter 6.

LANDSCAPING

- Detailed landscaping plan required.

MAINTENANCE

- Inspect and repair/replace treatment area components
- Stone drop (at least 6") provided at the inlet
- Remulch annually

STORMWATER MANAGEMENT SUITABILITY

- [X] Water Quality
- [ ] Channel Protection
- [ ] Overbank Flood Protection
- [ ] Extreme Flood Protection

Accepts Hotspot Runoff: *Yes*
(requires impermeable liner)

IMPLEMENTATION CONSIDERATIONS

- [M] Capital Cost
- [M] Maintenance Burden

Residential
Subdivision Use: *Yes*

High Density/Ultra-Urban: *Yes*

Drainage Area: *5 acres max.*

Soils: *Planting soils must meet specified criteria; No restrictions on surrounding soils*

Other Considerations:

- *Use of native plants is recommended*

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

	Key: L=Low **M**=Medium **H**=High **POLLUTANT REMOVAL** **G** Phosphorus **G** Nitrogen **G** Metals - Cadmium, Copper, Lead, and Zinc removal **F** Pathogens – Coliform, Streptococci, E.Coli removal **Key**: **G**=Good **F**=Fair **P**=Poor

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Bioretention Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Pre-construction meeting		
Runoff diverted		
Facility area cleared		
If designed as exfilter, soil testing for permeability		
Facility location staked out		
2. Excavation		
Size and location		
Lateral slopes completely level		
If designed as exfilter, ensure that excavation does not compact susoils.		
Longitudinal slopes within design range		

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
3. Structural Components		
Stone diaphragm installed correctly		
Outlets installed correctly		
Underdrain		
Pretreatment devices installed		
Soil bed composition and texture		
4. Vegetation		
Complies with planting specs		
Topsoil adequate in composition and placement		
Adequate erosion control measures in place		
5. Final Inspection		
Dimensions		
Proper stone diaphragm		
Proper outlet		
Soil/ filter bed permeability testing		
Effective stand of vegetation and stabilization		
Construction generated sediments removed		
Contributing watershed stabilized before flow is diverted to the practice		

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Comments:

Actions to be Taken:

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Bioretention Operation, Maintenance and Management Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Bioretention and contributing areas clean of debris		
No dumping of yard wastes into practice		
Litter (branches, etc.) have been removed		
2. Vegetation (Monthly)		
Plant height not less than design water depth		
Fertilized per specifications		
Plant composition according to approved plans		
No placement of inappropriate plants		
Grass height not greater than 6 inches		
No evidence of erosion		
3. Check Dams/Energy Dissipaters/Sumps (Annual, After Major Storms)		
No evidence of sediment buildup		

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
Sumps should not be more than 50% full of sediment		
No evidence of erosion at downstream toe of drop structure		
4. Dewatering (Monthly)		
Dewaters between storms		
No evidence of standing water		
5. Sediment Deposition (Annual)		
Swale clean of sediments		
Sediments should not be > 20% of swale design depth		
6. Outlet/Overflow Spillway (Annual, After Major Storms)		
Good condition, no need for repair		
No evidence of erosion		
No evidence of any blockages		
7. Integrity of Filter Bed (Annual)		
Filter bed has not been blocked or filled inappropriately		

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Comments:

Actions to be Taken:

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Appendix L

NYSSHPO Clearance Letter

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

New York State
Parks, Recreation and
Historic Preservation

KATHY HOCHUL
Governor

RANDY SIMONS
Commissioner Pro Tempore

March 11, 2024

Scott Marshall
Principal Planner
Town of Amherst
5583 Main Street
Williamsville, NY 14221

Re: DEC
Proposed Mixed Use "The Chuck"
6812 Main St, Town of Amherst, Erie County, NY
24PR02011

Dear Scott Marshall:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the OPRHP and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project.

Based upon this review, it is the opinion of OPRHP that no properties, including archaeological and/or historic resources, listed in or eligible for the New York State and National Registers of Historic Places will be impacted by this project.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. If you have any questions, please contact Sydney Snyder at the following email address:

Sydney.Snyder@parks.ny.gov

Sincerely,

R. Daniel Mackay

Deputy Commissioner for Historic Preservation
Division for Historic Preservation

Attachment: SP-2024-03_application_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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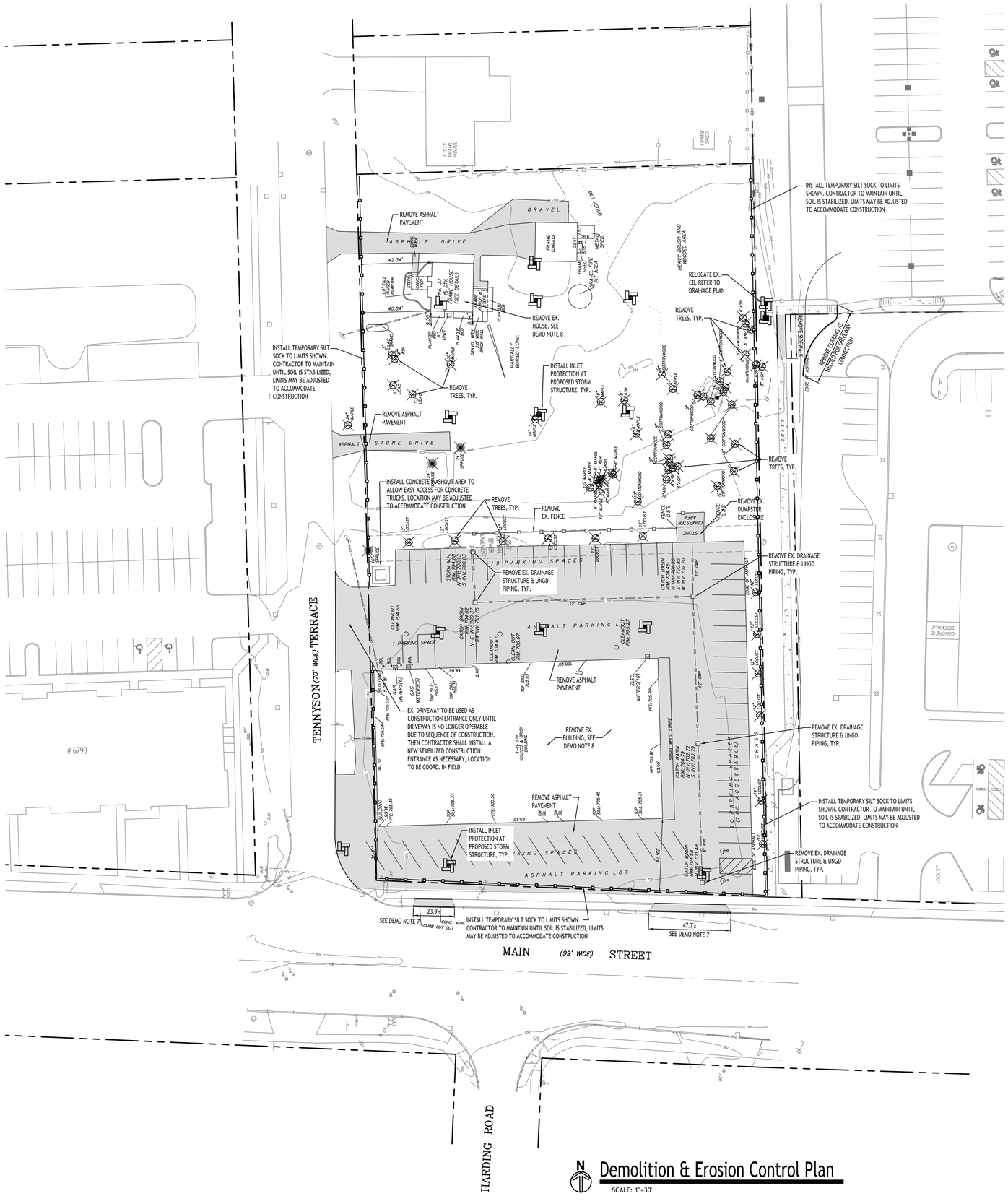

Demolition & Erosion Control Plan

SCALE: 1"=30'

SEQUENCE OF MAJOR ACTIVITIES

THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING THE FOLLOWING EROSION CONTROL AND STORM WATER MANAGEMENT CONTROL MEASURES. THE CONTRACTOR MAY DESIGNATE THESE TASKS TO CERTAIN SUBCONTRACTORS AS HE SEES FIT, BUT THE ULTIMATE RESPONSIBILITY FOR IMPLEMENTING THESE CONTROLS AND ENSURING THEIR PROPER FUNCTIONING REMAINS WITH THE CONTRACTOR. THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

A. INSTALL STABILIZED CONSTRUCTION ENTRANCE

B. INSTALL PERIMETER SILT FENCES/SILT SOCK IN THE LOCATIONS SHOWN ON THE DEMOLITION AND EROSION CONTROL PLAN SHEET.

C. CLEAR & GRUB SITE.

D. INSTALLATION OF UNDERGROUND DETENTION BASIN.

E. COMMENCE SITE GRADING.

F. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED FOR MORE THAN 14 DAYS SHALL BE TEMPORARILY SEEDED AND WATERED.

G. CONSTRUCTION OF BUILDINGS.

H. INSTALLATION OF PROPOSED UTILITIES.

I. FINALIZE PAVEMENT SUBGRADE PREPARATION.

J. CONSTRUCT ALL CURB, DRAINAGE INLETS, STORM SEWER PIPES AND STORM SEWER MANHOLES, AS SHOWN ON PLANS. INSTALL TEMPORARY INLET PROTECTION AT THE LOCATION OF ALL INLETS.

K. DUCT CONTROL.

L. REMOVE INLET PROTECTION AROUND INLETS AND MANHOLES NO MORE THAN 48 HOURS PRIOR TO PLACING STABILIZED BASE COURSE.

M. INSTALL BASE MATERIAL AS REQUIRED FOR PAVEMENT.

N. CARRY OUT FINAL GRADING AND SEEDING AND PLANTINGS.

O. CLEAN STORM SYSTEM FOLLOWING CONSTRUCTION, CLEAN UNDERGROUND DETENTION BASIN AS PER MANUFACTURER RECOMMENDATIONS.

P. REMOVE SILT FENCE/SILT SOCK ONLY AFTER ALL PAVING IS COMPLETE AND EXPOSED SURFACES ARE STABILIZED.

Q. REMOVE TEMPORARY CONSTRUCTION EXITS ONLY PRIOR TO PAVEMENT CONSTRUCTION IN THESE AREAS.

DEMOLITION NOTES:

1. ALL PERIMETER SILT SOCK TO BE INSTALLED PRIOR TO CONSTRUCTION ACTIVITY BEGINNING.
2. CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT THOSE ITEMS TO REMAIN, SUCH AS TREES, PROPERTY CORNER PINS, UTILITY POLES, VALVES, HYDRANTS, CURBS, MANHOLES AND CATCH BASINS.
3. TEMPORARY SILT SOCK TO BE INSTALLED AS DIRECTED BY THE OWNERS FIELD REPRESENTATIVE. MAINTAIN UNTIL VEGETATION IS ESTABLISHED AND PAVEMENT IS INSTALLED.
4. AS NECESSARY, COVERED DUMPSTERS SHALL BE PROVIDED ONSITE AS REQUIRED FOR CONSTRUCTION WASTE.
5. REMOVE ALL TREES AND STUMPS AS SHOWN AND DISPOSE OF OFF SITE. CONTRACTOR TO PROTECT ALL TREES/BRUSH NOT DISTURBED BY CONSTRUCTION ACTIVITY. LOCATIONS OF TREES SHOWN ON PLAN ARE APPROXIMATE, CONTRACTOR TO CONFIRM LOCATION PRIOR TO CONSTRUCTION.
6. CONTRACTOR TO COORDINATE WITH TOWN LANDSCAPE ARCHITECT WHICH TREES SHALL BE REMOVED AND WHICH SHALL REMAIN AND BE PROTECTED DURING CONSTRUCTION.
7. EXISTING CURB AND REMOVAL OF EXISTING ENTRANCE SHALL BE SAW CUT FULL-DEPTH AND NEATLY REMOVED FROM THE BACKSIDE, EXISTING PAVEMENT SHALL NOT BE DISTURBED AND THE PAVEMENT EDGE SHALL BE USED AS FORM FOR PLACING NEW CURB.
8. REMOVE EXISTING BUILDING TO INCLUDE ALL FOUNDATIONS, PORCHES, STEPS, ETC. ALL UTILITY CONNECTIONS TO BE ABANDONED AND/OR REMOVED PER COUNTY, TOWN, AND UTILITY COMPANY REQUIREMENTS.

EROSION CONTROL NOTES

THE FOLLOWING EROSION CONTROL PROCEDURES SHALL BE ADHERED TO BY THE CONTRACTOR:

1. INSTALL TEMPORARY SILT SOCK BARRIERS AS DIRECTED BY THE OWNER AND AT ALL EXISTING STORMWATER CATCH BASINS WITHIN THE WORK AREA TO PREVENT SEDIMENT MIGRATION. ALL SILT SOCK BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS.
2. TOPSOIL SHALL BE STRIPPED AND STOCKPILED ON SITE FOR RE-USE AS DIRECTED BY THE OWNER. ALL LOCAL ORDINANCES REGARDING THE SALE OF TOPSOIL MUST BE FOLLOWED. TOPSOIL MAY NOT BE REMOVED WITHOUT A PERMIT.
3. ALL SILT SOCK BARRIERS SHALL BE REPLACED WHEREVER THEY BECOME CLOGGED OR INOPERABLE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS.
5. THE CONTRACTOR MUST CONTROL DUST DURING CONSTRUCTION. DURING EARTHWORK OPERATIONS, WATER-SPREADING EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR, AND SPREAD WATER AS NECESSARY AND AS DIRECTED BY THE OWNER IN ORDER TO CONTROL DUST.
6. DIRT OR DEBRIS LEFT ON LOCAL PUBLIC ROADS AS A RESULT OF THIS CONSTRUCTION PROJECT SHALL BE REMOVED AND ROAD SURFACES CLEANED BY THE CONTRACTOR ON A DAILY BASIS.
7. ALL DISTURBED AREAS (EXCEPT AREAS TO BE PAVED OR BUILT UPON) SHALL BE TOPSOILED TO A MINIMUM 4" DEPTH AND SEEDED IMMEDIATELY AFTER FINE GRADING TAKES PLACE AND AS SOON AS PHYSICALLY POSSIBLE.
8. THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF DOWNSTREAM STORM SEWERS, DITCHES, AND CULVERTS. SILT BUILDUP FOUND TO BE A RESULT OF THIS SITE CONSTRUCTION WORK SHALL BE REMOVED FROM DOWNSTREAM CULVERTS BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER OR THE TOWN/CITY.
9. ALL SOIL EROSION AND SEDIMENT CONTROL DEVICES AND MATERIALS SHALL BE IN PLACE PRIOR TO BEGINNING EARTHWORK OPERATIONS AND SHALL BE MAINTAINED UNTIL THE NEW SLOPES ARE STABILIZED WITH SEEDING AND/OR SLOPE PROTECTION, AS DIRECTED BY THE ENGINEER.
10. INSTALL TEMPORARY SILT SOCK AROUND THE BASE OF STOCKPILES. STOCKPILES NOT BEING ACTIVELY USED FOR MORE THAN SEVEN (7) DAYS SHALL BE STABILIZED.
11. THE PROFESSIONAL CERTIFYING COMPLIANCE TO NYSDEC PHASE II STORMWATER REGULATION REQUIREMENTS MUST INSPECT AT A MINIMUM WEEKLY, AND WHEN DISTURBING MORE THAN 5 ACRES TWICE A WEEK, AND SHALL PROVIDE THESE INSPECTION REPORT WITH A WRITTEN CERTIFICATION OF CONSTRUCTION COMPLIANCE TO THE TOWN OF AMHERST (BI)WEEKLY.
12. THE ENGINEER OF RECORD FOR THIS PROJECT CERTIFIES THAT THESE DESIGN PLANS MEET THE REQUIREMENTS AND ARE IN COMPLIANCE WITH THE NEW YORK STORMWATER MANAGEMENT DESIGN MANUAL AND NYSDEC PHASE II STORMWATER REGULATION REQUIREMENTS.

DEMOLITION & EROSION CONTROL LEGEND

EXISTING PAVEMENT TO BE SAWCUT & REMOVED

PROPOSED SILT SOCK

EXISTING TREE TO BE REMOVED

PROPOSED STORM INLET PROTECTION

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS, CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30' 30 0 30 60Ft.

CARMINAWOOD DESIGN
Buffalo | Utica | Greensboro

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:		
No.	Description	Date

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

STATE OF NEW YORK
C. CHRISTOPHER WOOD
076394
LICENSED PROFESSIONAL ENGINEER

DRAWING NAME:

Demolition & Erosion Control Plan

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.

C-001

Project No: 24-4006

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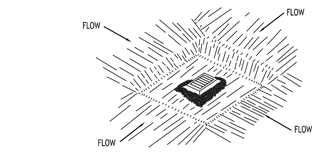
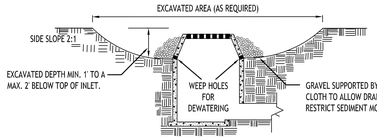




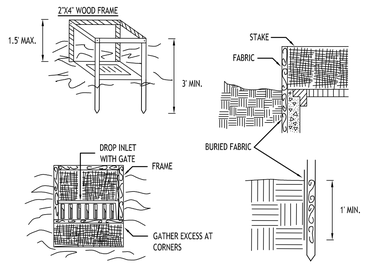
CONSTRUCTION SPECIFICATIONS

1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL.
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL BASIN WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.

MAXIMUM DRAINAGE AREA 1 ACRE

INLET PROTECTION DETAIL 1

NOT TO SCALE



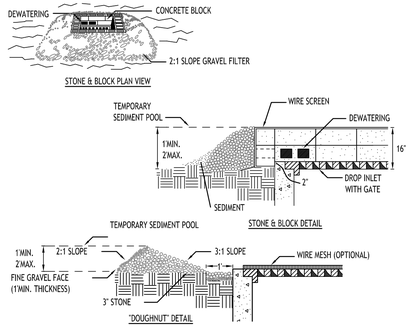
CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

MAXIMUN DRAINAGE AREA 1 ACRE

INLET PROTECTION DETAIL 2

NOT TO SCALE



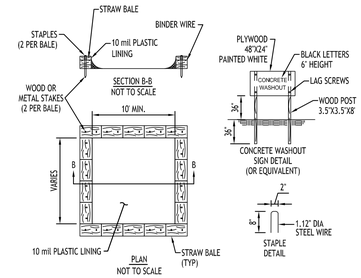
CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE FOR DEWATERING. FOUNDATION SHALL BE 2 INCHES MINIMUM BELOW REST OF INLET AND BLOCKS SHALL BE PLACED AGAINST INLET FOR SUPPORT.
2. HARDWARE CLOTH OR 1/2" WIRE MESH SHALL BE PLACED OVER BLOCK OPENINGS TO SUPPORT STONE.
3. USE CLEAN STONE OR GRAVEL 1/2-3/4 INCH IN DIAMETER PLACED 2 INCHES BELOW TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER.
4. FOR STONE STRUCTURES ONLY, A 1 FOOT THICK LAYER OF THE FILTER STONE WILL BE PLACED AGAINST THE 3 INCH STONE AS SHOWN ON THE DRAWINGS.

MAXIMUM DRAINAGE AREA 1 ACRE

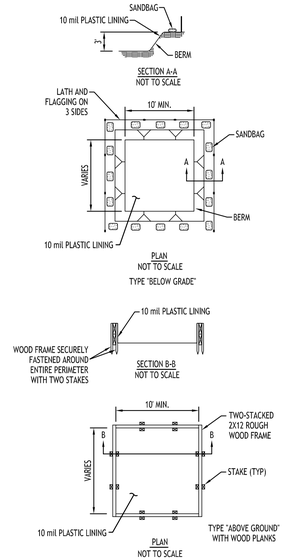
INLET PROTECTION DETAIL 3

NOT TO SCALE



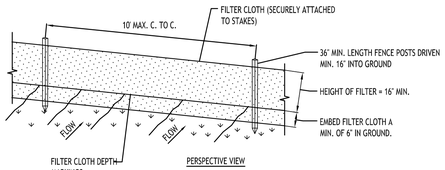
NOTES

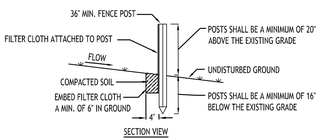
1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.



CONCRETE WASHOUT DETAIL

NOT TO SCALE



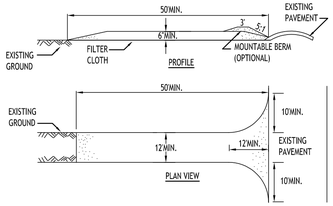


CONSTRUCTION SPECIFICATIONS

1. WOVEN FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN 'BULGES' DEVELOP IN THE SILT FENCE.

SILT FENCE DETAIL

NOT TO SCALE

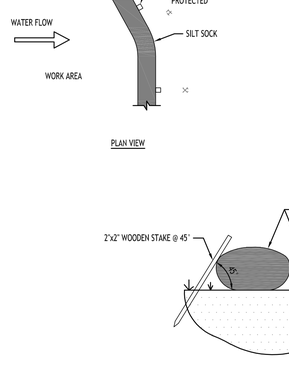


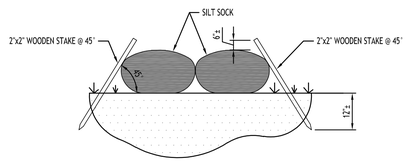
CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE





NOTES:

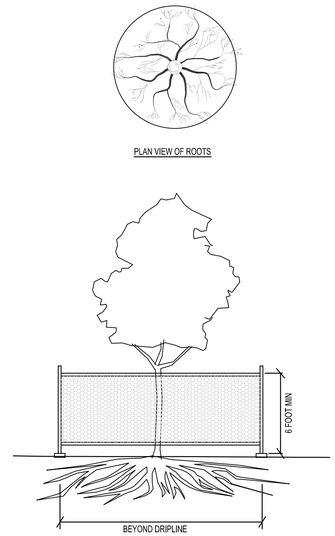
CONTRACTOR SHALL INSPECT AND MAINTAIN SILT SOCK AS NEEDED DURING THE DURATION OF CONSTRUCTION PROJECT.

CONTRACTOR SHALL REMOVE SEDIMENT COLLECTED AT THE BASE OF THE SILT SOCK WHEN IT HAS REACHED ½ OF THE EXPOSED HEIGHT OF THE SILT SOCK. ALTERNATIVELY, RATHER THAN CREATE A SOIL DISTURBING ACTIVITY, THE ENGINEER MAY CALL FOR ADDITIONAL SILT SOCK TO BE ADDED AT AREAS OF HIGH SEDIMENTATION, PLACED IMMEDIATELY ON TOP OF THE EXISTING SEDIMENT LADEN SILT SOCK.

SILT SOCK SHALL BE OVERLAPPED 12" AT JOINTS AND STAKED ON EACH SIDE OF THE SOCK AT A 45° ANGLE

SILT SOCK DETAIL

NOT TO SCALE



EXISTING TREE PROTECTION FENCE

MATERIALS

MATERIALS FOR TEMPORARY PLASTIC BARRIER FENCES SHALL MEET THE FOLLOWING REQUIREMENTS:

- FENCE: HIGH-DENSITY POLYETHYLENE MESH, ULTRAVIOLET-STABILIZED MIN. 2 YEARS; MINIMUM HEIGHT 4.0 FEET. COLOR: HIGH-VISIBILITY ORANGE OR GREEN. WHEN USED TO PROTECT TREES OR OTHER VEGETATION, COLOR SHALL BE HIGH-VISIBILITY ORANGE.
- POSTS: RIGID METAL OR WOOD POSTS, MINIMUM LENGTH 6.0 FEET.
- TIES: STEEL WIRE, #14 GAUGE OR NYLON CABLE TIES.
- WARNING SIGNS: SHEET METAL, PLASTIC OR OTHER RIGID, WATERPROOF MATERIAL, 1.5 FEET BY 2.0 FEET WITH 4 INCH BLACK LETTERS ON A WHITE BACKGROUND. TEXT SHALL BE: "PROTECTED SITE - KEEP OUT" UNLESS OTHERWISE SPECIFIED.

DETAILS

FENCES SHALL BE ERECTED PRIOR TO MOVING CONSTRUCTION EQUIPMENT ONTO ANY AREA DESIGNATED FOR PROTECTION.

THE LINE OF FENCES SHALL BE STAKED OR MARKED OUT ON THE GROUND BY THE CONTRACTOR AND APPROVED BY THE ENGINEER/OWNER BEFORE ANY FENCE IS INSTALLED. WHERE USED FOR PROTECTION OF INDIVIDUAL TREES, FENCE SHALL BE PLACED AT THE DRIP LINE (EXTENT OF CANOPY). IF NOT POSSIBLE, PLACEMENT SHALL BE AS CLOSE TO THE DRIP LINE AS POSSIBLE AND IN NO CASE LESS THAN 5.0 FEET AWAY FROM THE TREE TRUNK.

ON APPROVAL OF THE STAKEOUT, POSTS SHALL BE SECURELY DRIVEN ON 6.0 FOOT-MAXIMUM CENTERS, NORMAL TO THE GROUND, TO A DEPTH 1/3 OF THE TOTAL POST LENGTH. PLASTIC BARRIER FENCE SHALL BE PLACED ALONG THE SIDE OF ALL POSTS. ENDS OF FENCING SEGMENTS SHALL OVERLAP A DISTANCE OF AT LEAST ONE HALF THE FENCE HEIGHT.

FENCING SHALL BE SECURED TO POSTS WITH WIRE OR CABLE TIES AT TOP, MIDDLE AND BOTTOM OF POST. FASTENER SHALL BE TIGHT ENOUGH TO PREVENT THE FENCING FROM SLIPPING DOWN. OVERLAPS SHALL ALSO BE SECURELY FASTENED.

BARRIER FENCE WHICH IS NOT ORANGE IN COLOR SHALL BE FLAGGED AT 6.0 FOOT INTERVALS WITH RED OR ORANGE FLORESCENT TAPE. WARNING SIGNS SHALL BE MOUNTED ON THE FENCE AT NO MORE THAN 100 FOOT INTERVALS.

MAINTENANCE SHALL COMMENCE IMMEDIATELY AFTER ERECTION OF THE FENCE AND CONTINUE UNTIL ONE WEEK PRIOR TO ACCEPTANCE OF THE CONTRACT, AND SHALL CONSIST OF: REPLACING DAMAGED POST(S) AND FENCING; RE-FASTENING AND TIGHTENING FENCING; AND RESTORING FENCE TO ITS INTENDED HEIGHT.

FENCING USED FOR TREE OR OTHER VEGETATION PROTECTION SHALL NOT BE TEMPORARILY REMOVED TO ALLOW EQUIPMENT ACCESS OVER A PROTECTED AREA, EXCEPT AS REQUIRED FOR ITEMS OF WORK SPECIFICALLY SHOWN ON THE PLANS AND APPROVED BY THE ENGINEER IN WRITING.

TREE PROTECTION DETAIL

NOT TO SCALE

CARMINAWOOD DESIGN
Buffalo | Utica | Greensboro

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:

No.	Description	Date

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

STATE OF NEW YORK
R. CHRISTOPHER WOOD
073934
LICENSED PROFESSIONAL ENGINEER

DRAWING NAME:

Demolition & Erosion Control Details

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.

C-002

Project No: 24-4006

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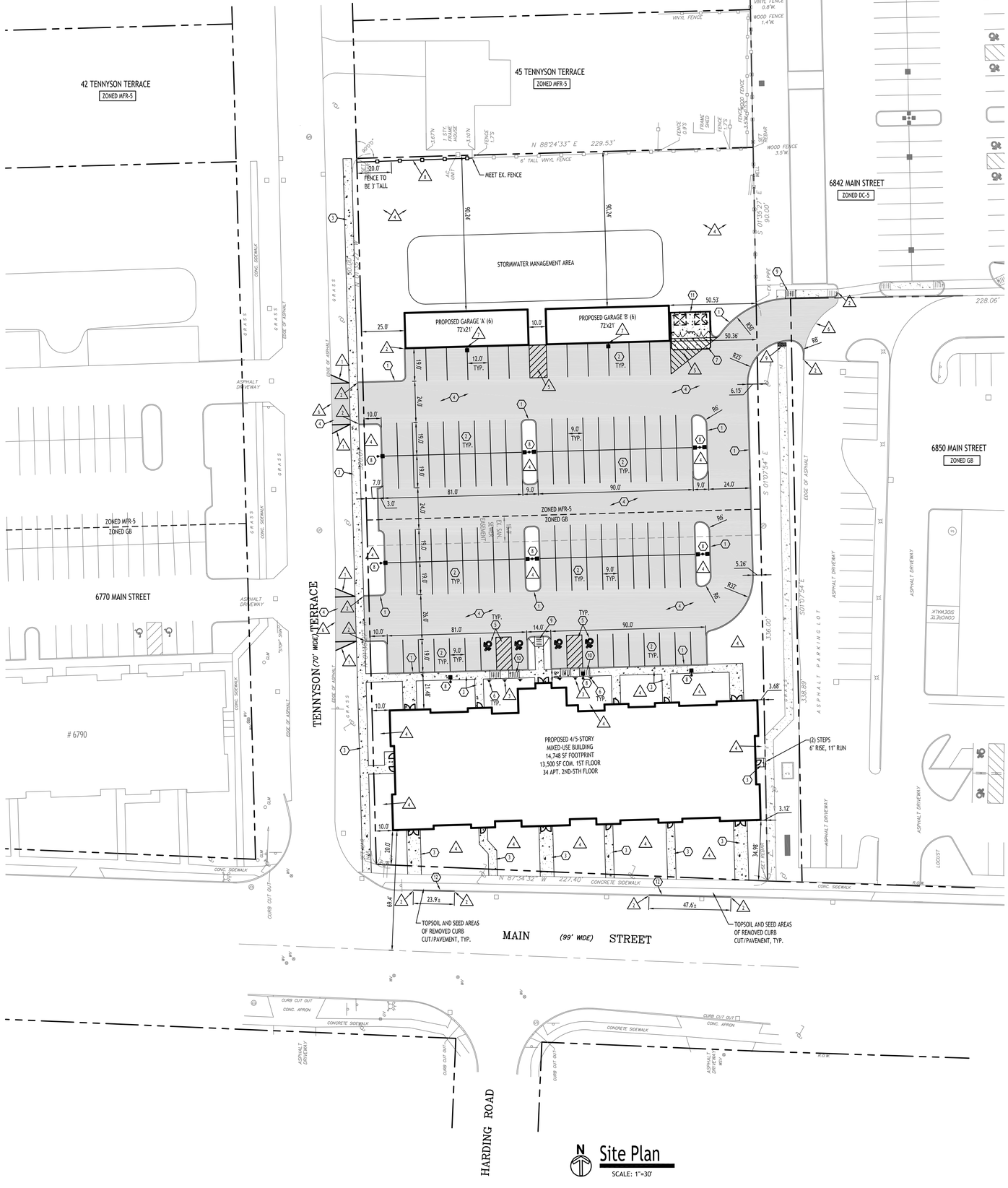

Site Data

SITE AREA = 2.2 AC± (TOTAL)	
ZONED: GB (GENERAL BUSINESS) & MFR-5	
USE: PROPOSED 4/5-STORY MIXED USE BUILDING	

SETBACKS - BUILDING	REQUIRED	PROVIDED
FRONT	30 FT.	10 FT. MIN. *
FRONT (FROM ℄ OF MAIN STREET)	115 FT.	69.4 FT. *
SIDE	25 FT.	2.4 FT. *
REAR	25 FT.	N/A
ACCESSORY STRUCT.	20 FT	25.0 FT.
SETBACKS - PARKING		
FRONT	10 FT.	10 FT.
SIDE	5 FT.	5.26 FT. MIN.
REAR	5 FT.	N/A
TOTAL VEHICLE SPACES	117	117
GREENSPACE		
INTERIOR PARKING GREENSPACE:	10% (0.1 AC)	10% (0.10 AC)
OVERALL:	N/A	38.6% (0.85 AC)
MAX. BUILDING HEIGHT	65'	65

* VARIANCE GRANTED 12/19/23

PARKING CALCULATION (per Section 203-7-1-6A)

APARTMENTS
2 spaces per dwelling = 2 x 34 units = 68 spaces

COMMERCIAL
OFFICE: 1 space per 200 SF = 4,000 SF / 200 = 20 spaces
RETAIL: 1 space per 1,000 SF = 5,000 SF / 1,000 = 5 spaces
RESTAURANT: 1 space per 3 seats = 72 seats / 3 = 24 spaces

TOTAL REQD = 68 + 20 + 5 + 24 = 117 SPACES REQD

SITE NOTES:

1. ALL RADII SHALL BE 3'-0" UNLESS OTHERWISE NOTED.
2. ALL DISTURBED AREAS: SHALL HAVE 4" MIN. OF TOPSOIL AND SEED.
3. ALL DIMENSIONS FROM PROPERTY LINES SHALL BE MEASURED PERPENDICULAR TO THE PROPERTY LINE.
4. CENTER ENTRANCE SIDEWALKS ON DOOR OPENINGS.
5. BUILDING DIMENSIONS ARE APPROXIMATE, REFER TO ARCHITECTURAL DRAWINGS FOR LAYOUT DIMENSIONS.
6. ALL HANDICAP RAMPS (NOT WITHIN THE NYSDOT R.O.W.) AND/OR SIDEWALKS FLUSH TO PAVEMENT SHALL HAVE ADA COMPLIANT TACTILE WARNING STRIPS WHERE ENTERING PARKING AREAS/DRIVEWAYS. SIDEWALKS FLUSH TO PAVEMENT WITHIN THE NYSDOT R.O.W. SHALL ADHERE TO THE NOTES AND DESIGN REGULATIONS AS STATED ON NYSDOT STANDARD SHEET 608-01.

GENERAL NOTES:

1. INSTALL ALL MATERIALS TO MANUFACTURER'S RECOMMENDATIONS AND BEST STANDARDS OF TRADE INVOLVED.
2. SUBSTITUTIONS SHALL BE MADE ONLY WITH OWNER'S APPROVAL AND BE OF EQUIVALENT QUALITY TO WHAT IS SPECIFIED.
3. WORK SHALL BE COMPLETED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND OSHA SAFETY RULES AND REGULATIONS.
4. VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE. NOTIFY OWNER & ENGINEER OF DISCREPANCIES IN CONDITIONS SHOWN ON DRAWINGS PRIOR TO PROCEEDING WITH THE WORK.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ANY EXISTING STRUCTURES TO REMAIN AND ANY FINISH MATERIAL INSTALLED WHILE WORKING ON OTHER COMPONENTS.
6. CONTRACTOR SHALL KEEP JOB FREE OF DEBRIS AND MAKE FINAL CLEANUP TO SATISFACTION OF OWNER.
7. CONTRACTOR SHALL ASCERTAIN THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION SO THAT THIS WORK WILL NOT DISTURB EXISTING LINES AND/OR INSTALLATIONS. COORDINATE ALL WORK WITH THE APPLICABLE UTILITY COMPANIES.
8. ALL OTHER PERMITS REQUIRED BY STATE OF NEW YORK, COUNTY OF ERIE, AND TOWN OF AMHERST ARE THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER/OWNER.
9. EXISTING CURB AND REMOVAL OF EXISTING ENTRANCE SHALL BE SAW CUT FULL-DEPTH AND NEATLY REMOVED FROM THE BACKSIDE, EXISTING PAVEMENT SHALL NOT BE DISTURBED AND THE PAVEMENT EDGE SHALL BE USED AS FORM FOR PLACING NEW CURB.
10. SANITARY SEWER EASEMENTS SHOWN ARE APPROXIMATE BASED ON RECORD PLANS PROVIDED BY TOWN OF AMHERST ENGINEERING DEPARTMENT. SURVEYOR TO VERIFY LOCATION PRIOR TO CONSTRUCTION.

DETAIL LEGEND (SEE SITE DETAIL SHEET)

1. TYPE 'A' CONCRETE CURB
2. 90° PARKING STALL
3. CONCRETE SIDEWALK, 5' WIDE UNLESS OTHERWISE NOTED
4. STANDARD DUTY ASPHALT
5. HANDICAP PAVEMENT MARKINGS
6. HANDICAPPED PARKING SIGN
7. EXTERIOR CONCRETE SLAB ON GRADE
8. LIGHT POLE FOUNDATION
9. SIDEWALK CURB RAMP
10. HANDICAP PAVEMENT RAMP
11. DUMPSTER ENCLOSURE
12. NYSDOT CURB

NOTE LEGEND

1. EDGE OF PAVEMENT
2. RUNOUT CURB IN 2' OR MATCH EXISTING CURB
3. INSTALL 'NO PARKING' SIGN, M.U.T.C.D. SIGN NO. R7-1C
4. LANDSCAPED AREA - SEE LANDSCAPE PLAN, IF NO PLANTINGS, INSTALL TOPSOIL & SEED
5. 4" WIDE WHITE PAINT STRIPE @ 45° & 2' O.C., INFILL AREA AS SHOWN
6. MATCH EX. PAVEMENT, SAWCUT AS REQD TO ACHIEVE SQUARE EDGE TO MATCH
7. WALL PACK LIGHT, REFER TO LIGHTING PLAN LP-100
8. 6' HT. WHITE VINYL FENCE
9. DETECTABLE WARNING STRIP

SITE LEGEND

- PROPERTY LINE
- PROPOSED SIDEWALK / CONCRETE PAD
- NUMBER OF PARKING SPACES (27)
- PROPOSED SIGN
- PROPOSED STANDARD DUTY ASPHALT PAVEMENT
- PROPOSED LIGHT POLE

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS, CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

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Site Plan
SCALE: 1"=30'

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STATE OF NEW YORK
R. CHRISTOPHER WOLFE
076394
LICENSED PROFESSIONAL ENGINEER

DRAWING NAME:
Site Plan

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.
C-100

Project No: 24-4006

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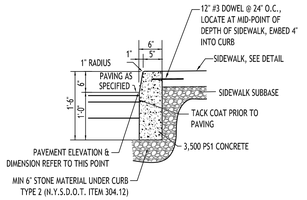
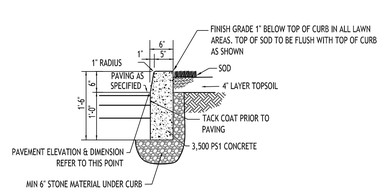


ABUTTING SIDEWALK

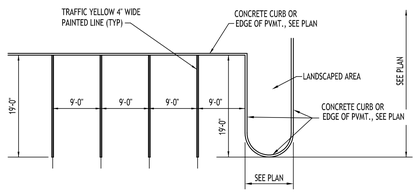


ABUTTING LANDSCAPE/GRASS

NOTES:
1. CONTROL JOINTS TO BE 2" DEEP AT 15'-0" O.C. - SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
2. WHERE THE CURB DROPS (IS FLUSH WITH ASPHALT) THE DEPTH OF CURB BELOW GRADE SHALL BE INCREASED TO 1'-6" AND OTHER DIMENSIONS ADJUSTED ACCORDINGLY.

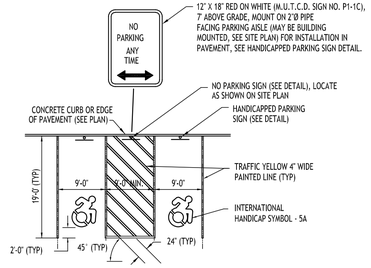
TYPE "A" CONCRETE CURB - 1

NOT TO SCALE



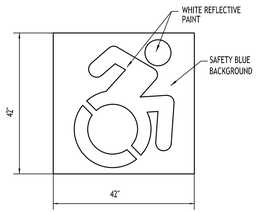
90° PARKING STALL LAYOUT - 2

NOT TO SCALE



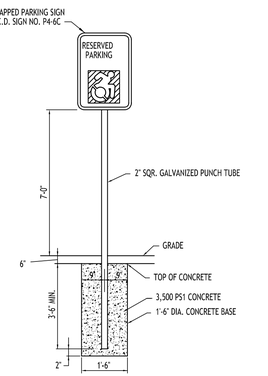
HANDICAPPED PAVEMENT MARKINGS & SIGNAGE - 5

NOT TO SCALE



INTERNATIONAL HANDICAP SYMBOL - 5A

NOT TO SCALE

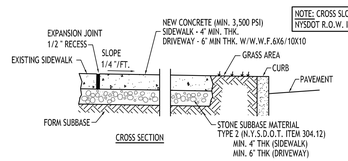


NOTES:
1. HANDICAPPED PARKING SIGN SHALL CONFORM WITH CURRENT STATE AND LOCAL CODES AND REGULATIONS.

GRASS/LAWN AREA

HANDICAPPED PARKING SIGN - 6

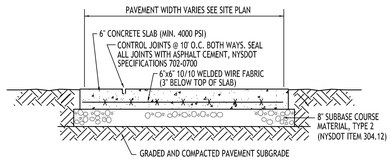
NOT TO SCALE



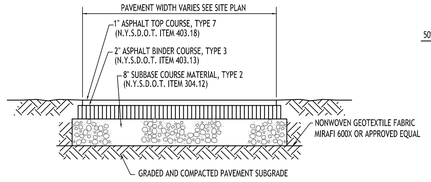
NOTES:
1. CONTROL JOINTS TO BE AT 5'-0" O.C., BOTH WAYS WHERE APPLICABLE. SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
2. CONCRETE SIDEWALK AND DRIVEWAY MATERIAL SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 501 AND CONSTRUCTION METHODS SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 608-3.
3. SUBBASE GRADE SHALL FOLLOW THE PROPOSED GRADE OF THE SIDEWALK AND SLOPE AWAY FROM BUILDING WHERE APPLICABLE, PROVIDE CONTINUOUS STONE PATH TO CURB UNDERDRAIN WHERE PROVIDED.
4. FULL DEPTH EXPANSION JOINTS SHALL BE INSTALLED EVERY 20' O.C., BOTHWAYS WHERE APPLICABLE. SEE SPECIFICATIONS FOR FURTHER JOINT REQUIREMENTS NYSDOT 702-0700.
5. SEE CURB DETAIL FOR DOWLING REQUIREMENTS WHERE ABUTTING CURB.
6. INSTALL 6' LONG #3 DOWELS @ 12" O.C. WHERE SIDEWALK ABUTS A BUILDING WALL AT AN ENTRANCE, THICKEN SIDEWALK TO 6" AT BUILDING WALL AND INSTALL DOWEL CENTERED IN THE 6" DEPTH. DOWELS AND THICKENING OF SIDEWALK SHALL EXTEND 18" EITHER SIDE OF ENTRANCE.
7. INSTALL 1/2" PREMOLDED EXPANSION JOINT WITH BACKER ROD & SEALANT WHERE SIDEWALK ABUTS BUILDING OR OTHER STRUCTURE.

CONCRETE SIDEWALK - 3

NOT TO SCALE



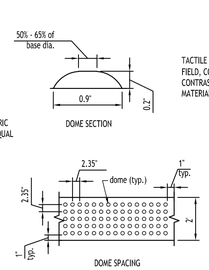
NOTE: CONCRETE PAVEMENT MATERIAL SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 501 AND CONSTRUCTION METHODS SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 502-3.



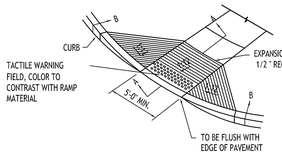
NOTE: CONSTRUCTION METHODS FOR ASPHALT PAVEMENT SHALL CONFORM TO NYSDOT STANDARD SPECIFICATION 401-3, WITH SUBBASE CONSTRUCTION METHODS CONFORMING TO NYSDOT STANDARD SPECIFICATION 304-3.

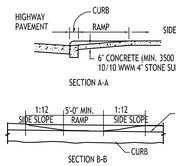
STANDARD DUTY ASPHALT SECTION - 4

NOT TO SCALE



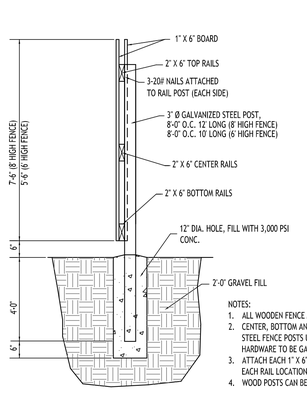
NOTE: TACTILE WARNING DEVICES SHALL BE PER ICC/ANSI A117.1-1998, SECTION 705.3.1.2 OR CURRENT UPDATE



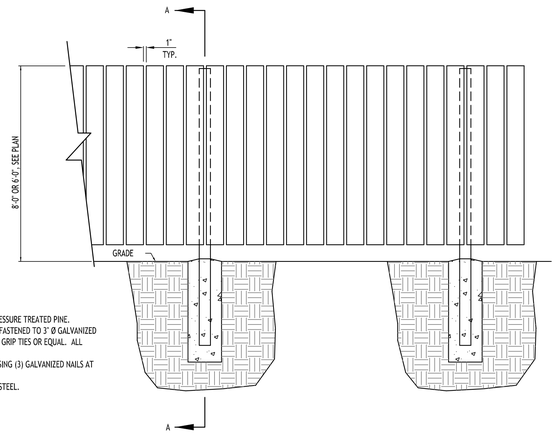


SIDEWALK CURB RAMP - 9

NOT TO SCALE

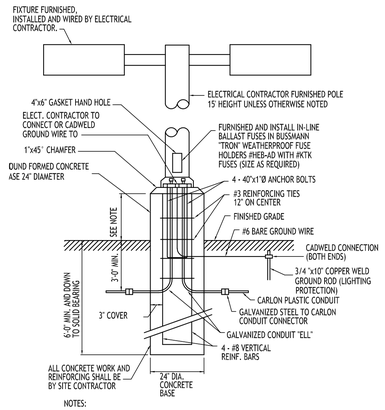


NOTES:
1. ALL WOODEN FENCE MATERIAL TO BE PRESSURE TREATED PINE.
2. CENTER, BOTTOM AND TOP RAILS TO BE FASTENED TO 3" Ø GALVANIZED STEEL FENCE POSTS USING SIMPSON PIPE GRIP TIES OR EQUAL. ALL HARDWARE TO BE GALVANIZED.
3. ATTACH EACH 1" X 6" BOARD TO RAILS USING (3) GALVANIZED NAILS AT EACH RAIL LOCATION.
4. WOOD POSTS CAN BE SUBSTITUTED FOR STEEL.



6' BOARD ON BOARD FENCE FOR DUMPSTER ENCLOSURE

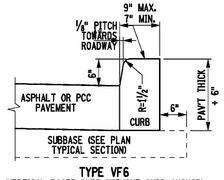
NOT TO SCALE



NOTES:
1. FOR LOCATIONS OF FOUNDATIONS SEE SITE PLAN
2. FOR LIGHT FIXTURE ORDERING INFORMATION SEE SITE LIGHTING PLAN
3. LIGHT POLE BASE EXPOSURE ABOVE GRADE SHALL BE:
   IN CURBED ISLANDS: 6" ABOVE TOP OF CURB ELEVATION
   IN PAVEMENT: 30" ABOVE GRADE
   IN NON-CURBED GRASS AREAS: 6" ABOVE GRADE

LIGHT POLE FOUNDATION - 8

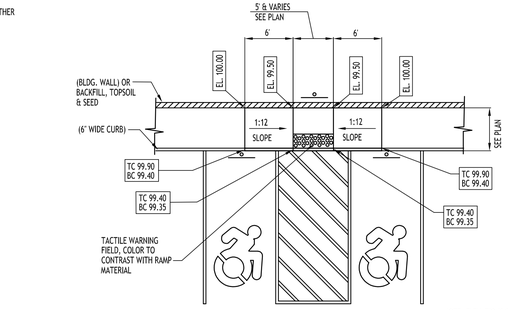
NOT TO SCALE



TYPE VF6
(VERTICAL FACED CURB WITHOUT CURB ANCHOR)
(SEE NOTE 4)

NYSDOT CONCRETE CURB - 12

NOT TO SCALE

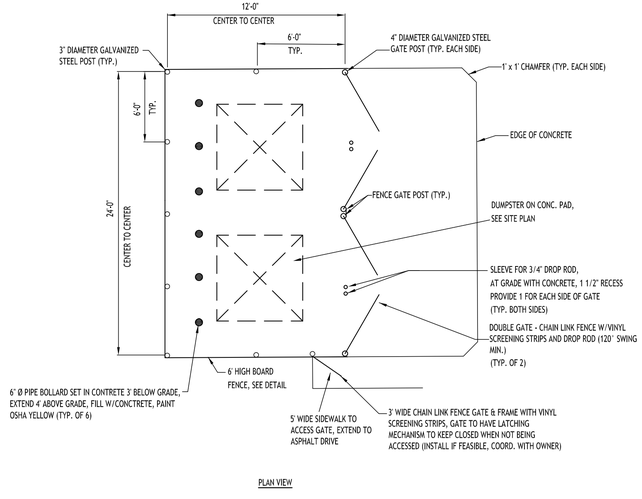


NOTE: TACTILE WARNING DEVICES SHALL BE PER ICC/ANSI A117.1-1998, SECTION 705.3.1.2 OR CURRENT UPDATE

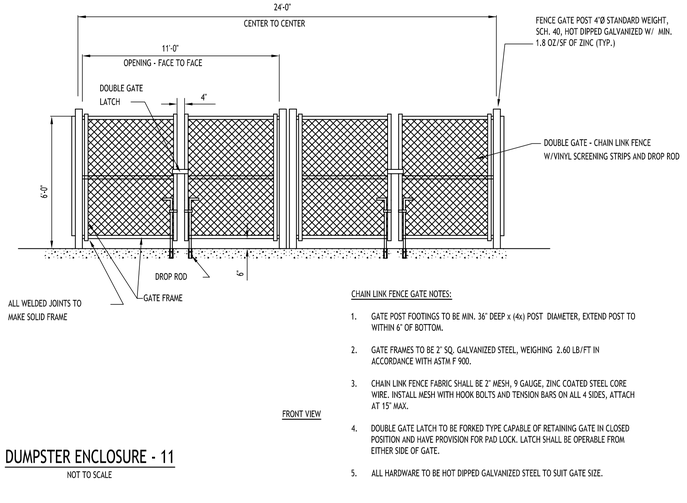
NOTE: ELEVATIONS & DIMENSIONS SHOWN ARE TO ILLUSTRATE GRADE CHANGE ONLY, SEE SITE & GRADING PLAN FOR ACTUAL DATUM & DIMENSIONS

HANDICAPPED PAVEMENT RAMP - 10

NOT TO SCALE



PLAN VIEW



FRONT VIEW

CHAIN LINK FENCE GATE NOTES:

1. GATE POST FOOTINGS TO BE MIN. 36" DEEP x (4x) POST DIAMETER, EXTEND POST TO WITHIN 6" OF BOTTOM.
2. GATE FRAMES TO BE 2" SQ. GALVANIZED STEEL, WEIGHING 2.60 LB/FT IN ACCORDANCE WITH ASTM F 900.
3. CHAIN LINK FENCE FABRIC SHALL BE 2" MESH, 9 GAUGE, ZINC COATED STEEL CORE WIRE. INSTALL MESH WITH HOOK BOLTS AND TENSION BARS ON ALL 4 SIDES, ATTACH AT 15" MAX.
4. DOUBLE GATE LATCH TO BE FORKED TYPE CAPABLE OF RETAINING GATE IN CLOSED POSITION AND HAVE PROVISION FOR PAD LOCK. LATCH SHALL BE OPERABLE FROM EITHER SIDE OF GATE.
5. ALL HARDWARE TO BE HOT DIPPED GALVANIZED STEEL TO SUIT GATE SIZE.

DUMPSTER ENCLOSURE - 11

NOT TO SCALE

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Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:

No.	Description	Date

Attachment: SP-2024-03_drawings_051624 (28839 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

STATE OF NEW YORK — R. CHRISTOPHER WOOD — 076394 — PROFESSIONAL ENGINEER

DRAWING NAME:

Site Details

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.

C-101

Project No: 24-4006

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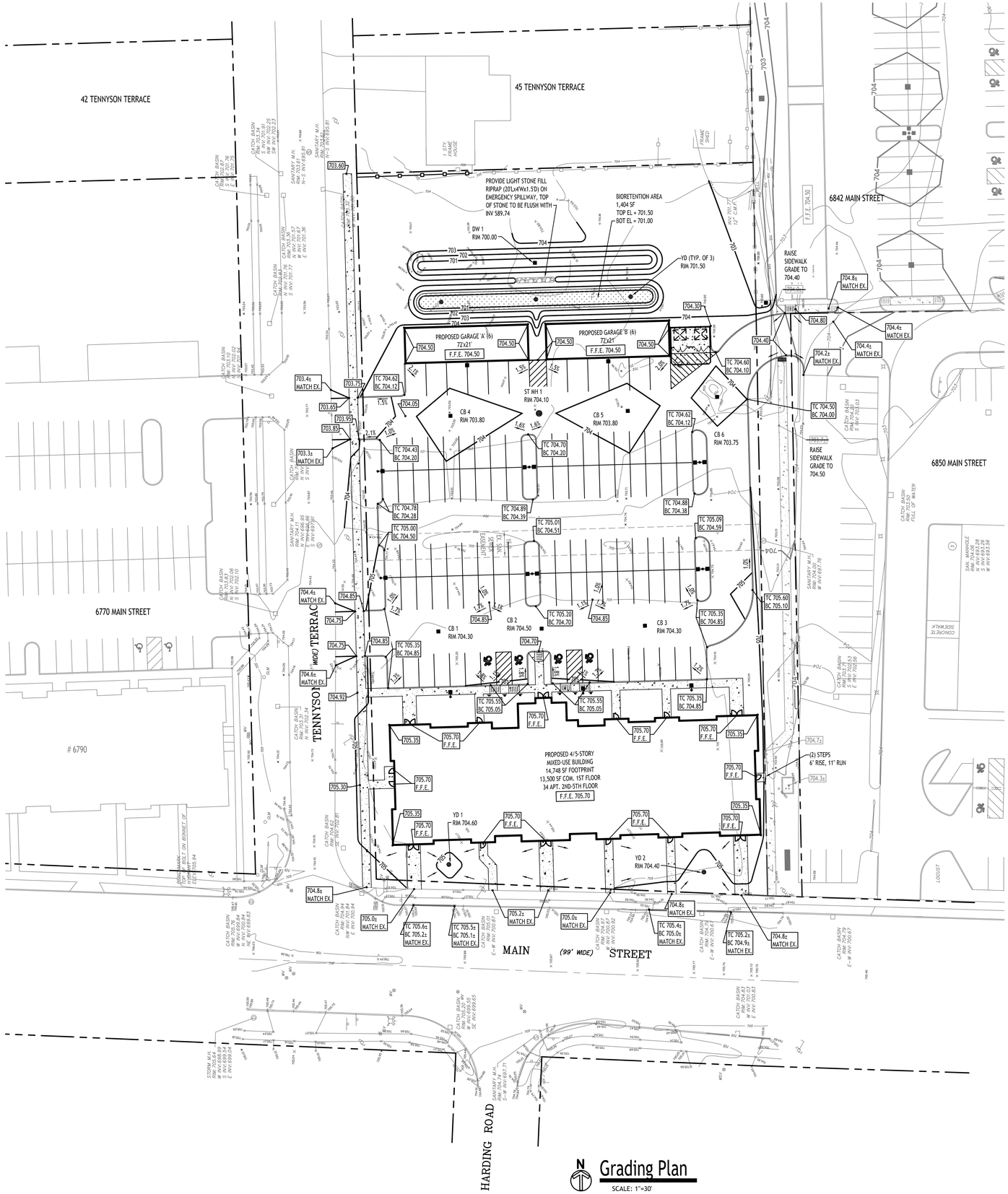

Grading Plan
SCALE: 1"=30'

PROPOSED GRADING LEGEND

PROPOSED CONTOUR	101
PROPOSED SPOT ELEVATION	100.00
PROPOSED TOP/BOTTOM OF CURB	TC 100.50 BC 100.00
PROPOSED CATCH BASIN	CB
PAVEMENT/GROUND SLOPE	
PROPOSED MANHOLE	MH
PROPOSED SWALE	

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS. CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30' 30 0 30 60Ft.

CARMINAWOOD DESIGN
Buffalo | Utica | Greensboro

Mixed Use Project
6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:		
No.	Description	Date

Attachment: SP-2024-03_drawings. 051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

STATE OF NEW YORK
CHRISTOPHER WOOD
087634
LICENSED PROFESSIONAL ENGINEER

DRAWING NAME:
Grading Plan

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.
C-200

Project No: 24-4006

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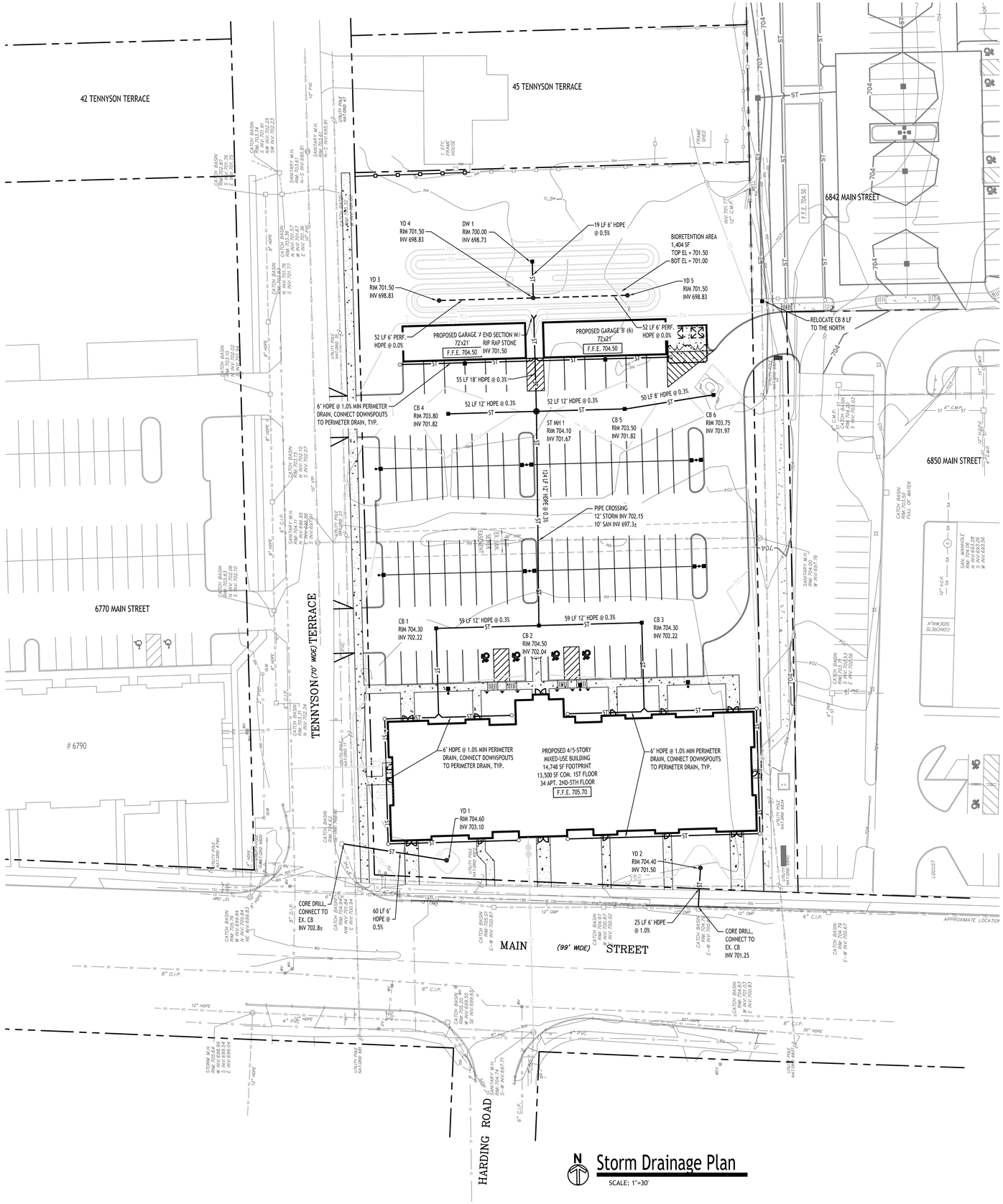

Storm Drainage Plan

SCALE: 1"=30'

PRE DEVELOPMENT STORMWATER EVENT SUMMARIES (MAIN STREET)			
Event	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-Year	0.32	657	1.65
10-Year	0.54	1,161	2.91
25-Year	0.66	1,440	3.61
100-Year	0.91	1,994	4.99

POST DEVELOPMENT STORMWATER EVENT SUMMARIES (MAIN STREET)			
Event	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-Year	0.14	353	0.61
10-Year	0.36	906	1.56
25-Year	0.50	1,247	2.15
100-Year	0.77	1,965	3.38

PRE DEVELOPMENT STORMWATER EVENT SUMMARIES (WELL)			
Event	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-Year	4.01	7,910	2.10
10-Year	7.93	16,144	4.29
25-Year	10.16	20,958	5.56
100-Year	14.66	30,817	8.17

POST DEVELOPMENT STORMWATER EVENT SUMMARIES (WELL)			
Event	Runoff (cfs)	Volume (cubic-feet)	Elevation (ft)
1-Year	0.90	1,512	701.83
10-Year	0.90	2,590	702.15
25-Year	0.90	2,980	702.25
100-Year	0.90	3,758	702.44

PROPOSED STORM DRAINAGE LEGEND

- PROPOSED STORM PIPE — ST
- PROPOSED PERFORATED STORM PIPE
- PROPOSED CATCH BASIN
- PROPOSED MANHOLE
- PROPOSED CLEANOUT

CB: CATCH BASIN
MH: MANHOLE
DW: DRAINAGE WELL

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS, CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30' 30 0 30 60Ft.

3.b

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Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:

No.	Description	Date

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

STATE OF NEW YORK
R. CHRISTOPHER WOOD
076394
PROFESSIONAL ENGINEER

DRAWING NAME:
Storm Drainage Plan

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.
C-300

Project No: 24-4006

Packet Pg. 1456

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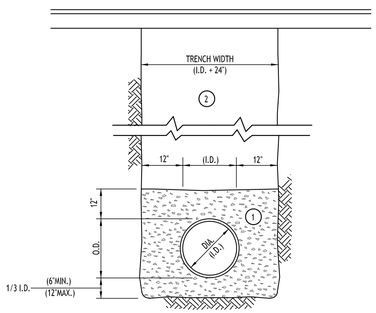


NOTES:

A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.

C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.

D. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

MATERIALS

PIPE BEDDING MATERIAL (NYSDOT 1985 EDITION)

(1) NO. 1 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN ONE INCH AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

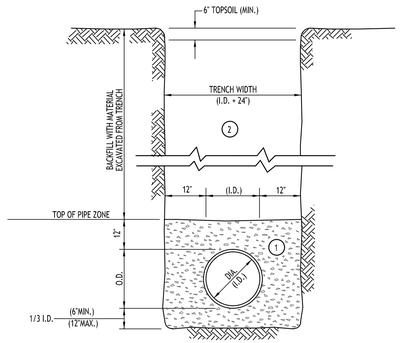
NO SLAG SHALL BE ALLOWED FOR MATERIAL (1)

(2) TYPE 2 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 304-2.02 TYPE 2. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN TWO INCHES AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

NO SLAG SHALL BE ALLOWED FOR MATERIAL (2)

STORM SEWER TRENCH SECTION IN PAVED AREAS

NOT TO SCALE



NOTES:

A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.

C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.

D. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

MATERIALS

PIPE BEDDING MATERIAL (NYSDOT 1985 EDITION)

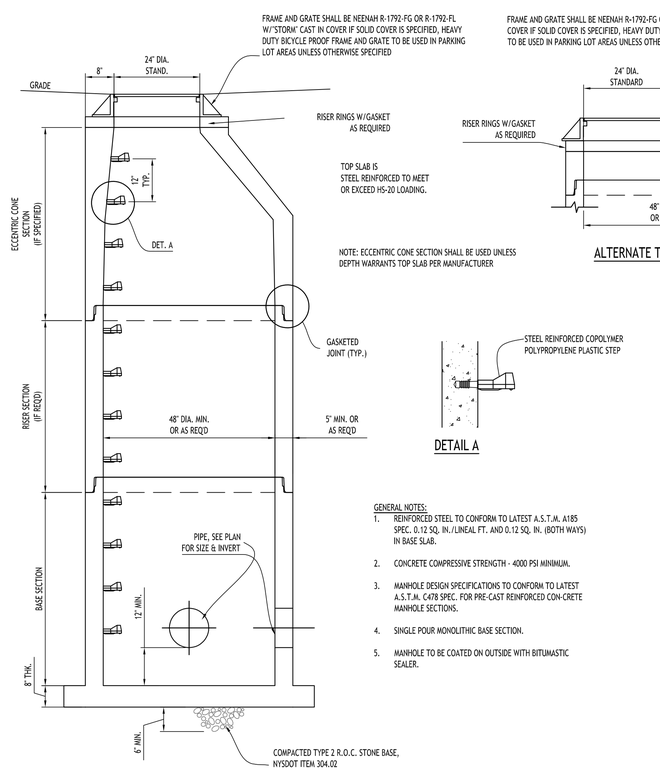
(1) NO. 1 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN ONE INCH AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

NO SLAG SHALL BE ALLOWED FOR MATERIAL (1)

(2) BACKFILL MATERIAL SHALL BE NATIVE SOIL CONTAINING NO UNSUITABLE MATERIAL COMPACTED IN 6" LIFTS.

STORM SEWER TRENCH SECTION IN UNPAVED AREAS

NOT TO SCALE



NOTE: ECCENTRIC CONE SECTION SHALL BE USED UNLESS DEPTH WARRANTS TOP SLAB PER MANUFACTURER

ALTERNATE TOP SLAB

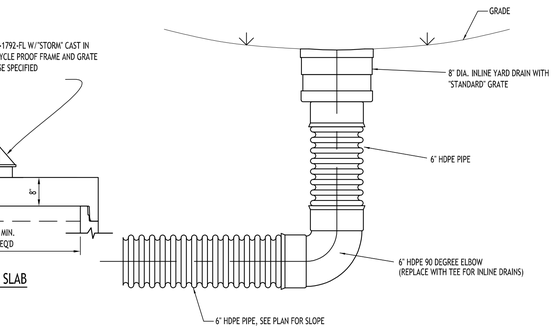
DETAIL A

GENERAL NOTES:

1. REINFORCED STEEL TO CONFORM TO LATEST A.S.T.M. A185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) IN BASE SLAB.
2. CONCRETE COMPRESSIVE STRENGTH - 4000 PSI MINIMUM.
3. MANHOLE DESIGN SPECIFICATIONS TO CONFORM TO LATEST A.S.T.M. C478 SPEC. FOR PRE-CAST REINFORCED CON-CRETE MANHOLE SECTIONS.
4. SINGLE POUR MONOLITHIC BASE SECTION.
5. MANHOLE TO BE COATED ON OUTSIDE WITH BITUMASTIC SEALER.

TYPICAL STORM MANHOLE DETAIL

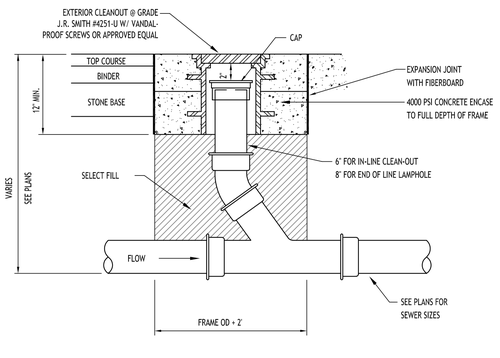
NOT TO SCALE



NOTE:
SEE TYPICAL TRENCH SECTION FOR BEDDING REQUIREMENTS

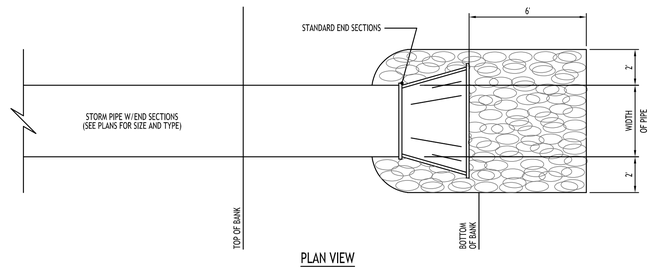
TYPICAL YARD DRAIN DETAIL

NOT TO SCALE

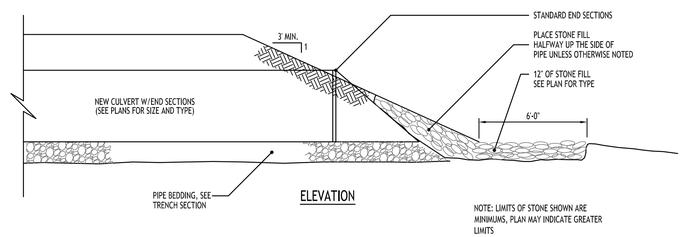


LAMPHOLE/CLEANOUT IN PAVEMENT/SIDEWALK

NOT TO SCALE



PLAN VIEW

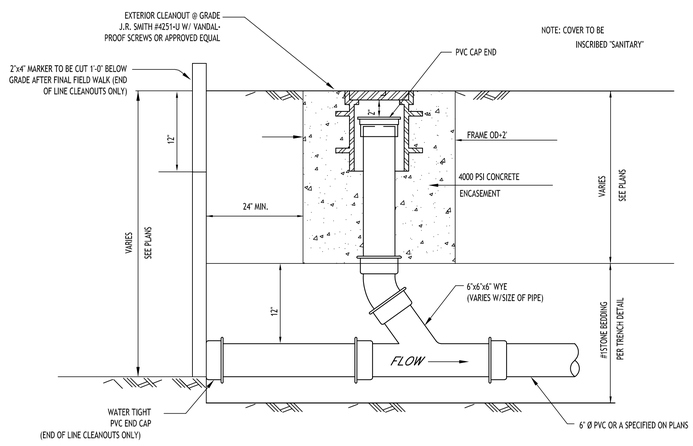


ELEVATION

NOTE: LIMITS OF STONE SHOWN ARE MINIMUMS, PLAN MAY INDICATE GREATER LIMITS

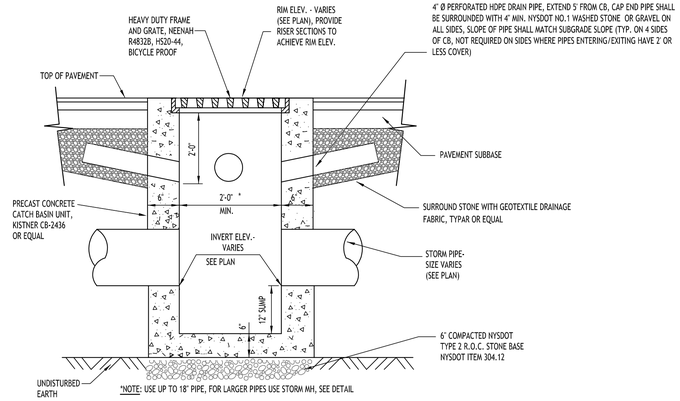
TYPICAL PIPE OUTLET W/ END SECTION & RIP RAP

NOT TO SCALE



LAMPHOLE/CLEANOUT IN LAWN/FIELD AREAS

NOT TO SCALE



*NOTE: USE UP TO 18" PIPE, FOR LARGER PIPES USE STORM MH, SEE DETAIL

TYPICAL PRECAST CATCH BASIN

NOT TO SCALE

3.b

CARMINAWOOD DESIGN
Buffalo | Utica | Greensboro

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:

No.	Description	Date

Attachment: SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.) (28830 : SP-2024-03, 051624

STATE OF NEW YORK
R. CHRISTOPHER WOOD
076394
LICENSED PROFESSIONAL ENGINEER

DRAWING NAME:
Storm Drainage Details

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.
C-301

Project No: 24-4006

Packet Pg. 1457

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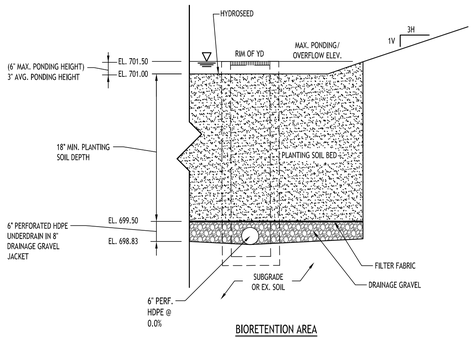


BIORETENTION AREA

BIORETENTION AREA - TYPICAL SECTION

NOT TO SCALE

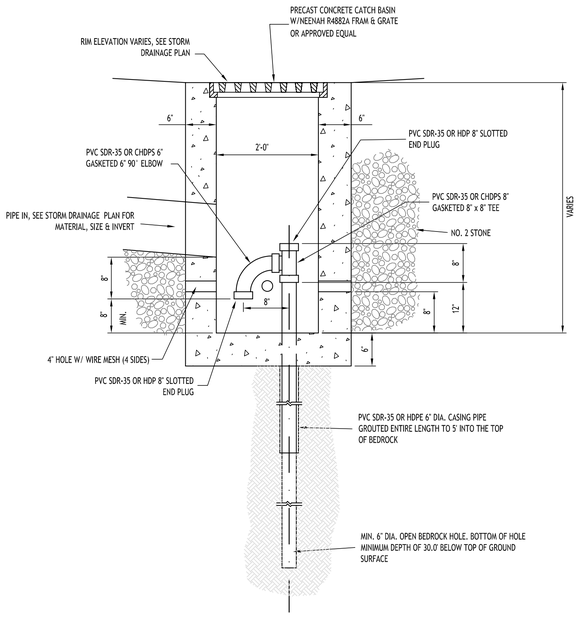
NOTES:
1. FILTER FABRIC TO BE NON-WOVEN CLASS 'C', MIRAFI 180-N OR APPROVED EQUIVALENT
2. DRAINAGE GRAVEL TO MEET AASHTO M-43. NO.67, SIZE 0.25" TO 0.75"
3. CONTRACTOR TO PROVIDE PLANTING SOIL SUBMITTAL SPECIFICATION FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

NOTE: PLANTING SOIL SHALL BE LOAM/SAND MIX CONTAINING A MINIMUM OF 35 TO 60% SAND BY VOLUME AND LESS THAN 25% CLAY. SOIL SHOULD FALL WITHIN USCS TYPES SM-OR ML WITH PERMEABILITY OF AT LEAST 0.5 FEET PER DAY. SOIL SHOULD BE FREE FROM STONES, STUMPS, ROOTS OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. PLACEMENT OF THE PLANTING SOIL SHOULD BE IN LIFTS OF 12" TO 18", LOOSELY COMPACTED.

CHARACTERISTICS SHALL BE:
PH RANGE: 5.2 - 7.00
ORGANIC MATTER: 1.5 - 4.0%
MAGNESIUM: 35 LBS PER ACRE MIN.
PHOSPHORUS: 75 LBS PER ACRE MIN.
POTASSIUM: 85 LBS PER ACRE MIN.
SOLUBLE SALTS: 500 PPM
CLAY: 10 TO 25%
SILT: 30 TO 55%
SAND: 35 TO 60%

bio-retention area seeding spec (Northeast Wetland Grass Seed Mix):

Seed Mixture	Variety	Percent by No. of Seeds
Creeping Bentgrass	Agrostis stolonifera	63.0
Rough Bluegrass	Poa trivialis	17.0
Meadow Foxtail	Alopecurus arundinaceus	11.0
Annual Ryegrass	Lolium multiflorum	4.5
Deertongue	Panicum clandestinum	4.5



TYPICAL DRAINAGE WELL

NOT TO SCALE

NOTES:

1. CONSTRUCTION OF STORM DRAINAGE WELLS TO BE IN ACCORDANCE WITH RECOMMENDATIONS OF BUFFALO DRILLING COMPANY, INC.
2. STORM DRAINAGE WELLS TO BE CONSTRUCTED AS MINIMUM 6" DIAMETER OPEN BEDROCK WELLS EXTENDING MINIMUM OF 30 FEET BELOW EXISTING GROUND SURFACE.
3. EACH STORM DRAINAGE WELL TO BE FIELD TESTED TO DETERMINE INTAKE VALUE, THIS VALUE TO BE APPROVED BY OWNER.
4. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL STATUTES REGARDING THE PREVENTION AND ABATEMENT OF SOIL EROSION, SEDIMENTATION, WATER POLLUTION AND PRESERVATION OF EXISTING AQUIFERS.
5. REGULAR PERIODIC INSPECTION AND MAINTENANCE OF STORM DRAINAGE WELLS IS RECOMMENDED. MAINTENANCE TO INCLUDE REMOVAL OF ACCUMULATED OILS AND SEDIMENT FROM SUMPS IN CURB INLETS AND STORM DRAINAGE WELLS AS WELL AS PERIODIC FLUSHING OF STORM DRAINAGE WELLS WITH WATER AND AIR.

CARMINAWOOD
DESIGN
Buffalo | Utica | Greensboro

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:

No.	Description	Date



DRAWING NAME:

Storm Drainage Details

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.

C-302

Project No: 24-4006

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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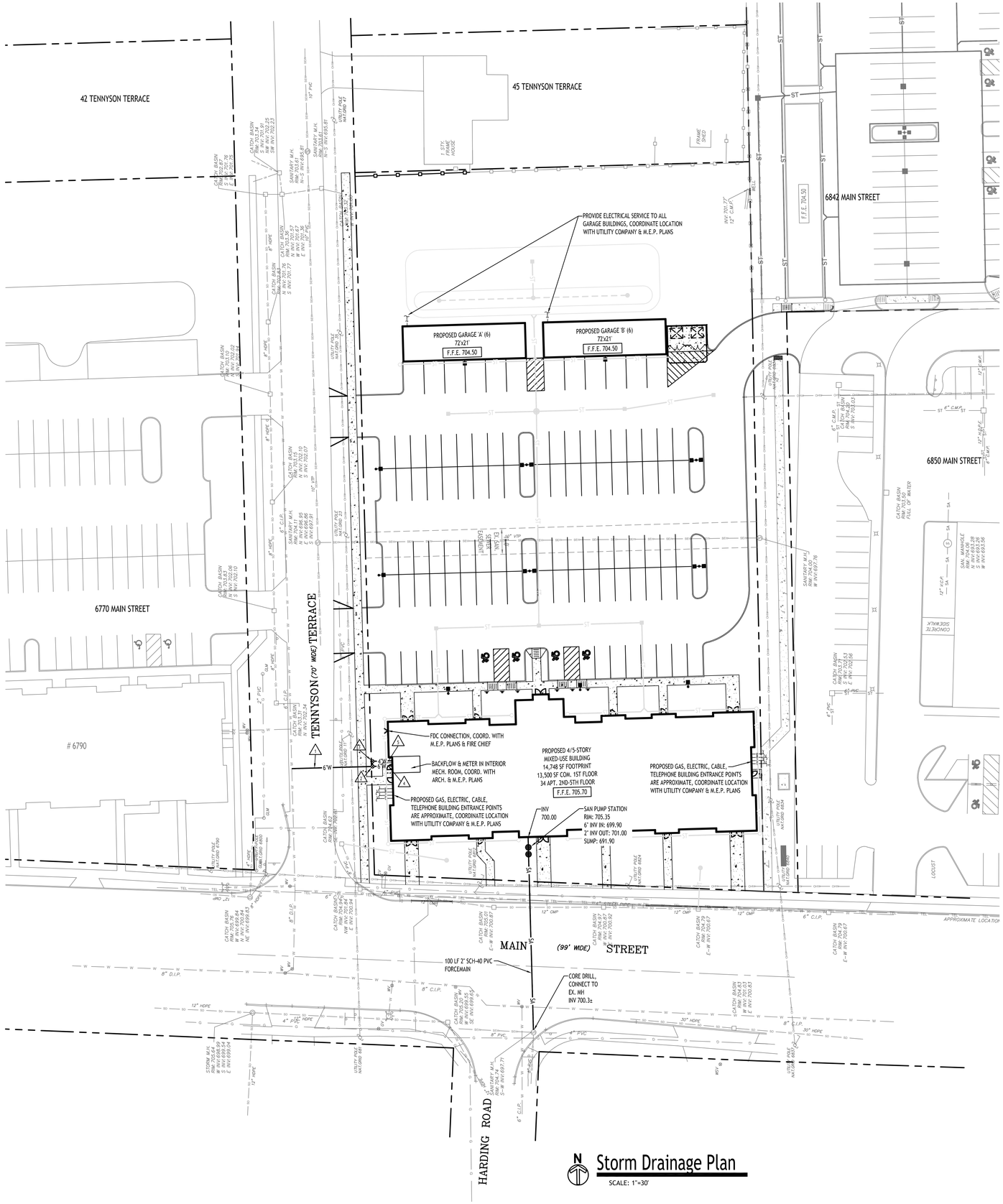

N

Storm Drainage Plan

SCALE: 1"=30'

WATER NOTE LEGEND

1. 6" CLASS 52 DUCTILE IRON
2. 6" VALVE AND BOX
3. 4" GATE VALVE AND BOX
4. 6" AWWA C-900 PVC FIRE SERVICE
5. 4" AWWA C-900 PVC DOMESTIC SERVICE

UTILITY NOTES:

1. FOR ALL SANITARY SEWERS, INSTALL SELECT FILL IN PAVED AREAS, EXTEND 5' MIN. BEYOND PAVEMENT LIMITS
2. BUILDINGS TO HAVE INVERT ELEVATION 5' MIN. BELOW F.F.E. OF THE BUILDING. PIPE TO BE 6" SDR-35 PVC @ 1.0% MIN. WITH MIN 4' OF COVER. ADD CLEANOUTS @ 90' MAX. SPACING FOR 6" LATERALS OVER 90' IN LENGTH.
3. COORDINATE GAS & ELEC. METER BANK LOCATIONS ON BUILDINGS WITH M.E.P. PLANS & UTILITY CO.'S.
4. COORDINATE LOCATION OF CTV & TELEPHONE SERVICE TO BUILDINGS WITH M.E.P. PLANS AND UTILITY CO.'S.
5. ANY EXISTING UTILITIES WHICH ARE TO BE ABANDONED AND FALL UNDER PAVEMENT OR BUILDINGS SHALL BE REMOVED VS. BEING ABANDONED UNLESS THOSE UTILITIES ARE FILLED WITH FLOWABLE FILL.
6. A MINIMUM OF 10 FEET HORIZONTAL AND 18 INCHES OF VERTICAL SEPARATION MUST BE MAINTAINED BETWEEN ALL SANITARY SEWER AND WATER SERVICES.
7. SELECT BACKFILL IS REQUIRED FOR ALL UTILITIES (GAS, WATER, STORM, SANITARY) THAT CROSS THROUGH CONCRETE AND ASPHALT PAVEMENT AREAS.

NOTES:

1. ALL SANITARY SEWER CONSTRUCTION SHALL CONFORM TO THE TOWN OF AMHERST SPECIFICATIONS AND DETAILS, AND ERIE COUNTY DEPARTMENT OF HEALTH RULES AND REGULATIONS.
2. PRIOR STARTING ANY WORK ASSOCIATED WITH OR NEAR EXISTING SANITARY MANHOLES, THE CONTRACTOR SHALL MEET WITH THE TOWN OF AMHERST TO DISCUSS AND AGREE TO THE WORK.
3. FILL SHALL BE PLACED AND SATISFACTORILY COMPACTED PRIOR TO INSTALLATION OF UTILITIES, AND MUST BE APPROVED BY THE SUPERVISING PROJECT ENGINEER.
4. ALL SANITARY SEWER IS TO CONSTRUCTION IS TO CONFORM TO TOWN OF AMHERST SEWER DISTRICT RULES AND REGULATIONS.
5. ALL OTHER REQUIRED PERMITS BY THE STATE OF NEW YORK, COUNTY OF ERIE AND TOWN OF AMHERST ARE THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER.

PROPOSED UTILITY LEGEND

- PROPOSED WATER LINE — W
- PROPOSED SANITARY SEWER — SA
- PROPOSED UTILITY CONNECTIONS (GAS, ELEC., CABLE, TEL., ETC.)
- PROPOSED GATE VALVE
- PROPOSED CLEANOUT
- INSTALL SELECT BACKFILL

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS, CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

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Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:

No.	Description	Date

STATE OF NEW YORK · CHRISTOPHER WOOD · 076304 · LICENSED PROFESSIONAL ENGINEER

DRAWING NAME:

Utility Plan

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.

C-400

Project No: 24-4006

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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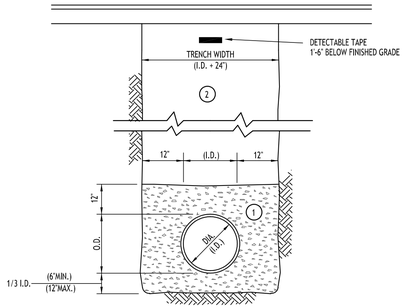


NOTES:

A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.

C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.

D. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

MATERIALS

PIPE BEDDING MATERIAL (NYSDOT 1985 EDITION)

(1) NO. 1 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN ONE INCH AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

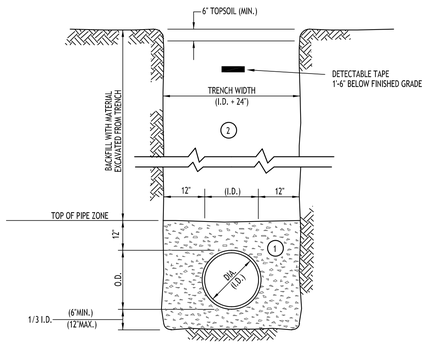
NO SLAG SHALL BE ALLOWED FOR MATERIAL (1)

(2) TYPE 2 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 304-2.02 TYPE 2. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN TWO INCHES AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

NO SLAG SHALL BE ALLOWED FOR MATERIAL (2)

SEWER/WATERLINE TRENCH SECTION IN PAVED AREAS

NOT TO SCALE



NOTES:

A. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

B. TRENCHING OPERATIONS SHALL INCLUDE ALL NECESSARY DEWATERING.

C. TRENCH DETAILS ARE ONLY SHOWN FOR PURPOSES OF MATERIAL PLACEMENT AND MAXIMUM PAY LIMITS.

D. AN OSHA APPROVED MOVABLE PROTECTIVE TRENCH SHIELD SHALL BE USED IN ALL UNSHEETED TRENCH AREAS.

MATERIALS

PIPE BEDDING MATERIAL (NYSDOT 1985 EDITION)

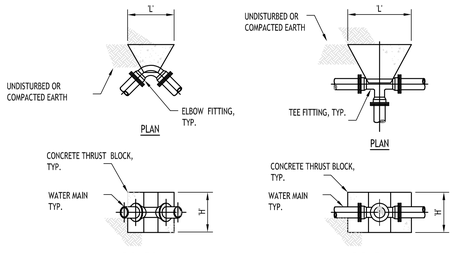
(1) NO. 1 CRUSHED STONE OR CRUSHED GRAVEL WITH A GRADATION CONFORMING WITH NYSDOT SECTION 703-02. THE MATERIAL SHALL BE WELL GRADED WITH NO PARTICLES LARGER THAN ONE INCH AND HAVING A MAXIMUM GRADATION MEETING THE LIMITS DESCRIBED IN THE SPECIFICATIONS. THE BEDDING SHALL BE COMPACTED IN 6" LIFTS WITH EQUIPMENT ACCEPTABLE TO THE PIPE MANUFACTURER.

NO SLAG SHALL BE ALLOWED FOR MATERIAL (1)

(2) BACKFILL MATERIAL SHALL BE NATIVE SOIL CONTAINING NO UNSUITABLE MATERIAL COMPACTED IN 6" LIFTS.

SEWER/WATERLINE TRENCH SECTION IN UNPAVED AREAS

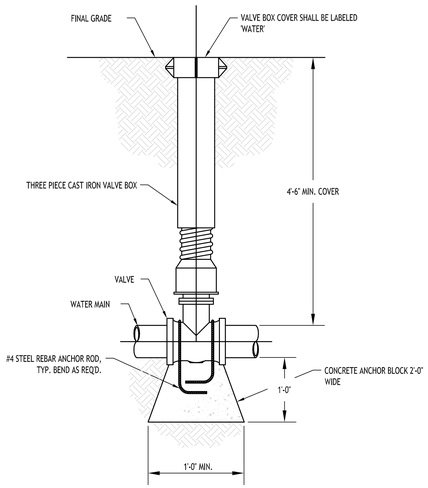
NOT TO SCALE



DIMENSION SCHEDULE								
PIPE SIZE	90° ELBOW		45° ELBOW		22.5° ELBOW		11.25° ELBOW	
	'H'	'L'	'H'	'L'	'H'	'L'	'H'	'L'
4"	1.5'	2.0'	1.0'	2.0'	1.0'	1.0'	1.0'	1.0'
6"	2.0'	2.5'	1.5'	2.0'	1.0'	1.5'	1.0'	1.5'
8"	2.5'	3.5'	2.0'	2.5'	1.5'	1.5'	1.0'	2.0'
10"	3.0'	4.5'	2.5'	3.0'	1.5'	3.0'	1.0'	2.5'
12"	3.5'	5.0'	3.0'	3.5'	2.5'	2.5'	1.5'	2.5'

DIMENSION SCHEDULE		
PIPE SIZE	TEE OR TAP SLEEVE	
----	'H'	'L'
4"	1.5'	1.0'
6"	1.5'	2.5'
8"	1.5'	3.5'
10"	2.5'	3.5'
12"	3.5'	3.5'

THRUST BLOCK SCHEDULE



TYPICAL GATE VALVE DETAIL

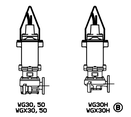
NOT TO SCALE

TYPICAL INSTALLATION

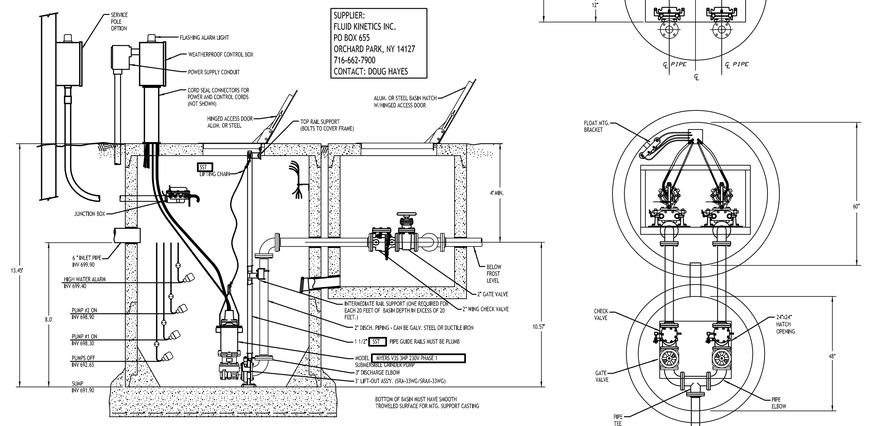
DUPLEX SUBMERSIBLE GRINDER

PUMP SERIES: WG30-50, WGX30,50 (B) WG30H, WGX30H

LIFT OUT MODELS: SRA-33WG SRAX-33WG



SUPPLIER:
FLUID KINETICS INC.
PO BOX 655
ORCHARD PARK, NY 14127
716-662-7900
CONTACT: DOUG HAYES



PUMP STATION LAYOUT

NOT TO SCALE

3.b

CARMINAWOOD DESIGN
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Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:

No.	Description	Date

STATE OF NEW YORK
R. CHRISTOPHER WOOD
076394
LICENSED PROFESSIONAL ENGINEER

DRAWING NAME:
Utility Details

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.
C-401

Project No: 24-4006

Packet Pg. 1460

Attachment: SP-2024-03_drawings. 051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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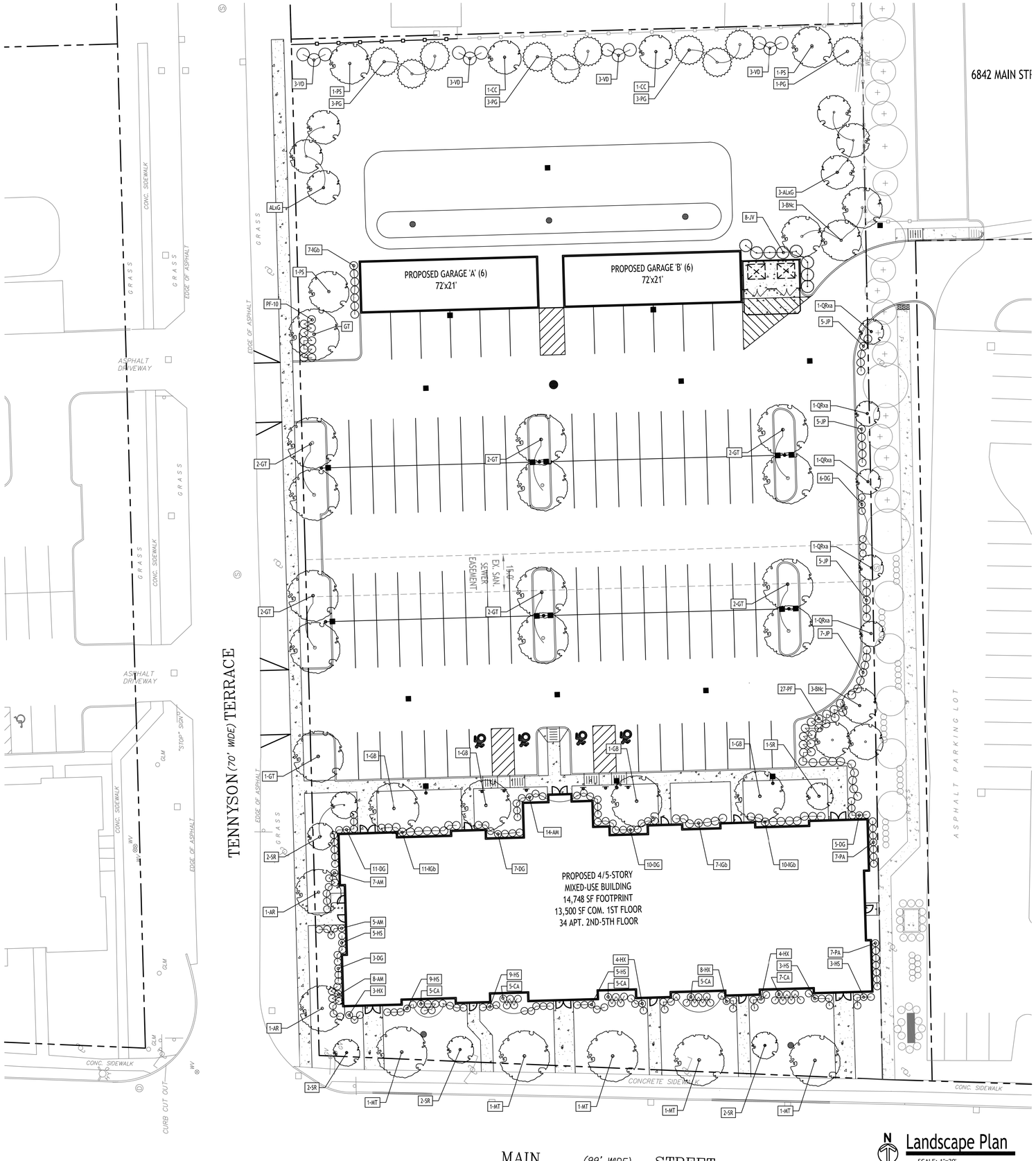

Landscape Plan

SCALE: 1"=20'

Recommended Plant List

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
DECIDUOUS TREES					
AG	6	Amelanchier x grandiflora 'Autumn Brilliance'	Autumn Brilliance Apple Serviceberry	8 ft. high min.	B&B; multi-stem (clump), minimum 3 major stems
AR	2	Acer rubrum 'Autumn Spire'	Autumn Spire Red Maple	2½-3" Cal.	B&B; grows to 50 ft. high, 20 ft. wide
BN	6	Betula nigra 'Cully'	Heritage River Birch	12' High Min.	B&B; multi-stem, 3 major stems
CC	2	Cercis canadensis	Eastern Redbud	8' High Min.	B&B; multi-stem, 3 major stems
MT	5	Ginko biloba 'Princeton Sentry' (male only)	Princenton Sentry Maidenhair Tree	2½-3" Cal.	B&B; grows to 60 feet high, 25 feet wide
GB	4	Ginko biloba 'Autumn Gold' (male only)	Autumn Gold Maidenhair Tree	2½-3" Cal.	B&B; grows to 45 feet high, 35 feet wide
GT	14	Gleditsia triacanthos inermis 'Draves'	Streetkeeper Honeylocust	2½-3" Cal.	B&B; grows to 40 ft. high, 20 ft. wide
PS	3	Prunus serotina	Black Cherry	2½-3" Cal.	B&B; grows to 50 ft. high, 25 ft. wide
QRxa	5	Quercus robur X alba	Skinny Genes Oak	2½-3" Cal.	B&B; grows 40-50 feet high, 10' wide
SR	6	Syringa reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	8' High Min.	B&B; multi-stem, 3 major stems
EVERGREEN TREES					
PG	10	Picea glauca	White Spruce	5-6 ft. high*	B&B; Full to ground
JV	8	Juniperus virginiana "Emerald Sentinal"	Emerald Sentenal Eastern Red Cedar	5-6 ft. high*	B&B; Full to ground
				* Height measured to bottom of leader	
SHRUBS					
AM	33	Aronia melanocarpa 'UCONNAM165'	Low Scape Mound Aronia (groundcover)	12" High Min.	No. 2 Cont.; grows 1-2 ft. high, 2-3 ft. wide
DG	41	Diervilla 'G2X88544'	Kodiak Orange Diervilla	24" High Min.	No. 3 Cont.; grows 3-4 feet high and wide
HS	36	Hydrangea serrata 'SMNMAKTSR'	Tuff Stuff Red Hydrangea	24" High Min.	No. 5 Cont.; grows 3-4 feet high and wide
HX	19	Hypericum x 'Deppe'	Sunny Boulevard Hypericum	24" High Min.	No. 5 Cont.; grows 2-3 ft. high, 3-4 ft. wide
IG	54	Ilex glabra 'Chamzin'	Nordic Inkberry	24" High Min.	No. 5 Cont.; Grows to 3-4ft. tall and wide
JP	22	Juniperus x pfitzeriana 'Aurea Improved'	Gold Coast Juniper	24" High Min.	No. 3 Cont.; Grows to 3 ft. tall, 4 ft. wide
PF	36	Potentilla fruticosa 'Jackmann'	Jackman Potentilla	24" High Min.	No. 3 Cont.; Grows to 3-4ft. tall and wide
VD	12	Viburnum dentatum	Arrowwood Viburnum	48" High Min.	B&B; grows to 8 ft. high and wide
ORNAMENTAL GRASSES/PERENNIALS					
CA	29	Calamagrostis acutifolia 'Karl Foerster'	Karl Foerster Feather Reed Grass**	No. 3 Cont.	
PA	14	Pennisetum alopicuroides 'Hameln'	Dwarf Fountain Grass**	No. 3 Cont.	

NOTE: All trees and planting beds shall receive a 3-inch layer of shredded hardwood bark mulch.

LANDSCAPE LEGEND

DECIDUOUS TREE

SMALL TREE

EVERGREEN TREE/SHRUB

SHRUB/GRASSES/PERENNIALS

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Mixed Use Project

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Amherst, NY

REVISIONS:

No.	Description	Date

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JOSEPH JEFFREY LANDSCAPE ARCHITECT ROBERT G. WALTER NO. 001705 STATE OF NEW YORK

DRAWING NAME:

Landscape Plan

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.

L-100

Project No: 24-4006

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LANDSCAPE NOTES:

1. ALL PLANTS INSTALLED SHALL MEET OR EXCEED THE MINIMUM REQUIREMENTS AS NOTED ON THE PLANS AND IN THE LATEST EDITION ON THE AMERICAN STANDARD FOR NURSERY STOCK, BY THE AMERICAN ASSOCIATION OF NURSERYMEN, ANSI Z60.1

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN QUANTITY TAKEOFF, THE QUANTITIES SHOWN ARE A MINIMUM AND ARE FOR REFERENCE ONLY.

3. THE CONTRACTOR SHALL PERFORM A ROUGH FIELD STAKEOUT OF ALL PLANTING MATERIAL LOCATIONS AND CONTACT THE OWNERS FIELD REPRESENTATIVE PRIOR TO ACTUALL INSTALLING. THE PLANTING MATERIAL LOCATIONS SHOWN ON THE PLANS ARE TO CONVEY THE DESIGN INTENT ONLY, ACTUAL LOCATIONS WILL BE FINALIZED BY THE OWNERS FIELD REPRESENTATIVE AT THE TIME OF INSTALLATION.

4. THE CONTRACTOR IS HEREBY NOTIFIED THAT IF UNDERGROUND UTILITIES EXIST IN THE VICINITY OF THE PLANTINGS, ALL PROPOSED PLANTINGS SHALL BE INSTALLED A MINIMUM OF 5' FROM ANY UNDERGROUND UTILITY, CONTACT THE OWNERS FIELD REPRESENTATIVE IF PLANTINGS SHOWN ON THE PLANS VIOLATE THIS SITUATION.

5. ALL TREES SHALL BE INSTALLED A MINIMUM OF 20' FROM ANY OVERHEAD ELECTRIC LINES.

6. PLANTING BACKFILL MIXTURE SHALL CONSIST OF 3 PARTS TOPSOIL, 1 PART PEAT MOSS, ⅓ PART MILORGANITE.

7. STAKE TREES IMMEDIATELY FOLLOWING INSTALLATION.

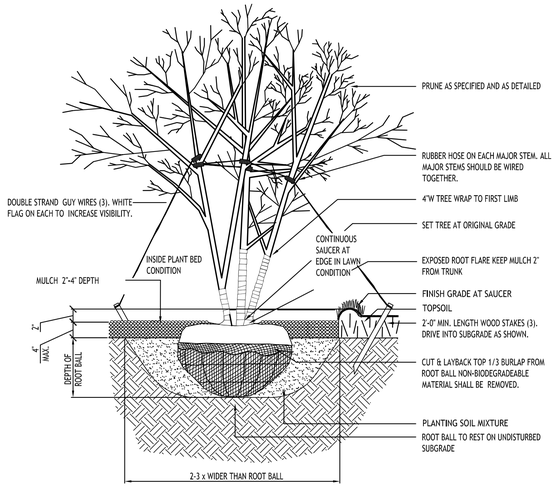
8. ALL PLANTED AREAS SHALL RECEIVE A 3" LAYER OF SHREDDED HARDWOOD BARK MULCH WITH 'PREEN'.

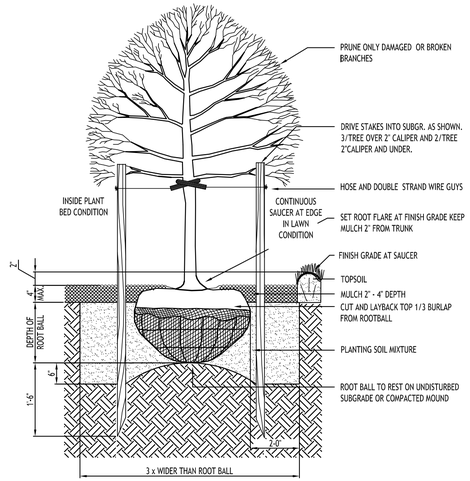
9. ALL DISTURBED AREAS NOT RECEIVING PLANTINGS (INCLUDING RIGHT-OF-WAYS) SHALL BE SEEDED.

10. THE AREAS ON THE PLAN TO BE SEEDED SHALL HAVE 4" MINIMUM OF TOPSOIL, DISK PLOWED, LEVELED AND HAND RAKED SMOOTH. SURFACE SHALL BE ROLLED TO REMOVE LUMPS.

11. ALL SEEDED AREAS SHALL BE HYDROSEEDED IN ACCORDANCE WITH THE SPECIFICATION INDICATED. WHERE REQUIRED BY CLIMATIC CONDITIONS, SLOPE OR SEASON OF PLANTING, SOD MAY BE SUBSTITUTED FOR SEEDING IN ORDER TO ACHIEVE THE REQUIRED COVERAGE.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING, MOWING AND OTHER MAINTENANCE TO SEEDED AREAS UNTIL THE PROJECT IS ACCEPTED BY THE OWNER, THIS SHALL INCLUDE WATERING DAILY FOR 15 DAYS OR AS REQUIRED BY WEATHER CONDITIONS AND RE-SEEDING OF THIN SPOTS FOLLOWING THE GERMINATION OF THE SEEDS.





STD. DECIDUOUS TREET PLANTING

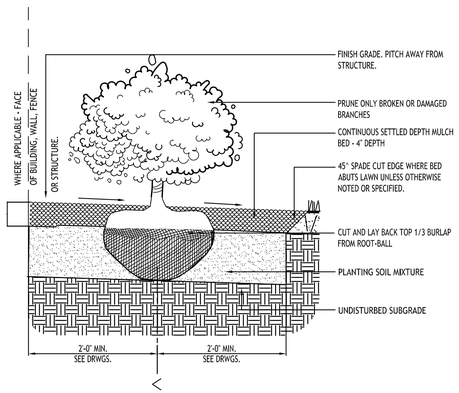
NOTES:

1. ALL PLANTING BEDS & TREE PITS SHALL RECEIVE A MIN. 3-INCH DEPTH OF DARK SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE CALLED OUT ON PLANS.
2. ALL PLANT MATERIALS SHALL BE INSPECTED TWICE ANNUALLY, ONCE IN THE SPRING AND AGAIN IN THE FALL. TREES & SHRUBS THAT ARE DEAD OR ARE IN POOR CONDITION/DISEASED (LESS THAN 50% LEAF COVER) SHALL BE REPLACED BEFORE THE NEXT GROWING SEASON. TREES AND SHRUBS THAT DO NOT EXHIBIT THE CONDITIONS FOR REPLACEMENT SHALL BE PRUNED AT THE TIME OF INSPECTION TO REMOVE DEAD TWIGS & BRANCHES.
3. ALL NURSERY TAGS TO REMAIN ON PLANTS UNTIL AFTER FINAL INSPECTION AND APPROVAL OF THE LANDSCAPING.
4. A DRIP IRRIGATION SYSTEM IS RECOMMENDED FOR ALL PLANTINGS. SOAKER HOSES ARE RECOMMENDED AT THE TIME OF INSTALLATION OF ALL PLANT MATERIALS AND SHOULD BE UTILIZED THROUGHOUT THE ENTIRE LENGTH OF THE FIRST FULL GROWING SEASON.

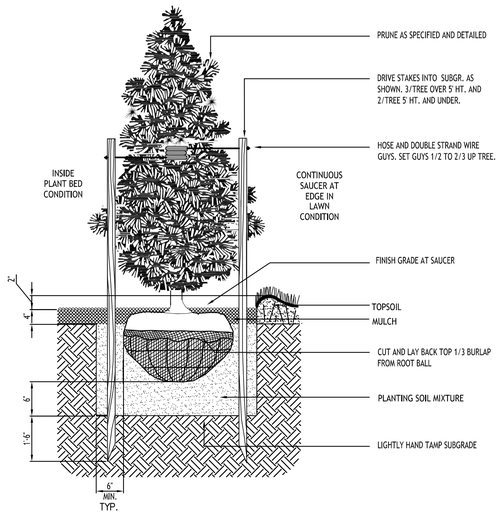
* ORNAMENTAL GRASSES SHOULD BE PRUNED BACK IN LATE FALL OR EARLY SPRING TO ALLOW NEW FOLIAGE TO GROW IN SPRING.

PLANTING NOTES:

1. ALL INTERIOR LANDSCAPED AREAS SHALL HAVE A MINIMUM PLANTING SOIL DEPTH OF THREE (3) FEET AND BE FREE FROM ALL FORMS OF CONSTRUCTION DEBRIS AND FOREIGN MATERIAL.
2. ALL TREE PIT SAUCERS, SHRUB BEDS, ORNAMENTAL GRASS BEDS, AND PERENNIAL FLOWER BEDS SHALL RECEIVE THREE (3) INCHES DEPTH OF DARK SHREDDED HARDWOOD BARK MULCH.
3. ALL SEASONAL FLOWER BEDS SHALL BE A MINIMUM OF TWELVE (12) INCHES DEEP WITH A WELL-BLENDED MIXTURE OF 50% PEAT MOSS & 50% SCREENED TOPSOIL. NO MULCH SHALL BE INSTALLED IN THE SEASONAL FLOWER BEDS.
4. ALL DECIDUOUS AND EVERGREEN TREES SHALL BE STAKED WITH THREE (3) TREE STAKES AS PER TREE PLANTING DETAIL.



STD. SHRUB PLANTING



STD. EVERGREEN PLANTING

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Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:

No.	Description	Date

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

DRAWING NAME:

Landscape Details

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.

L-101

Project No: 24-4006

3.b

Packet Pg. 1462

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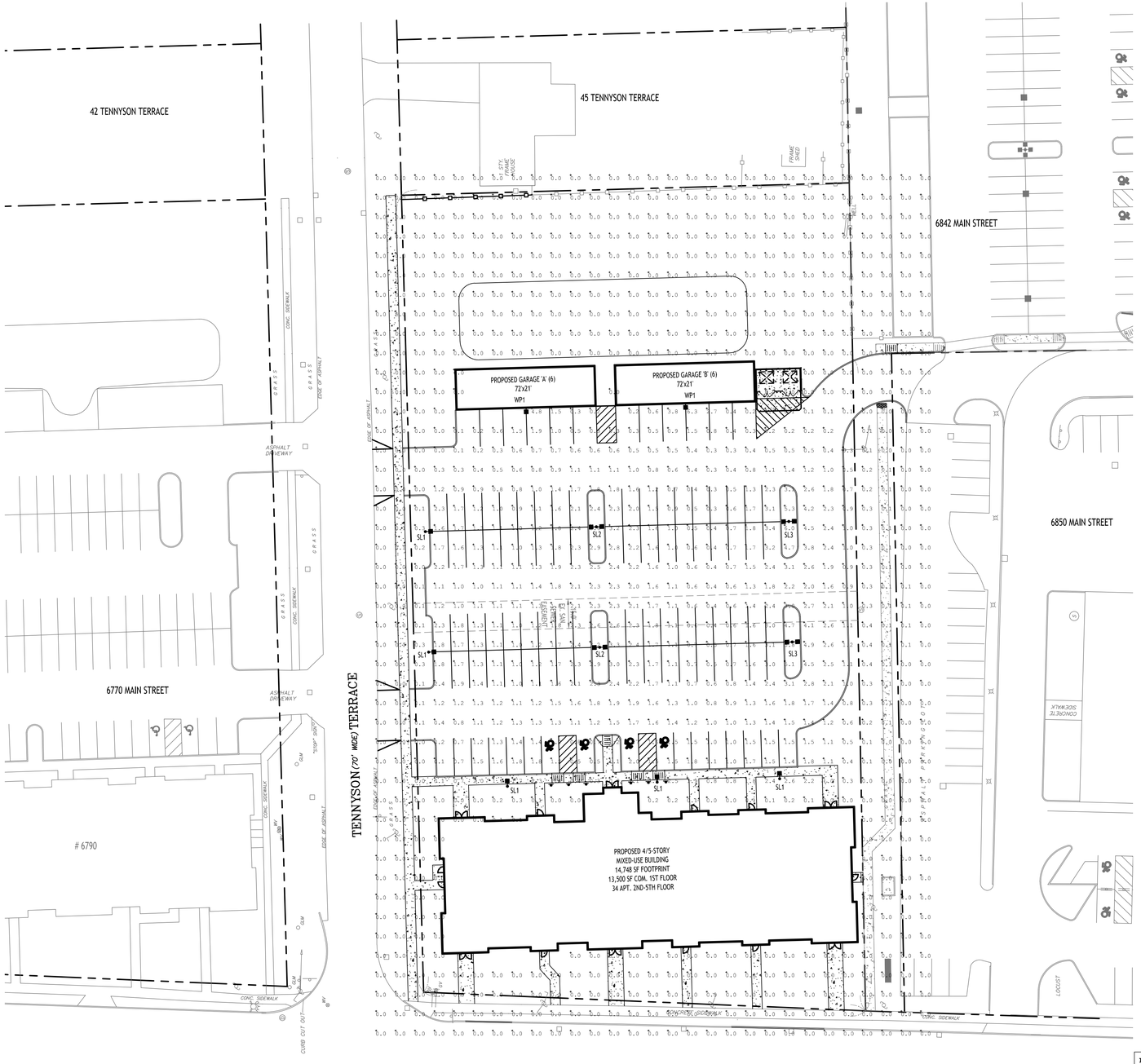

N

Lighting Plan

SCALE: 1"=30'

Lighting Calculations Prepared by Quality Lighting Systems
For pricing please contact Paul Speicher at pspeicher@qlsny.com

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description	LLF	Luminaire Lumens	Luminaire Watts	Total Watts	Mounting Height	BUG Rating
	5	SL1	Single	GALN-SA1B-740-U-T4FT-HSS	0.900	4146	44	220	15	B1-U0-G2
	2	SL2	Back-Back	GALN-SA1B-740-U-5WQ	0.900	6026	44	176	15	B3-U0-G1
	2	SL3	Back-Back	GALN-SA1B-740-U-T3	0.900	5710	44	176	15	B1-U0-G1
	2	WP1	Single	LDWP-FC-3B-ED	0.900	1911	27.1	54.2	10	B1-U0-G1

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CalcPts_1	Illuminance	Fc	0.99	6.3	0.0	N.A.	N.A.
PARKING LOT SURFACE	Illuminance	Fc	1.45	6.3	0.0	N.A.	N.A.

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30 0 30 60Ft.

Project		Catalog #		Type	
Prepared by		Notes		Date	



McGraw-Edison

GALN Galleon II

Area / Site Luminaire

Product Features

Light Allowance™ · BAA

Interactive Menu

- Ordering Information page 2
- Mounting Details page 3
- Optical Distributions page 5
- Product Specifications page 8
- Energy and Performance Data page 6
- Control Options page 11

Product Certifications

ISTI · DLC Listed · DLC Premium · DG VIII · IP66 · IK08 · Kit · 5 YEAR

Quick Facts

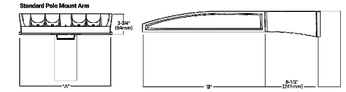
- Lumen packages range from 3,900 - 73,500 (33W - 552W)
- 17 optical distributions
- Efficacy up to 159 lumens per watt

Connected Systems

- WaveLinx Lite
- WaveLinx

Dimensional Details

Standard Pole Mount Arm



Pole Drilling Pattern
Type "N"



Number of Light Sources	Width "A"	Housing Length "B"	Weight with Standard or QM Arm	EPA with Standard or QM Arm
1-4	16"	22"	29 lb	0.95
5-6	22"	22"	39 lb	0.95
7-9	22"	28-1/8"	48 lb	1.1

NOTES:
For pole adaptor requirements and additional fixture set, see Mounting Details section.

NOTES:
1. Visit http://www.designlights.org/search/ to confirm certifications. Not all product variations are DLC qualified.
2. Kit Certified (IP65K1IK10 and marine-rated hardware options)

COOPER Lighting Solutions

PSS20003323E page 1
September 27th, 2023 1:22 PM

Lumark

DESCRIPTION

The Lumark Wal-Pak wall luminaire provides traditional architectural style with high performance energy efficient illumination. Rugged die-cast aluminum construction, stainless steel hardware along with a sealed and gasketed optical compartment make the Wal-Pak virtually impenetrable to contaminants. IP66 Rated. Three available lamp sources including patented energy efficient LED, pulse start metal halide and high pressure sodium. UL/cUL wet location listed. The Wal-Pak wall luminaire is ideal for pathway illumination, building entrances, vehicle ramps, schools, tunnels, stairways and loading docks.

Ex.ship #		Type	
Project			
Comments		Date	
Prepared by			

SPECIFICATION FEATURES

Housing
Rugged one-piece die-cast aluminum housing and hinged, removable die-cast aluminum door. One-piece silicone gasket seals the optical chamber. UL 1598 wet location listed and IP66 ingress protection rated.

Electrical
Ballasts, LED driver and rotated electrical components are hard mounted to the die-cast housing for optimal heat sinking and operating efficiency. Wiring is extended through a silicone gasket at the back of the housing. Three 1/2" threaded conduit entry points allow for thru-branch wiring. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from LED source. Integral LED electronic driver incorporates internal fusing designed to withstand a 6kV surge test and is Class 2 rated for 120-277V with an operating temperature of -40° to 55°C. Wal-Pak LED systems maintain greater than 92% of the initial light output after 72,000 hours of operation. UL listed HID high power factor ballasts are Class H insulation rated (high pressure sodium: 250, 400W | -40°C / -40°F). High efficiency HID ballasts are available in 120, 208, 240, 277, 347 and 480V.

Optical
Highly reflective anodized aluminum reflectors provide high efficiency illumination. Optical assemblies include impact resistant borosilicate refractive glass, and full cutoff IESNA compliant configurations. Patented, solid state LED luminaires are thermally optimized with three lumen packages. HID models are offered in horizontal medium or mogul based metal halide (MP) or high pressure sodium (HP) lamps.

Door Assembly
Single point, captive stainless steel hardware secures the removable hinged door allowing for ease of installation and maintenance. Door assembly is hinged at the bottom for easy removal, installation and re-lamping.

Finish
Finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard color is bronze. Additional colors available in white, grey, bronze, black, dark platinum and graphite metallic. Consult your lighting representative at Cooper Lighting Solutions for a complete selection of standard colors. Options to meet Buy American and other domestic preference requirements.

Efficiency Standards Notice
Select luminaires are manufactured to USA and California efficiency regulations.



WP WAL-PAK

27, 32 and 46W
LED
250 - 400W
Pulse Start Metal Halide
250 - 400W
High Pressure Sodium

WALL MOUNT LUMINAIRE

DLC Listed · DLC Premium · BAA

TECHNICAL DATA
UL/cUL Wet Location Listed
IP66 Rated
40°C Maximum Ambient Temperature
Mounting Surface Supply Wiring 90°C Minimum
ESA & ARRA, Title 20 Compliant
LM79 / LM80 Compliant
DesignLights Consortium® Qualified*

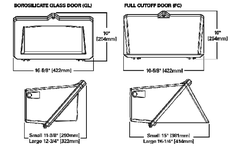
ENERGY DATA
CRI≥ Ballast Input Watts
250W MP5 HPF 290 Watts
250W MP HPF 320 Watts @
400W HPS HPF 1660 Watts
400W MP HPF 1652 Watts @

SHIPPING DATA
Approximate Net Weight:
35-49 lbs. (15-18 kgs.)

TDW1403BEN
February 12, 2024 11:1o AM

DIMENSIONS

BOROSILICATE GLASS DOOR (GL) · FULL CUTOFF DOOR (FC)



COOPER Lighting Solutions

*www.designlights.org

CARMINAWOOD DESIGN
Buffalo | Utica | Greensboro

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS: No.	Description	Date



DRAWING NAME:
Lighting Plan

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.
LP-100

Project No: 24-4006

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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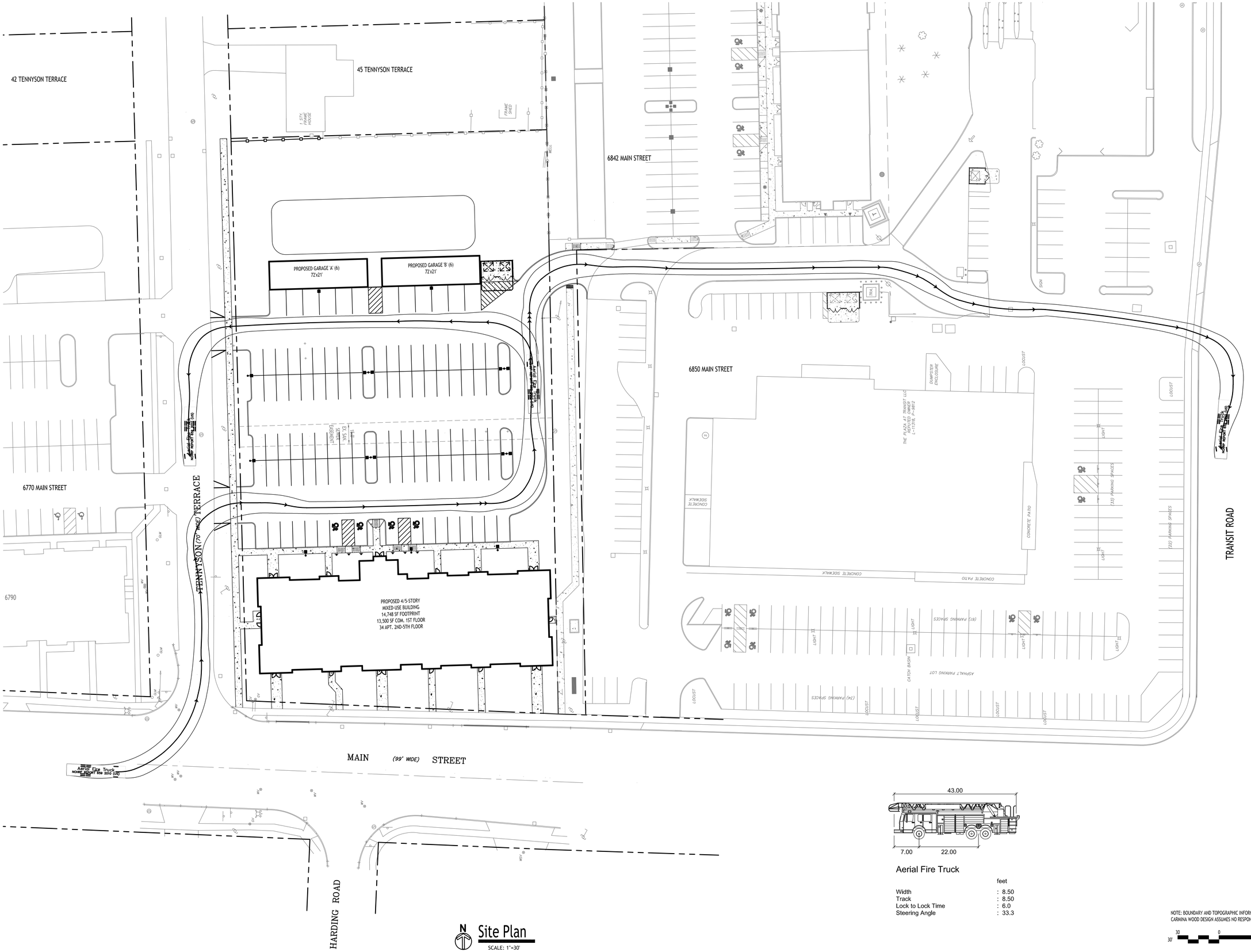


Aerial Fire Truck

	feet
Width	: 8.50
Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 33.3

Site Plan
SCALE: 1"=30'

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS, CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

30' 30 0 30 60Ft.

CARMINAWOOD
DESIGN
Buffalo | Utica | Greensboro

Mixed Use Project

6812-6832 Main Street & 29, 37 Tennyson Terrace
Amherst, NY

REVISIONS:

No.	Description	Date

STATE OF NEW YORK
R. CHRISTOPHER WOOD
076394
LICENSED PROFESSIONAL ENGINEER

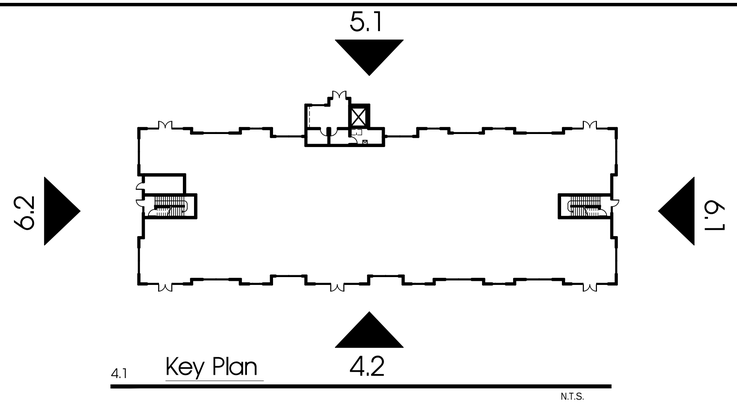
DRAWING NAME:
Fire Truck Plan

Date: 3/25
Drawn By: P. She
Scale: As No

DRAWING NO.
CF-100

Project No: 24-4006

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



4.1 Key Plan

N.T.S.

Elevation Key

- Metal Panel — Color, Light Grey
- Wood Rain Screen — Color, Wood Grain Finish (Horiz. Plank)
- Decorative Tile — Color, White Marble Look
- Hardi-Panel Siding — Horizontal Lap Siding
- Brick Veneer — Color, Charcoal
- Scored CMU Block — Color, Grey



4.2 Proposed North Elevation

1/8" = 1'-0"

"The Chuck"
Proposed New Build For:

Bliss Construction
6812-6832 Main St. at Tennyson
Williamsville NY, 14221

SUTTON architecture
"Design 2 Build"

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Elevation Key

- **Metal Panel**
  Color, Light Grey
- **Wood Rain Screen**
  Color, Wood Grain Finish (Horiz. Plank)
- **Decorative Tile**
  Color, White Marble Look
- **Hardi-Panel Siding**
  Horizontal Lap Siding
- **Brick Veneer**
  Color, Charcoal
- **Scored CMU Block**
  Color, Grey



5.1 Proposed South Elevation

1/8" = 1'-0"

"The Chuck"
Proposed New Build For:

Bliss Construction
6812-6832 Main St. at Tennyson
Williamsville NY, 14221

SUTTON architecture
"Design 2 Build"

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Elevation Key

- **Metal Panel** — Color, Light Grey
- **Wood Rain Screen** — Color, Wood Grain Finish (Horiz. Plank)
- **Decorative Tile** — Color, White Marble Look
- **Hardi-Panel Siding** — Horizontal Lap Siding
- **Brick Veneer** — Color, Charcoal
- **Scored CMU Block** — Color, Grey



6.1 Proposed East Elevation



6.2 Proposed West Elevation

1/8" = 1'-0"

"The Chuck"
Proposed New Build For:

Bliss Construction
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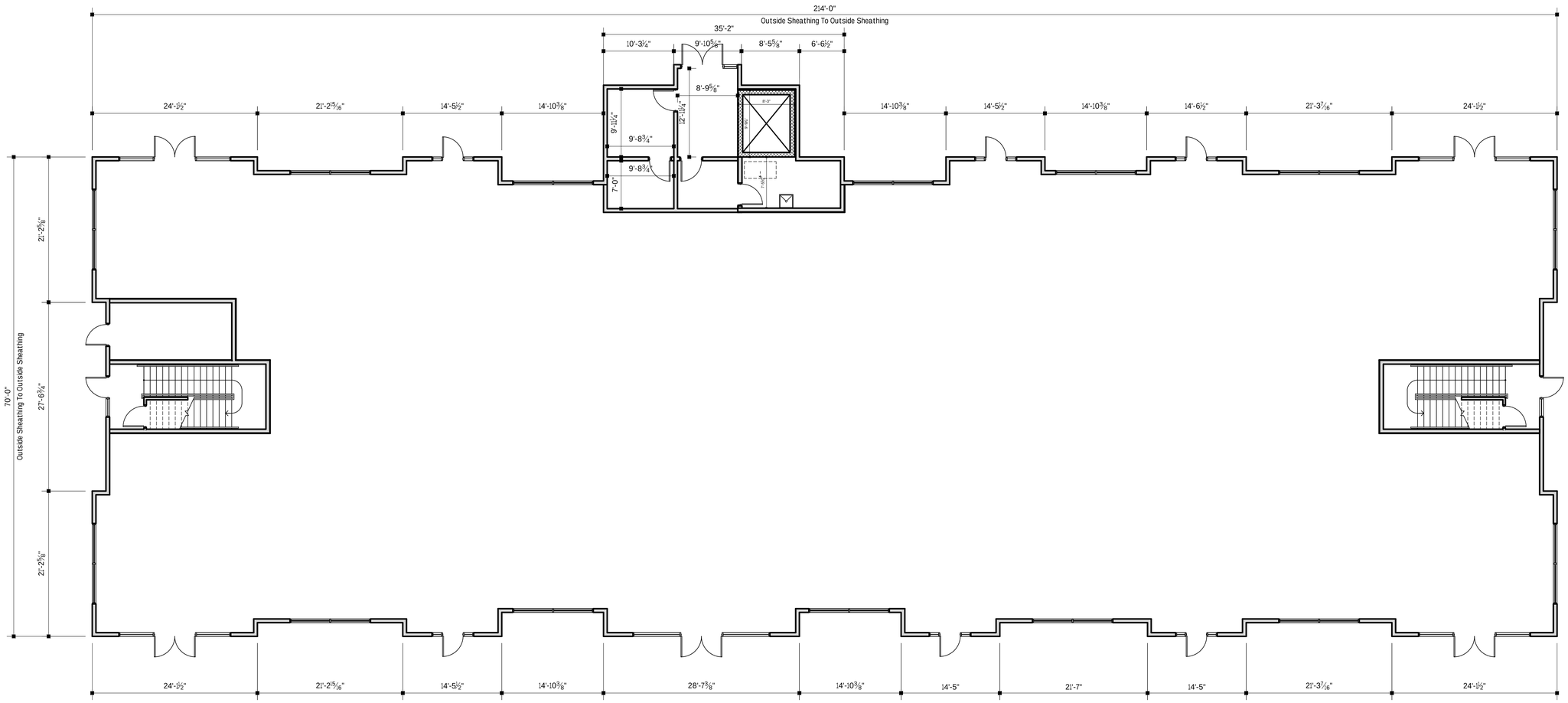
Williamsville NY, 14221

SUTTON architecture
"Design 2 Build"

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



1.1 Preliminary 1st Floor Plan

1/8" = 1'-0"

"The Chuck"
Proposed New Build For:

Bliss Construction
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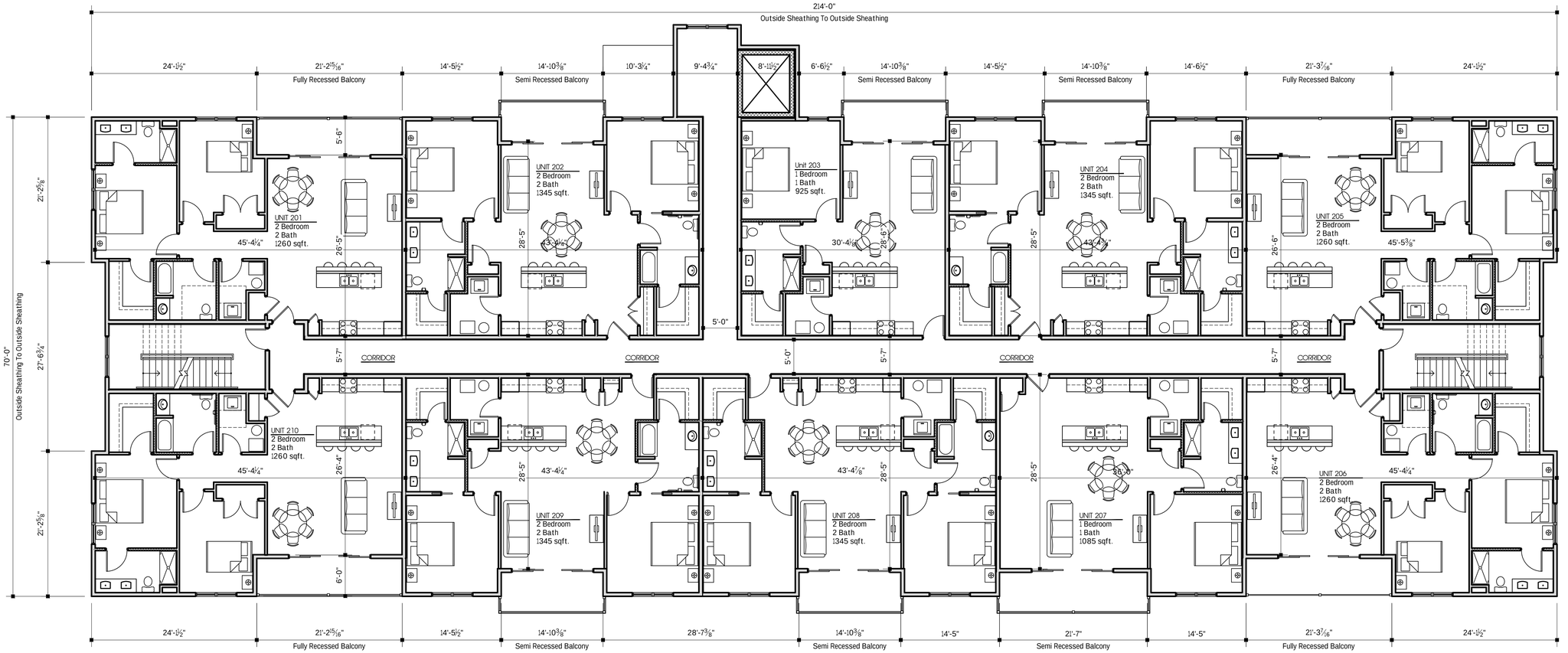
Williamsville NY, 14221

SUTTON architecture
"Design 2 Build"

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



2.1 Preliminary 2nd, 3rd, & 4th Floor Plan

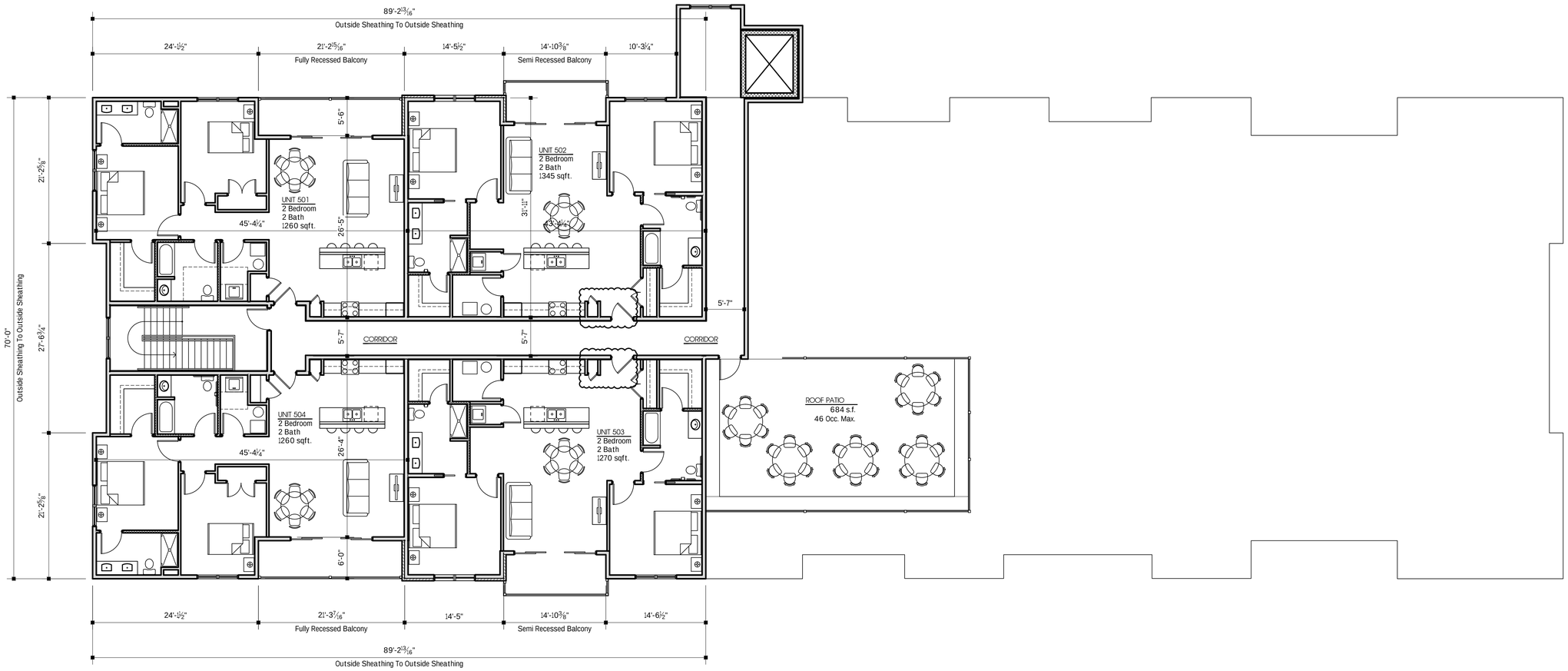
1/8" = 1'-0"

"The Chuck"
Proposed New Build For:

Bliss Construction
6812-6832 Main St. at Tennyson
Williamsville NY, 14221

SUTTON architecture
"Design 2 Build"

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)



3.1 Preliminary 5th Floor Plan

1/8" = 1'-0"

"The Chuck"
Proposed New Build For:

Bliss Construction
6812-6832 Main St. at Tennyson
Williamsville NY, 14221

SUTTON architecture
"Design 2 Build"

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

NOTE: THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE.

● SET OR EX. 5/8" REBAR

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ARBITRARY

BENCHMARK
TOP OF BOLT ON BONNET OF HYDRANT
ELEV: 705.94

TENNYSON (70' WIDE) TERRACE

STREET (99' WIDE)

MAIN

STORM M.H. RIM: 705.64 W INV: 698.99 S INV: 699.54 E INV: 699.04

CATCH BASIN RIM: 705.76 W INV: 699.84 N INV: 700.84 NE INV: 699.83

CATCH BASIN RIM: 704.94 NW INV: 701.84 E INV: 700.94

CATCH BASIN RIM: 704.62 SE INV: 702.51

CATCH BASIN RIM: 705.20 W INV: 699.55 SE INV: 699.65

CATCH BASIN RIM: 705.01 E-W INV: 700.87

CATCH BASIN RIM: 704.97 W INV: 700.87 E INV: 700.92

CATCH BASIN RIM: 704.79 E-W INV: 700.67

CATCH BASIN RIM: 704.83 W INV: 701.03 E INV: 700.83

CATCH BASIN RIM: 703.31 N INV: 702.34

CATCH BASIN RIM: 703.83 N INV: 702.06 S INV: 702.10

CATCH BASIN RIM: 703.15 N INV: 702.10 S INV: 702.07

CATCH BASIN RIM: 703.10 N INV: 702.02 S INV: 701.94

CATCH BASIN RIM: 702.83 N INV: 701.76 S INV: 701.77

CATCH BASIN RIM: 702.87 S INV: 701.76 E INV: 701.75

CATCH BASIN RIM: 703.34 S INV: 701.91 NW INV: 702.25 SW INV: 702.23

CATCH BASIN RIM: 703.36 N INV: 701.57 W INV: 701.67 E INV: 701.36

CATCH BASIN RIM: 703.32 W INV: 701.80

CATCH BASIN RIM: 704.74 S-W INV: 697.71

CATCH BASIN RIM: 704.58 N INV: 703.48

CATCH BASIN RIM: 704.79 N INV: 702.72 S INV: 702.79

CATCH BASIN RIM: 704.45 N INV: ~~701.35~~ S INV: 700.85 W INV: 702.70

CATCH BASIN RIM: 704.02 N-E INV: 700.37 SW INV: 701.75

SANITARY M.H. RIM: 704.11 N INV: 696.95 E INV: 696.86 S INV: 697.91

SANITARY M.H. RIM: 703.61 N-S INV: 695.81

SANITARY M.H. RIM: 704.88 N INV: 700.13 S INV: 700.03

SANITARY M.H. RIM: 704.00 W INV: 697.76

UTILITY POLE NAT.GRID 6790
UTILITY POLE NAT.GRID 681
UTILITY POLE NAT.GRID 11
UTILITY POLE NAT.GRID 23
UTILITY POLE NAT.GRID 35
UTILITY POLE NAT.GRID 47
UTILITY POLE NAT.GRID 6812
UTILITY POLE NAT.GRID 6824
UTILITY POLE NAT.GRID 6834
UTILITY POLE NAT.GRID 6840
UTILITY POLE NAT.GRID 6837

ASPHALT DRIVEWAY
CONCRETE SIDEWALK
CONC. APRON
CURB CUT OUT
CONC. SIDEWALK
ASPHALT PARKING LOT
GRASS
GRAVEL
STONE DRIVE
ASPHALT DRIVE
EDGE OF ASPHALT
SINGLE WHITE STRIPE
"STOP" SIGN
BUILDING 1.90'W FFE: 705.36
BUILDING 1.97'W FFE: 705.02
FFE: 705.04
FFE: 705.50
FFE: 705.91
FFE: 705.90
1-1½ STY. STUCCO & BRICK BUILDING
No. 37 1½ STY. FRAME HOUSE (SEE DETAIL)
1 STY. FRAME HOUSE
FRAME PORCH & STEPS
FRAME GARAGE
FRAME SHED
GRAVEL FIRE PIT AREA
METAL SHED
BRUSH LINE
HEAVY BRUSH AND WOODED AREA
DUMPSTER AREA
STEPS
CONC. WALK
CONC. POR
AC. UNIT
PLANTER BED
GRAVEL WITH 2.8' WIDE BRICK WALL
PARTIALLY BURIED CONC.
1.0' TALL RAISED PLANTER
EX. I.PIPE 0.27'N, 0.29'W
WSV
SET MAG NAIL
SET REBAR
EX. REBAR
CLEANOUT RIM: 704.66
CLEANOUT RIM: 704.67
CLEAN OUT RIM: 706.07
CLEANOUT RIM: 705.27
GAS METERS(6)
GAS METERS(5)
ELEC. METERS(10)
1 PARKING SPACE
20 PARKING SPACES (2 H.C. ACCESSABLE)
TOP SILL: 705.37
TOP SILL: 705.17
TOP SILL: 705.31
TOP SILL: 705.93
TOP SILL: 705.45
TOP SILL: 705.48
SUB LOT 243
SUB LOT 244
SUB LOT 245
SUB LOT 246
SUB LOT 242
SUB LOT 241
SUB LOT 240
SUB LOT 239
SUB LOT 238
SUB LOT 237
SUB LOT 236
CHARETTE LLC REPUTED OWNER L.-11298 P.-557
SBL: 70.17-3-13
AREA: 12,096± SQ.FT.
CHARETTE LLC REPUTED OWNER L.-11298 P.-557
SBL: 70.17-3-12
AREA: 17,567± SQ.FT.
CHARETTE LLC REPUTED OWNER L.-11235 P.-6861
SBL: 70.17-3-11
AREA: 17,697± SQ.FT.
CHARETTE LLC REPUTED OWNER L.-11235 P.-6852
SBL: 70.17-3-14
AREA: 27,502± SQ.FT.
N 01°35'27" W 200.00'
S 01°35'27" E 204.20'
S 01°35'27" E 210.15'
N 87°34'32" W 227.40'
N 88°24'33" E 229.53'
S 01°07'54" E 336.00'
S 01°07'54" E 215.93'
N 01°35'27" W 320.07'
N 01°35'27" W 90.00'
S 01°35'27" E 90.00'
120.07'
42.92'
93.00'
90.70'
82.40'
83.93'
85.00'
60.00'
165.20'
108.20'
84.79'
228.57'
31.31'
2.00'
24" SPRUCE
16" SPRUCE
24" MAPLE
30" MAPLE
3" LILAC
4" ASH
6" APPLE
18" MAPLE
12" MAPLE
8" MAPLE
6" COTTONWOOD
8" COTTONWOOD
10" COTTONWOOD
3" HAWTHORNE
6" ASH
12" LOCUST
14" LOCUST
2" LOCUST
6" C.I.P.
8" C.I.P.
12" C.I.P.
12" CMP
12" HDPE
30" HDPE
8" HDPE
4" HDPE
2" PVC
3" PVC
6" PVC
8" PVC
10" PVC
10" VTP
8" D.I.P.
12" D.I.P.
6" STEEL PIPE
ROW
BURIED TEL. LINE
OHW
SEW
TEL
GLM
GV
WV
BOL
HOUSE DETAIL (NOT TO SCALE)
3.67'N
3.10'N
FENCE 1.7'S
FENCE 0.9'S
FENCE 0.5'S
FENCE 0.3'S
FENCE 1.7'S
FENCE 3.5'W, 0.5'S
6' TALL VINYL FENCE
SET REBAR
EX. I.PIPE

NOTE: THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORATION AND EXISTING RECORD DRAWINGS PROVIEDE TO THE SURVEYOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO SUBSTANTIATE BURIED UTILITIES AND STRUCTURES. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY DO CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FORM INFORMATION AVAILABLE. BEFORE EXCAVATIONS ARE BEGUN, THE APPROPRIATE AGENCIES SHOULD BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.

NOTE: UNDERGOUND LOCATION OF UTILITIES ARE APPROXIMATE.

CONTACT "ONE CALL" AT 1-800-962-7962 PRIOR TO ANY UNDERGROUND EXCAVATION.

THE FOLLOWING COMPANIES RESPONDED TO UFPO DESIGN TICKET No. 05183-001-021

CHARTER COM NORTHEAST WESTERN NY	(317) 575-7800 x2	UTILITIES AS SHOWN
ERIE COUNTY DIVISION OF SEWER MANAGEMENT	(716) 858-8760	UTILITIES AS SHOWN
ERIE COUNTY WATER AUTHORITY	(716) 685-8207	UTILITIES AS SHOWN
NATIONAL FUEL GAS | CLARENCE - NFG113	(716) 857-7431	UTILITIES AS SHOWN
NATIONAL GRID / WEST / ELECTRIC	(680) 244-2062	UTILITIES AS SHOWN
NYSEG LANCASTER ELECTRIC	(585) 484-5115	NO LOCATE PERFORMED
TOWN OF AMHERST	(716) 631-7413	NO RESPONSE
VERIZON | BUFFALO	(315) 937-2515	UTILITIES AS SHOWN

LEGEND

- BOL BOLLARD
- CB CATCH BASIN
- CO CLEANOUT
- CONIFEROUS TREE
- DECIDUOUS TREE
- E ELECTRIC METER
- GLM GAS LINE MARKER
- G GAS METER
- GV GAS VALVE
- GUY WIRE
- HANDICAP PARKING
- HYDRANT
- S SANITARY SEWER MANHOLE
- SIGN (SINGLE POLE)
- SIGN (DOUBLE POLE)
- D STORM SEWER MANHOLE
- UTILITY POLE
- UTILITY POLE WITH LIGHT
- WSV WATER SERVICE VALVE
- WV WATER VALVE
- YD YARD DRAIN

30 0 15 30 60 120

GRAPHIC SCALE

1' = 30'

DATE	REVISION/TYPE
8/25/23	ADDITIONAL MAPPING OF HOUSE No. 37

BOUNDARY & TOPOGRAPHIC SURVEY
PART OF LOTS 239 THRU 246, MAP COVER 1118
TENNYSON PARK SUBDIVISION
PART OF LOT 90, TOWNSHIP 12, RANGE 7
HOLLAND LAND COMPANY'S SURVEY
TOWN OF AMHERST, ERIE COUNTY, NEW YORK

GPI ENGINEERING, LANDSCAPE ARCHITECTURE & SURVEYING, LLP
ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE
4950 GENESEE STREET, SUITE 100
BUFFALO, NEW YORK 14225
(716) 633-4844 FAX 633-4940

Job No. 10778 Date: MAY 16, 2023
Scale: 1" = 30' TAX No. 70-17-3-11,12,13,14&15

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

DESCRIPTION

The Lumark Wal-Pak wall luminaire provides traditional architectural style with high performance energy efficient illumination. Rugged die-cast aluminum construction, stainless steel hardware along with a sealed and gasketed optical compartment make the Wal-Pak virtually impenetrable to contaminants. IP66 Rated. Three available lamp sources including patented energy efficient LED, pulse start metal halide and high pressure sodium. UL/cUL wet location listed. The Wal-Pak wall luminaire is ideal for pathway illumination, building entrances, vehicle ramps, schools, tunnels, stairways and loading docks.

Catalog #		Type	
Project			
Comments		Date	
Prepared by			

SPECIFICATION FEATURES

Housing
Rugged one-piece die-cast aluminum housing and hinged, removable die-cast aluminum door. One-piece silicone gasket seals the optical chamber. UL 1598 wet location listed and IP66 ingress protection rated.

Electrical
Ballasts, LED driver and related electrical components are hard mounted to the die-cast housing for optimal heat sinking and operating efficiency. Wiring is extended through a silicone gasket at the back of the housing. Three 1/2" threaded conduit entry points allow for thru-branch wiring. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from LED source. Integral LED electronic driver incorporates internal fusing designed to withstand a 6kV surge test and is Class 2 rated for 120-277V with an operating temperature of -40° to 55°C. Wal-Pak LED systems maintain greater than 93% of the initial light output after 72,000 hours of operation. UL listed HID high power factor ballasts are Class H insulation rated (high pressure sodium: 250, 400W [-40°C / -40°F]. High efficiency HID ballasts are available in 120, 208, 240, 277, 347 and 480V.

Optical
Highly reflective anodized aluminum reflectors provide high efficiency illumination. Optical assemblies include impact resistant borosilicate refractive glass, and full cutoff IESNA compliant configurations. Patented, solid state LED luminaires are thermally optimized with three lumen packages. HID models are offered in horizontal medium or mogul-based metal halide [MP] or high pressure sodium [HP] lamps.

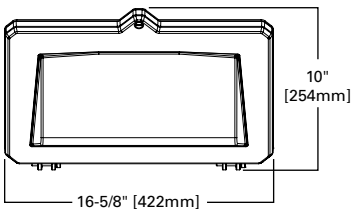
Door Assembly
Single point, captive stainless steel hardware secures the removable hinged door allowing for ease of installation and maintenance. Door assembly is hinged at the bottom for easy removal, installation and re-lamping.

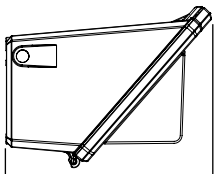
Finish
Finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard color is bronze. Additional colors available in white, grey, bronze, black, dark platinum and graphite metallic. Consult your lighting representitive at Cooper Lighting Solutions for a complete selection of standard colors. Options to meet Buy American and other domestic preference requirements.

Efficiency Standards Notice
Select luminaires are manufactured to USA and California efficiency regulations.

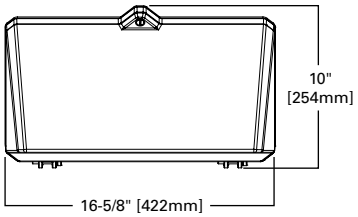
DIMENSIONS

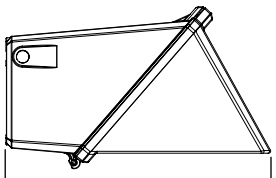
BOROSILICATE GLASS DOOR (GL)





FULL CUTOFF DOOR (FC)









WP WAL-PA

27, 32 and 4

I

250 - 40

Pulse Start Metal Ha

250 - 40

High Pressure Sodi

WALL MOUNT LUMINA

TECHNICAL DATA
UL/cUL Wet Location Listed
IP66 Rated
40°C Maximum Ambient Temperatu
External Supply Wiring 90°C Minimu
EISA Ⓔ, ARRA, Title 20 Compliant
LM79 / LM80 Compliant
DesignLights Consortium® Qualified

ENERGY DATA
CWA Ballast Input Watts
200W HPS HPF (250 Watts)
250W MP HPF (283 Watts) Ⓔ
400W HPS HPF (465 Watts)
400W MP HPF (452 Watts) Ⓔ

SHIPPING DATA
Approximate Net Weight:
32-42 lbs. (15-19 kgs.)

Ⓔ

COOPER Lighting Solutions

*www.designlights.org

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

POWER AND LUMENS

Catalog Number	Lumens	Power Consumption (Watts)	B.U.G. Rating	Correlated Color Temperature CCT (Kelvin)	Color Rendering Index (CRI)
Borosilicate Glass Door (GL)					
LDWP-GL-3B-ED-7040	3,270	27W	B1-U3-G1	4000K	73
LDWP-GL-4B-ED-7040	4,160	32W	B1-U3-G2	4000K	73
LDWP-GL-6B-ED-7040	5,828	46W	B1-U4-G4	4000K	73
LDWP-GL-3B-ED	3,333	27W	B1-U3-G1	5000K	72
LDWP-GL-4B-ED	4,199	32W	B1-U3-G3	5000K	73
LDWP-GL-6B-ED	5,883	46W	B1-U4-G4	5000K	73
Full Cutoff Door (FC)					
LDWP-FC-3B-ED-7040	1,884	27W	B1-U0-G1	4000K	72
LDWP-FC-4B-ED7040	2,239	32W	B1-U0-G1	4000K	73
LDWP-FC-6B-ED-7040	3,137	47W	B1-U0-G1	4000K	73
LDWP-FC-3B-ED	1,912	27W	B1-U0-G1	5000K	72
LDWP-FC-4B-ED	2,279	32W	B1-U0-G1	5000K	73
LDWP-FC-6B-ED	3,192	46W	B1-U0-G1	5000K	73

CURRENT DRAW

Light Engine	3B	4B	6B
Nominal Power (Watts)	27W	32W	46W
Input Current @ 120V (A)	0.24	0.28	0.40
Input Current @ 208V (A)	0.14	0.16	0.23
Input Current @ 240V (A)	0.13	0.15	0.20
Input Current @ 277V (A)	0.11	0.13	0.18
Input Current @ 347V (A)	0.09	0.11	0.15
Input Current @ 480V (A)	0.10	0.12	0.14

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)*	Theoretical L70 (Hours)
25°C	> 93%	> 340,000
40°C	> 92%	> 316,000

* Per TM-21 data.

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10°C	1.07
15°C	1.04
25°C	1.00
40°C	0.94

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

ORDERING INFORMATION

Sample Number: LDBAA-WP-FC-4B-120V

Product Family [3]	Lamp Type	Door Type [4]	Lamp Wattage [5]	Voltage [6]
WP=Wal-Pak **BAA-WP**=Wal-Pak, Buy American Act Compliant [11] **TAA-WP**=Wal-Pak, Trade Agreements Act Compliant [11]	**LD**=Solid State Light-Emitting Diodes (LED) [1,2] **HP**=High Pressure Sodium **MP**=Pulse Start Metal Halide	**GL**=Borosilicate Glass Door **FC**=Full Cutoff Door	**LED** **3B**=(3 Package), 27W **4B**=(4 Package), 32W **6B**=(6 Package), 46W **HP** **250**=250W **400**=400W **MP** **250**=250W **400**=400W	**120V**=120V **208V**=208V **240V**=240V **277V**=277V **347V**=347V [7] **480V**=480V [7] **DT**=Dual-Tap **MT**=Multi-Tap **TT**=Tri-Tap **ED**=Electronic LED Dimming (0-10V) Driver

Options (Add as Suffix) [8]	**Accessories** (Order Separately)[12]
F1=Single Fuse (Must Specify Voltage. 120, 277 or 347V) **PE**=Button Type Photocontrol (Must Specify Voltage. 120, 208, 240 or 277V) **LL**=Lamp Included **Q**=Quartz Restrike T4 Lamp [9] **EM**=Emergency Quartz Restrike T4 Lamp [9] **EMLED-CD**=LED Battery Backup Cold Temperature [10] **7040**=72 CRI / 4000K CCT **AP**=Grey **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White	**WG/WPGL**=Wire Guard Borosilicate Glass Lens Door **WG/WPFC**=Wire Guard Full Cutoff Door **TR/WP**=Tamper-resistant Screw and Bit **VS/WPGL**=Polycarbonate Vandal Shield for Borosilicate Glass Lens Door

NOTES:

1. DesignLights Consortium® Qualified and classified for DLC Standard and DLC Premium, refer to www.designlights.org for details.
2. Five-year warranty.
3. Fixture color is standard bronze unless optional color is specified.
4. Small housing offered for LED models. Large housing for 250W-400W. Clear glass is standard for full cutoff door types except for LD. LD full cutoff door is standard with Solite® glass.
5. LED packages based on 70 CRI / 5000K package at 25°C ambient.
6. See voltage chart for descriptions. 105°C Rated wire required for thru-branch wiring for units above 250W. Thru-branch wiring is rated for 40°C for LD. Higher wattage thru-branch wiring is rated for use in 25°C ambient operating environments.
7. Not available with thru-branch wiring. LED will be supplied with integral step down transformer.
8. Not all options can be combined. Only one emergency or battery back-up option available within the fixture. LD models utilize EMLED-CD options only for battery back-up.
9. Q or EM not available with LD or E electronic ballast.
10. EMLED-CD available with B models only. For use in 25°C ambient operating temperature environments. Specify 120V or 277V. EMLED-CD minimum -20°C/-4°F. Battery pack is a UL recognized component.
11. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
12. Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.

STOCK ORDERING INFORMATION - LAMP INCLUDED

Sample Number: WPL4BC

Product Family	Lamp Type	Lamp Wattage	Door/Glass Type
WP=Wal-Pak **BAA-WP**=Wal-Pak, Buy American Act Compliant [3] **TAA-WP**=Wal-Pak, Trade Agreements Act Compliant [3]	**L**=LED [1,2] **P**=Pulse Start Metal Halide **S**=High Pressure Sodium	**LED** **3B**=27W **4B**=32W **6B**=46W **Pulse Start Metal Halide** **25**=250W **40**=400W **High Pressure Sodium** **25**=250W **40**=400W	**[Blank]**=Standard **C**=Full Cutoff Door

NOTE: 1 Five-year warranty. **2.** DesignLights Consortium® Qualified and classified for DLC Standard and DLC Premium, refer to www.designlights.org for details. **3.** Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.

VOLTAGE CHART

MT=Multi-Tap	120, 208, 240, 277V (Wired 277V)
TT=Triple-Tap	120, 277, 347V (Wired 347V)
ED=Electronic LED Driver	120-277V (Universal - 50-60Hz)

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Project		Catalog #		Type	
Prepared by		Notes		Date	



McGraw-Edison

GALN Galleon II

Area / Site Luminaire

Product Features

Light ARchitect™

BAA BUY AMERICAN ACT AVAILABLE

Product Certifications

ISO CERTIFIED · DLC LISTED [1] · DLC LISTED PREMIUM [1] · 3G VIB · IP66 · UL CERTIFIED · ida DARK SKY APPROVED [2] · 5 YEAR LIMITED WARRANTY

Interactive Menu

- Ordering Information page 2
- Mounting Details page 3
- Optical Distributions page 5
- Product Specifications page 5
- Energy and Performance Data page 6
- Control Options page 11

Quick Facts

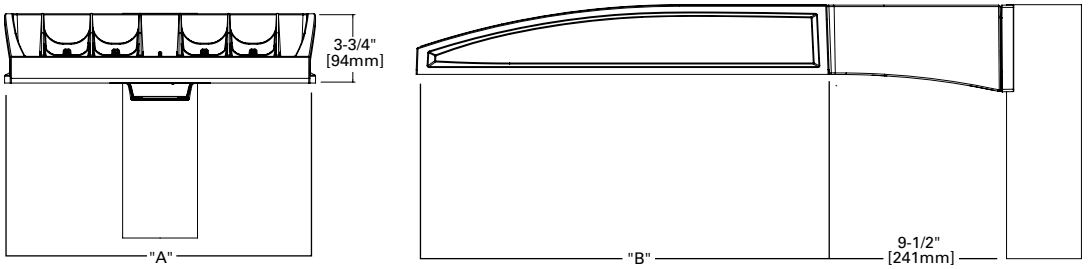
- Lumen packages range from 3,300 - 73,500 (33W - 552W)
- 17 optical distributions
- Efficacy up to 159 lumens per watt

Connected Systems

- WaveLinx Lite
- WaveLinx

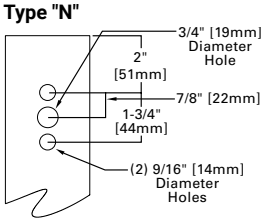
Dimensional Details

Standard Pole Mount Arm



Pole Drilling Pattern

Type "N"



Number of Light Squares	Width "A"	Housing Length "B"	Weight with Standard or QM Arm	EPA with Standard or QM Arm
1-4	16"	22"	29 lb	0.95
5-6	22"	22"	39 lb	0.95
7-9	22"	28-1/8"	48 lb	1.1

NOTES:
For arm selection requirements and additional line art, see Mounting Details section.

NOTES:
1. Visit https://www.designlights.org/search/ to confirm qualification. Not all product variations are DLC qualified.
2. IDA Certified (3000K CCT and warmer only, fixed mounting options)

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

McGraw-Edison GALN Galleon II

Ordering Information

SAMPLE NUMBER: **GALN-SA4C-740-U-T4FT-GM**

Product Family [1, 2]	Light Engine		Color Temperature	Voltage	Distribution	Mounting	Finish
	Configuration	Drive Current					
GALN=Galleon II **BAA-GALN**=Galleon II Buy American Act Compliant [27] **TAA-GALN**=Galleon II Trade Agreements Act Compliant [27]	**SA1**=1 Square **SA2**=2 Squares **SA3**=3 Squares **SA4**=4 Squares **SA5**=5 Squares **SA6**=6 Squares **SA7**=7 Squares **SA8**=8 Squares **SA9**=9 Squares	**A**=600mA **B**=800mA **C**=1000mA **D**=1200mA [4, 17] **Z**=Configured [33]	**722**=70CRI, 2200K **727**=70CRI, 2700K **730**=70CRI, 3000K **735**=70CRI, 3500K **740**=70CRI, 4000K **750**=70CRI, 5000K **760**=70CRI, 6000K **827**=80CRI, 2700K **830**=80CRI, 3000K **835**=80CRI, 3500K **840**=80CRI, 4000K **930**=90CRI, 3000K **935**=90CRI, 3500K **940**=90CRI, 4000K **950**=90CRI, 5000K **AMB**=Amber, 590nm [15, 17]	**U**=120-277V **H**=347V-480V [7, 30] **1**=120V **2**=208V **3**=240V **4**=277V **8**=480V [7, 30] **9**=347V [7] **DV**=277V-480V DuraVolt Drivers [29, 30, 31]	**T1**=Type I **T2**=Type II **T2R**=Type II Roadway **T3**=Type III **T3R**=Type III Roadway **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **5NQ**=Type V Narrow **5MQ**=Type V Square Medium **5WQ**=Type V Square Wide **SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I **AFL**=Automotive Frontline	**[Blank]**=Standard Pole Mount Arm **QU**=Quick Mount Universal Arm **QM**=Pole Mount Arm with Quick Mount Adaptor **PA**=Pole Mount, Adjustable **SP**=3" Slipfitter, Adjustable [8] **SP2**=2-3/8" Slipfitter, Adjustable [8] **QMA**=Quick Mount Mast Arm, Fixed **MA**=Mast Arm, Fixed **WM**=Wall Mount, Fixed **WA**=Wall Mount, Adjustable **UP**=Upswept Arm	**AP**=Grey **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White **RALXX**=Custom Color

Options (Add as Suffix)	Controls and Systems Options (Add as Suffix)	Accessories (Order Separately) [28]
DIM=External 0-10V Dimming Leads [20] **F**=Single Fuse (120, 277 or 347V Specify Voltage) **FF**=Double Fuse (208, 240 or 480V Specify Voltage) **20K**=20kV UL 1449 fused surge protective device [10] **2L**=Two Circuits [10] **HA**=50°C High Ambient **HSS**=Installed House Side Shield [18] **GRSBK**=Glare Reducing Shield, Black [23] **GRSWH**=Glare Reducing Shield, White [23] **LCF**=Light Square Trim Painted to Match Housing [26] **TH**=Tool-less Door Hardware [5] **CC**=Coastal Construction finish [3] **L90**=Optics Rotated 90° Left **R90**=Optics Rotated 90° Right **AHD145**=After Hours Dim, 5 Hours [22] **AHD245**=After Hours Dim, 6 Hours [22] **AHD255**=After Hours Dim, 7 Hours [22] **AHD355**=After Hours Dim, 8 Hours [22] **DALI**=DALI Drivers	**BPC**=Button Type Photocontrol. Must specify voltage 120V, 208V, 240V or 277V. [6] **PR**=NEMA 3-PIN Photocontrol Receptacle **PR7**=NEMA 7-PIN Photocontrol Receptacle [21] **FADC**=Field Adjustable Dimming Controller [32] **PSC**=Photocontrol Shorting Cap **SPB2**=Dimming Motion Sensor, 9'-20' mounting [24] **SPB4**=Dimming Motion Sensor, 21'-40' mounting [24] **SPB2/X**=Dimming Motion Sensor, limited square count, 9'-20' mounting [24] **SPB4/X**=Dimming Motion Sensor, limited square count, 21'-40' mounting [24] **MS/DIM-L20**=Motion Sensor for Dimming Operation, 9'-20' Mounting [34] **MS/DIM-L40**=Motion Sensor for Dimming Operation, 21'-40' Mounting [34] **ZW**=WaveLinx-enabled 4-PIN Twistlock Receptacle [19] **ZD**=SR Driver-enabled 4-PIN Twistlock Receptacle [19] **ZW-WOBXX**=WaveLinx Lite, Dimming Motion and Daylight, Bluetooth Programmable, 7' - 15' Mounting [19, 12] **ZW-WOFXX**=WaveLinx Lite, Dimming Motion and Daylight, Bluetooth Programmable, 15' - 40' Mounting [19, 12] **ZD-WOBXX**=WaveLinx Lite, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 7' - 15' Mounting [19, 12] **ZD-WOFXX**=WaveLinx Lite, SR Driver, Dimming Motion and Daylight, Bluetooth Programmable, 15' - 40' Mounting [19, 12] **ZW-SWPD4XX**=WaveLinx Pro, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting [19, 12, 13] **ZW-SWPD5XX**=WaveLinx Pro, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting [19, 12, 13] **ZD-SWPD4XX**=WaveLinx Pro, SR Driver, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting [19, 12, 13] **ZD-SWPD5XX**=WaveLinx Pro, SR Driver, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting [19, 12, 13] **DIM10-L20**=Synapse Occupancy Sensor (9'-20' Mounting) [19] **DIM10-L40**=Synapse Occupancy Sensor (21'-40' Mounting) [19]	**OA/RA1016**=NEMA Photocontrol Multi-Tap - 105-285V **OA/RA1027**=NEMA Photocontrol - 480V **OA/RA1201**=NEMA Photocontrol - 347V **OA/RA1013**=Photocontrol Shorting Cap **OA/RA1014**=120V Photocontrol **MA1252**=10kV Surge Module Replacement **MA1036-XX**=Single Tenon Adapter for 2-3/8" O.D. Tenon **MA1037-XX**=2@180° Tenon Adapter for 2-3/8" O.D. Tenon **MA1197-XX**=3@120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1188-XX**=4@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1189-XX**=2@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1190-XX**=3@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1191-XX**=2@120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1038-XX**=Single Tenon Adapter for 3-1/2" O.D. Tenon **MA1039-XX**=2@180° Tenon Adapter for 3-1/2" O.D. Tenon **MA1192-XX**=3@120° Tenon Adapter for 3-1/2" O.D. Tenon **MA1193-XX**=4@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1194-XX**=2@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1195-XX**=3@90° Tenon Adapter for 3-1/2" O.D. Tenon **SRA238**=Adapter kit for mounting 3" SP arm to 2-3/8" O.D. vertical tenon **FSIR-100**=Wireless Configuration Tool for MS/DIM [34] **LS/HSS**=Field Installed House Side Shield [9, 18] **LS/GRSBK-2PK** =Glare Reducing Shield, Black [9, 23] **LS/GRSWH-2PK** =Glare Reducing Shield, White [9, 23] **LS/PFS**=Perimeter Shield, Black [16] **WOLC-7P-10A**=WaveLinx Outdoor Control Module [11, 19] **WOB-XX**=WaveLinx Lite Sensor, Dimming Motion and Daylight, Bluetooth Programmable, 7' - 15' Mounting [12, 14, 19] **WOF-XX**=WaveLinx Lite Sensor, Dimming Motion and Daylight, Bluetooth Programmable, 15' - 40' Mounting [12, 14, 19] **SWPD4-XX**=WaveLinx Sensor, Dimming Motion and Daylight, WAC Programmable, 7' - 15' Mounting [12, 13, 14, 19] **SWPD5-XX**=WaveLinx Sensor, Dimming Motion and Daylight, WAC Programmable, 15' - 40' Mounting [12, 13, 14, 19]

NOTES:

1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information.
2. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
3. Coastal construction finish salt spray tested to over 5,000-hours per ASTM B117, with a scribe rating of 9 per ASTM D1654. Not available with TH option.
4. Drive current 1200mA not available with color temperatures 722, 727, 827, 830 or 930 when the HSS option is selected.
5. TH option not 3G rated. Not available with Coastal Construction (CC) option.
6. Not available with voltage options H, 8 or 9.
7. Requires the use of an internal step down transformer when combined with sensor options. Not available in combination with the HA high ambient and sensor options at 1A.
8. SP arm limited to 3" O.D. vertical tenon. SP2 limited to 2-3/8" O.D. vertical tenon.
9. One required for each Light Square.
10. 2L is not available with SPB at 347V or 480V. Not available with WaveLinx or Enlighted sensors, or 20kV surge option.
11. Requires PR7.
12. Replace XX with sensor color (WH, BZ or BK.)
13. WAC Gateway required to enable field-configurability: Order WAC-PoE and WPOE-120 (10V to PoE injector) power supply if needed. WAC not required for LC Bluetooth sensors.
14. Requires ZW or ZD receptacle.
15. Narrow-band 590nm +/- 5nm for wildlife and observatory use. Choose drive current A; supplied at 500mA drive current only. Exact luminaire wattage available in IES files. Available with 5WQ, 5MQ, SL2, SL3 and SL4 distributions. Can be used with HSS option.
16. Set of 4 pcs. One set required per Light Square.
17. Not available with HA option.
18. Not for use with T1, 5NQ, 5MQ, 5WQ or RW optics.
19. Cannot be used with other control options.
20. Low voltage control lead brought out 18" outside fixture. Not available with DALI or integrated controls options
21. Not available if any SPB, LWR, or WaveLinx sensor is selected. Motion sensor has an integral photocell.
22. Requires the use of BPC photocontrol or the PR7 or PR photocontrol receptacle with photocontrol accessory.
23. Not for use with T1, T4FT, T4W or SL4 optics.
24. Sensor configuration mobile application required for configuration. See controls page for details.
25. Replace X with number of Light Squares controlled by the SPB, referencing the "SPB/X Availability Table" on the controls page.
26. Not available with HSS, GRSWH or GRSBK.
27. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
28. For BAA or TAA requirements, Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.
29. DuraVolt drivers feature added protection from power quality issues such as loss of neutral, transients and voltage fluctuations. Visit www.signify.com/duravolt for more information.
30. 480V not to be used with ungrounded or impedance grounded systems.
31. Not available in 1 square configuration at 800mA or below. Not available with any control option except SPB.
32. Cannot be used with PR7 or other motion response control options.
33. Use GALN Product Configurator to specify lumen output, drive current and wattage. Not available with AMB.
34. Uses the FSP-211 motion sensor. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Cooper Lighting Solutions for more information.

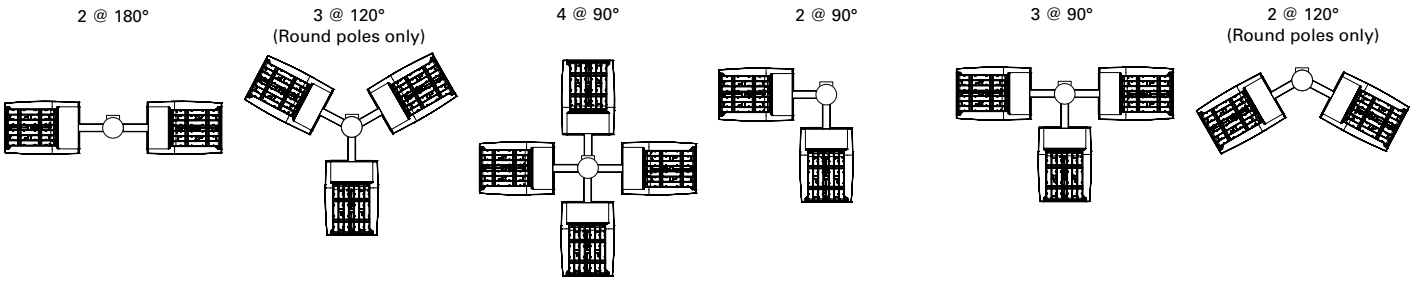
LumenSafe Integrated Network Security Camera Technology Options (Add as Suffix)

Product Family	Camera Type	Data Backhaul	
L=LumenSafe Technology	**D**=Standard Dome Camera **H**=Hi-Res Dome Camera **Z**=Remote PTZ Camera	**C**=Cellular, No SIM **A**=Cellular, AT&T **V**=Cellular, Verizon **S**=Cellular, Sprint	**R**=Cellular, Rogers **W**=Wi-Fi Networking w/ Omni-Directional Antenna **E**=Ethernet Networking

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

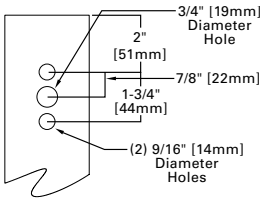
Mounting Details

Pole Configuration Options

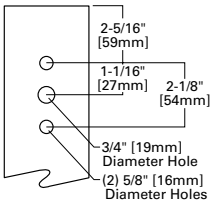


Pole Drilling Patterns

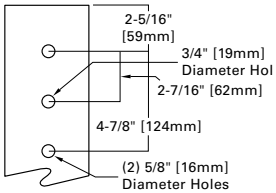
Type "N"



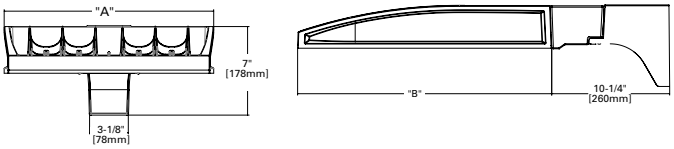
Type "R"



Type "M"

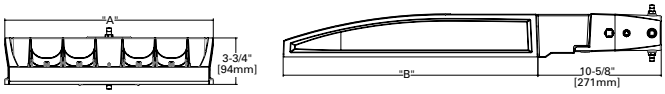


Quick Mount Universal Arm (QU)



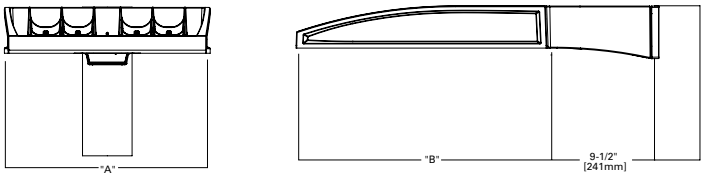
*NOTE: Universal bolt pattern compatible with Type N through Type M drilling patterns

Quick Mount Mast Arm (QMA)



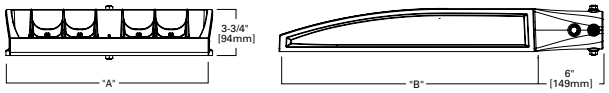
*NOTE: Fits 2-3/8" O.D. tenon

Pole Mount Arm with Quick Mount Adaptor (QM)



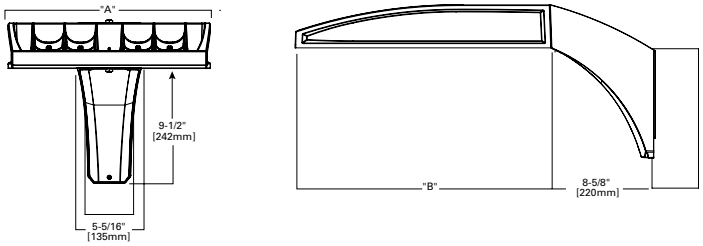
*NOTE: Use Type N drilling pattern

Mast Arm, Fixed (MA)



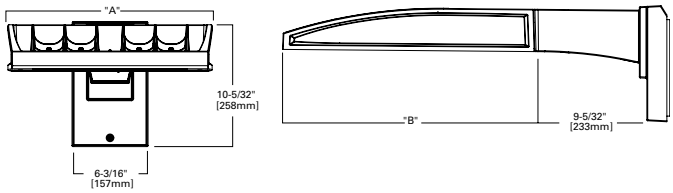
*NOTE: Fits 2-3/8" O.D. tenon

Upswept Arm (UP)



*NOTE: Universal bolt pattern compatible with Type N through Type M drilling patterns

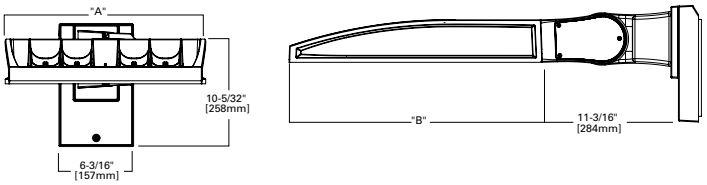
Wall Mount, Fixed (WM)



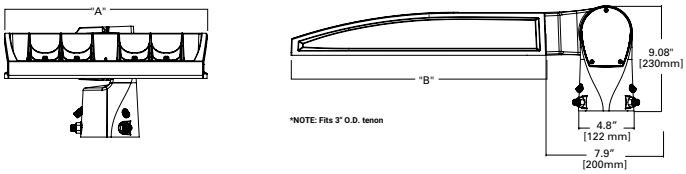
Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Mounting Details

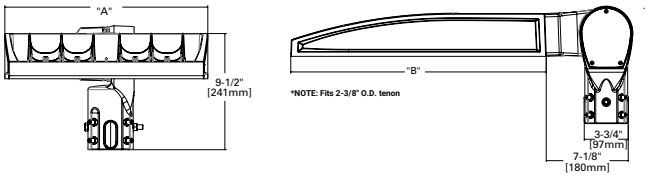
Wall Mount, Adjustable (WA)



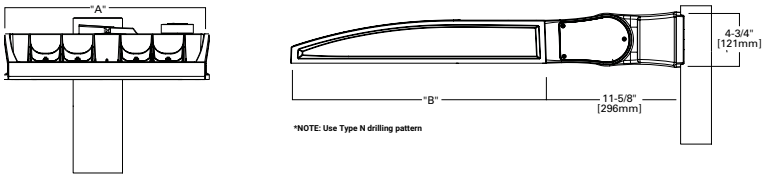
3" Slipfitter, Adjustable (SP)



2-3/8" Slipfitter, Adjustable (SP2)

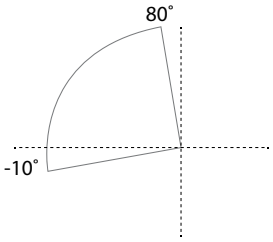


Pole Mount, Adjustable Arm (PA)



Adjustable Arm Range of Motion

- Includes WA, SP, SP2 and PA mounting options
- Adjustable in increments of 5°
- Must maintain downward facing orientation



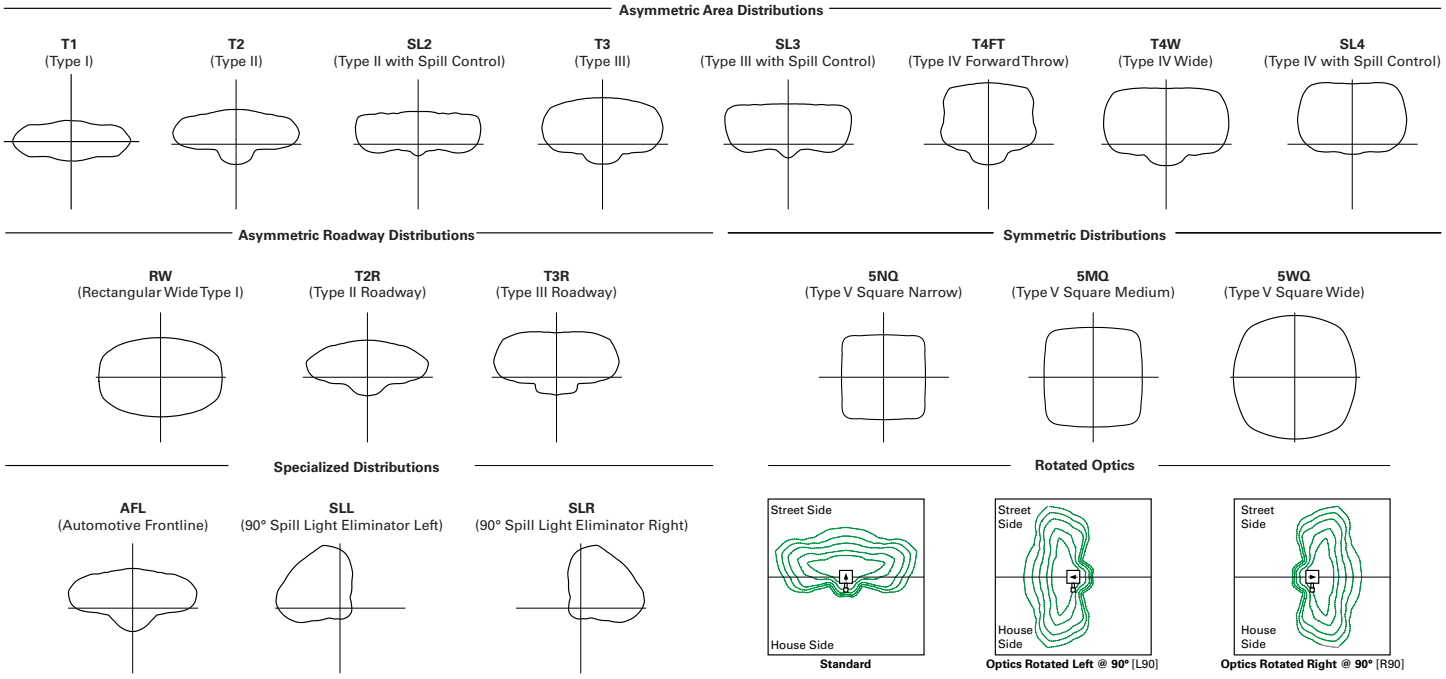
Fixture Weights and EPAs

Tilt Angle (Degrees)	Number of Light Squares	Weight	1 @ 90°	2 @ 180°	2 @ 90°	2 @ 120°	3 @ 90°	3 @ 120°	4 @ 90°
0°	1-4	33.5 lb (15.2 kg)	0.85	1.70	1.46	1.66	2.31	2.25	2.35
	5-6	43.5 lb (19.7 kg)	0.86	1.71	1.62	1.80	2.49	2.35	2.50
	7-9	52.5 lb (23.8 kg)	0.98	1.95	1.75	1.98	2.73	2.55	2.76
15°	1-4	33.5 lb (15.2 kg)	1.10	1.71	1.95	2.26	2.81	3.30	2.87
	5-6	43.5 lb (19.7 kg)	1.42	1.71	2.27	2.72	3.13	3.63	3.15
	7-9	52.5 lb (23.8 kg)	1.69	1.96	2.67	3.22	3.65	4.38	3.72
30°	1-4	33.5 lb (15.2 kg)	1.72	1.81	2.58	3.21	3.44	4.59	3.53
	5-6	43.5 lb (19.7 kg)	2.26	2.29	3.11	4.00	3.97	5.27	4.00
	7-9	52.5 lb (23.8 kg)	2.75	2.85	3.73	4.83	4.71	6.45	4.81
45°	1-4	33.5 lb (15.2 kg)	2.25	2.36	3.10	4.00	3.96	5.63	4.08
	5-6	43.5 lb (19.7 kg)	2.96	2.99	3.81	5.06	4.67	6.49	4.71
	7-9	52.5 lb (23.8 kg)	3.63	3.76	3.73	6.17	5.59	8.03	5.73
60°	1-4	33.5 lb (15.2 kg)	2.63	2.77	3.49	4.58	4.34	6.21	4.48
	5-6	43.5 lb (19.7 kg)	3.46	3.51	4.32	5.84	5.19	7.01	5.22
	7-9	52.5 lb (23.8 kg)	4.27	4.44	5.25	7.15	6.23	8.80	6.40

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

McGraw-Edison GALN Galleon II

Optical Distributions



Product Specifications

Construction
- Die-cast aluminum housing and heat sink
- Three housing sizes, using 1 to 9 light squares

Optics
- High-efficiency injection-molded AccuLED Optics technology
- 17 optical distributions for area site and roadway applications
- 3 shielding options include HSS, GRS and PFS
- IDA Certified (3000K CCT and warmer only, fixed mounting options)

Electrical
- Removable power tray assembly includes drivers, surge modules and control modules for ease of maintenance and serviceability
- Standard with 0-10V dimming
- Standard with 10kV surge module, optional 20kV surge module
- Suitable for operation in -40°C to 40°C ambient environments. Optional 50°C high ambient (HA) configuration

Mounting
- Arms are factory installed, enabling closed-housing installation
- All arms suitable for round or square pole installation
- All arms provide clearance for multiple fixture installations at 90°

Finish
- 6 standard finishes use super durable TGIC polyester powder coat paint, providing 2.5 mil nominal thickness and salt-spray tested to 3,000 hours per ASTM B117
- RAL and custom color matches available
- Coastal Construction (CC) option salt-spray tested to 5,000 hours per ASTM B117, achieving a scribe rating of 9 per ASTM D1654

Typical Applications
- Outdoor, Parking Lots, Walkways, Roadways, Building Areas

Warranty
- Five year limited warranty

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Energy and Performance Data

Lumen Maintenance (TM-21)

Drive Current	Ambient Temperature	25,000 hours*	50,000 hours*	60,000 hours*	100,000 hours**	Theoretical L70 hours**
Up to 1A	25°C	99.4%	99.0%	98.9%	98.3%	> 2.4M
	40°C	98.7%	98.3%	98.1%	97.4%	> 1.9M
	50°C	98.2%	97.2%	96.8%	95.2%	> 851,000
1.2A	25°C	99.4%	99.0%	98.9%	98.3%	> 2.4M
	40°C	98.5%	97.9%	97.7%	96.7%	> 1.3M

* Supported by IES TM-21 standards
** Theoretical values represent estimations commonly used; however, refer to the IES position on LED Product Lifetime Prediction, IES PS-10-18, explaining proper use of IES TM-21 and LM-80.

Lumen Multiplier

Ambient Temperature	Lumen Multiplier
0ºC	1.02
10ºC	1.01
25ºC	1.00
40ºC	0.99
50ºC	0.97

FADC Settings
SA1-SA3 (A, B, C, D Drive Current)

FADC Position	Percent of Typical Lumen Output
1	25%
2	48%
3	56%
4	65%
5	75%
6	80%
7	85%
8	90%
9	95%
10	100%

FADC Settings
SA4-SA6 (A, B, C, D Drive Current)

FADC Position	Percent of Typical Lumen Output
1	14%
2	25%
3	32%
4	43%
5	49%
6	57%
7	65%
8	72%
9	80%
10	100%

FADC Settings
SA7-SA9 (A, B, C, D Drive Current)

FADC Position	Percent of Typical Lumen Output
1	19%
2	38%
3	47%
4	63%
5	74%
6	85%
7	95%
8	97%
9	100%
10	100%

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

McGraw-Edison GALN Galleon II

Performance Table, Drive Current "A" (615mA)

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		33	63	93	121	154	182	215	244	274
Input Current @ 120V		0.283	0.529	0.778	1.058	1.310	1.556	1.839	2.089	2.335
Input Current @ 208V		0.165	0.309	0.460	0.618	0.771	0.919	1.082	1.240	1.379
Input Current @ 240V		0.143	0.270	0.398	0.540	0.671	0.796	0.944	1.078	1.194
Input Current @ 277V		0.125	0.237	0.352	0.473	0.581	0.705	0.818	0.962	1.057
Input Current @ 347V		0.098	0.181	0.272	0.362	0.454	0.544	0.636	0.738	0.816
Input Current @ 480V		0.073	0.133	0.200	0.267	0.335	0.400	0.470	0.554	0.600
Optics										
T1	4000K Lumens	4,619	9,180	13,628	18,059	22,861	27,070	31,796	36,863	41,385
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3
	Lumens per Watt	140	146	147	149	148	149	148	151	151
T2	4000K Lumens	4,654	9,249	13,730	18,194	23,032	27,273	32,034	37,138	41,694
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	141	147	148	150	150	150	149	152	152
T2R	4000K Lumens	4,716	9,372	13,913	18,437	23,340	27,637	32,462	37,634	42,251
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4
	Lumens per Watt	143	149	150	152	152	152	151	154	154
T3	4000K Lumens	4,589	9,120	13,538	17,940	22,711	26,892	31,587	36,620	41,112
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G4
	Lumens per Watt	139	145	146	148	147	148	147	150	150
T3R	4000K Lumens	4,735	9,411	13,970	18,513	23,436	27,751	32,596	37,790	42,425
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	143	149	150	153	152	152	152	155	155
T4FT	4000K Lumens	4,617	9,176	13,622	18,051	22,851	27,058	31,782	36,847	41,366
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	140	146	146	149	148	149	148	151	151
T4W	4000K Lumens	4,631	9,203	13,662	18,104	22,918	27,138	31,876	36,955	41,488
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	140	146	147	150	149	149	148	151	151
SL2	4000K Lumens	4,619	9,180	13,627	18,058	22,860	27,069	31,795	36,861	41,383
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5
	Lumens per Watt	140	146	147	149	148	149	148	151	151
SL3	4000K Lumens	4,586	9,115	13,531	17,931	22,699	26,879	31,571	36,602	41,091
	BUG Rating	B1-U0-G1	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	139	145	145	148	147	148	147	150	150
SL4	4000K Lumens	4,529	9,002	13,363	17,708	22,417	26,544	31,178	36,146	40,580
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G4	B2-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	137	143	144	146	146	146	145	148	148
5NQ	4000K Lumens	4,829	9,598	14,247	18,880	23,901	28,301	33,242	38,539	43,266
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3
	Lumens per Watt	146	152	153	156	155	155	155	158	158
5MQ	4000K Lumens	4,853	9,645	14,318	18,974	24,020	28,442	33,407	38,731	43,482
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	147	153	154	157	156	156	155	159	159
5WQ	4000K Lumens	4,843	9,625	14,288	18,934	23,969	28,382	33,337	38,649	43,390
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5
	Lumens per Watt	147	153	154	156	156	156	155	158	158
SLL/ SLR	4000K Lumens	3,989	7,927	11,768	15,594	19,741	23,375	27,456	31,831	35,736
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5
	Lumens per Watt	121	126	127	129	128	128	128	130	130
RW	4000K Lumens	4,774	9,488	14,085	18,665	23,628	27,979	32,863	38,100	42,774
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3
	Lumens per Watt	145	151	151	154	153	154	153	156	156
AFL	4000K Lumens	4,673	9,286	13,785	18,268	23,126	27,384	32,164	37,290	41,864
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3
	Lumens per Watt	142	147	148	151	150	150	150	153	153

* Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

McGraw-Edison GALN Galleon II

Performance Table, Drive Current "B" (800mA)

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		44	82	121	164	204	243	286	325	364
Input Current @ 120V		0.367	0.689	1.014	1.378	1.704	2.027	2.393	2.716	3.041
Input Current @ 208V		0.213	0.401	0.594	0.802	0.997	1.188	1.400	1.605	1.782
Input Current @ 240V		0.184	0.347	0.510	0.694	0.860	1.021	1.210	1.386	1.531
Input Current @ 277V		0.160	0.303	0.449	0.605	0.757	0.898	1.065	1.242	1.347
Input Current @ 347V		0.125	0.235	0.355	0.471	0.592	0.710	0.828	0.958	1.065
Input Current @ 480V		0.092	0.172	0.258	0.344	0.432	0.517	0.605	0.706	0.775
Optics										
T1	4000K Lumens	5,748	11,423	16,957	22,470	28,446	33,683	39,563	45,867	51,494
	BUG Rating	B2-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
	Lumens per Watt	131	139	140	137	139	139	138	141	141
T2	4000K Lumens	5,790	11,508	17,083	22,638	28,658	33,935	39,859	46,210	51,879
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	132	140	141	138	140	140	139	142	143
T2R	4000K Lumens	5,868	11,662	17,311	22,941	29,041	34,388	40,391	46,827	52,572
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5
	Lumens per Watt	133	142	143	140	142	142	141	144	144
T3	4000K Lumens	5,710	11,347	16,845	22,322	28,258	33,461	39,303	45,565	51,155
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5
	Lumens per Watt	130	138	139	136	139	138	137	140	141
T3R	4000K Lumens	5,892	11,710	17,383	23,035	29,161	34,530	40,558	47,020	52,788
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	134	143	144	140	143	142	142	145	145
T4FT	4000K Lumens	5,745	11,418	16,949	22,460	28,433	33,668	39,546	45,847	51,471
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	131	139	140	137	139	139	138	141	141
T4W	4000K Lumens	5,762	11,451	16,999	22,526	28,517	33,767	39,662	45,982	51,622
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	131	140	140	137	140	139	139	141	142
SL2	4000K Lumens	5,747	11,422	16,956	22,469	28,444	33,681	39,561	45,865	51,491
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	131	139	140	137	139	139	138	141	141
SL3	4000K Lumens	5,707	11,342	16,836	22,311	28,244	33,444	39,283	45,542	51,129
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	130	138	139	136	138	138	137	140	140
SL4	4000K Lumens	5,636	11,201	16,627	22,034	27,893	33,028	38,794	44,976	50,493
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G4	B2-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	128	137	137	134	137	136	136	138	139
5NQ	4000K Lumens	6,009	11,942	17,727	23,492	29,739	35,214	41,362	47,953	53,835
	BUG Rating	B2-U0-G1	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3
	Lumens per Watt	137	146	147	143	146	145	145	148	148
5MQ	4000K Lumens	6,039	12,001	17,816	23,609	29,887	35,389	41,568	48,191	54,103
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5
	Lumens per Watt	137	146	147	144	147	146	145	148	149
5WQ	4000K Lumens	6,026	11,976	17,778	23,559	29,824	35,315	41,480	48,090	53,989
	BUG Rating	B3-U0-G1	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	137	146	147	144	146	145	145	148	148
SLL/ SLR	4000K Lumens	4,963	9,863	14,642	19,403	24,563	29,085	34,163	39,607	44,465
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	113	120	121	118	120	120	119	122	122
RW	4000K Lumens	5,940	11,806	17,526	23,224	29,400	34,813	40,891	47,407	53,222
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
	Lumens per Watt	135	144	145	142	144	143	143	146	146
AFL	4000K Lumens	5,814	11,555	17,153	22,730	28,775	34,073	40,021	46,398	52,090
	BUG Rating	B1-U0-G1	B2-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4
	Lumens per Watt	132	141	142	139	141	140	140	143	143

* Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

McGraw-Edison GALN Galleon II

Performance Table, Drive Current "C" (1050mA)

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		57	108	160	213	269	321	377	429	481
Input Current @ 120V		0.478	0.905	1.338	1.810	2.244	2.675	3.150	3.584	4.013
Input Current @ 208V		0.279	0.532	0.780	1.064	1.313	1.559	1.845	2.093	2.339
Input Current @ 240V		0.243	0.458	0.664	0.916	1.123	1.328	1.582	1.788	1.991
Input Current @ 277V		0.213	0.404	0.582	0.808	0.997	1.164	1.401	1.589	1.745
Input Current @ 347V		0.164	0.322	0.471	0.644	0.795	0.943	1.117	1.269	1.414
Input Current @ 480V		0.121	0.235	0.341	0.469	0.579	0.681	0.814	0.923	1.022
Optics										
T1	4000K Lumens	7,101	14,113	20,950	27,763	35,146	41,616	48,882	56,671	63,623
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	125	131	131	130	131	130	130	132	132
T2	4000K Lumens	7,154	14,219	21,107	27,970	35,408	41,927	49,247	57,094	64,098
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	126	132	132	131	132	131	131	133	133
T2R	4000K Lumens	7,250	14,408	21,389	28,344	35,881	42,487	49,905	57,857	64,954
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	127	133	134	133	133	132	132	135	135
T3	4000K Lumens	7,054	14,020	20,812	27,580	34,914	41,342	48,560	56,297	63,203
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	124	130	130	129	130	129	129	131	131
T3R	4000K Lumens	7,280	14,468	21,477	28,461	36,029	42,663	50,111	58,096	65,222
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	128	134	134	134	134	133	133	135	136
T4FT	4000K Lumens	7,098	14,107	20,941	27,751	35,130	41,598	48,860	56,646	63,594
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	125	131	131	130	131	130	130	132	132
T4W	4000K Lumens	7,119	14,148	21,003	27,832	35,233	41,720	49,004	56,812	63,781
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	125	131	131	131	131	130	130	132	133
SL2	4000K Lumens	7,101	14,112	20,949	27,761	35,144	41,614	48,879	56,668	63,619
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	125	131	131	130	131	130	130	132	132
SL3	4000K Lumens	7,051	14,013	20,802	27,566	34,897	41,321	48,535	56,269	63,172
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	124	130	130	129	130	129	129	131	131
SL4	4000K Lumens	6,963	13,839	20,543	27,223	34,463	40,808	47,932	55,569	62,386
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	122	128	128	128	128	127	127	130	130
5NQ	4000K Lumens	7,424	14,755	21,903	29,025	36,743	43,508	51,104	59,247	66,515
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
	Lumens per Watt	130	137	137	136	137	136	136	138	138
5MQ	4000K Lumens	7,461	14,828	22,012	29,169	36,926	43,725	51,359	59,542	66,846
	BUG Rating	B3-U0-G1	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5
	Lumens per Watt	131	137	138	137	137	136	136	139	139
5WQ	4000K Lumens	7,445	14,797	21,966	29,108	36,849	43,633	51,250	59,417	66,705
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	131	137	137	137	137	136	136	139	139
SLL/ SLR	4000K Lumens	6,132	12,187	18,091	23,973	30,348	35,936	42,210	48,935	54,938
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
	Lumens per Watt	108	113	113	113	113	112	112	114	114
RW	4000K Lumens	7,340	14,587	21,653	28,694	36,325	43,013	50,522	58,573	65,757
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	129	135	135	135	135	134	134	137	137
AFL	4000K Lumens	7,183	14,276	21,193	28,084	35,552	42,098	49,448	57,327	64,359
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G4
	Lumens per Watt	126	132	132	132	132	131	131	134	134

* Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

McGraw-Edison GALN Galleon II

Performance Table, Drive Current "D" (1200mA)

Number of Light Squares		1	2	3	4	5	6	7	8	9
Nominal Power (Watts)		65	125	184	245	309	368	433	493	552
Input Current @ 120V		0.546	1.041	1.535	2.082	2.578	3.070	3.619	4.114	4.605
Input Current @ 208V		0.318	0.610	0.893	1.219	1.504	1.786	2.113	2.397	2.679
Input Current @ 240V		0.276	0.523	0.758	1.046	1.282	1.516	1.806	2.041	2.274
Input Current @ 277V		0.241	0.460	0.662	0.920	1.133	1.325	1.593	1.807	1.987
Input Current @ 347V		0.187	0.370	0.543	0.740	0.915	1.085	1.285	1.459	1.628
Input Current @ 480V		0.138	0.269	0.391	0.537	0.663	0.782	0.932	1.057	1.173
Optics										
T1	4000K Lumens	7,814	15,529	23,053	30,549	38,672	45,793	53,787	62,358	70,007
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	120	124	125	125	125	124	124	126	127
T2	4000K Lumens	7,872	15,645	23,225	30,777	38,962	46,135	54,189	62,824	70,530
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	121	125	126	126	126	125	125	127	128
T2R	4000K Lumens	7,977	15,854	23,535	31,188	39,482	46,751	54,913	63,663	71,472
	BUG Rating	B1-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	123	127	128	127	128	127	127	129	129
T3	4000K Lumens	7,762	15,427	22,901	30,348	38,418	45,491	53,433	61,947	69,546
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B4-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	119	123	124	124	124	124	123	126	126
T3R	4000K Lumens	8,010	15,920	23,632	31,317	39,645	46,944	55,139	63,925	71,767
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	123	127	128	128	128	128	127	130	130
T4FT	4000K Lumens	7,810	15,522	23,043	30,535	38,655	45,772	53,763	62,330	69,976
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	120	124	125	125	125	124	124	126	127
T4W	4000K Lumens	7,833	15,568	23,110	30,625	38,769	45,907	53,921	62,513	70,182
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	121	125	126	125	125	125	125	127	127
SL2	4000K Lumens	7,813	15,528	23,052	30,547	38,670	45,790	53,784	62,354	70,003
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	120	124	125	125	125	124	124	126	127
SL3	4000K Lumens	7,758	15,419	22,889	30,332	38,398	45,468	53,406	61,916	69,511
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
	Lumens per Watt	119	123	124	124	124	124	123	126	126
SL4	4000K Lumens	7,662	15,228	22,605	29,955	37,921	44,903	52,742	61,146	68,646
	BUG Rating	B1-U0-G3	B2-U0-G3	B2-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	118	122	123	122	123	122	122	124	124
5NQ	4000K Lumens	8,169	16,235	24,101	31,938	40,431	47,874	56,232	65,193	73,190
	BUG Rating	B3-U0-G1	B3-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4
	Lumens per Watt	126	130	131	130	131	130	130	132	133
5MQ	4000K Lumens	8,210	16,316	24,221	32,097	40,632	48,113	56,512	65,517	73,554
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	126	131	132	131	131	131	131	133	133
5WQ	4000K Lumens	8,192	16,282	24,170	32,029	40,546	48,011	56,393	65,379	73,399
	BUG Rating	B3-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5	B5-U0-G5
	Lumens per Watt	126	130	131	131	131	130	130	133	133
SLL/ SLR	4000K Lumens	6,747	13,410	19,906	26,379	33,394	39,542	46,445	53,846	60,451
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B4-U0-G5
	Lumens per Watt	104	107	108	108	108	107	107	109	110
RW	4000K Lumens	8,076	16,050	23,826	31,574	39,970	47,329	55,592	64,450	72,356
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5
	Lumens per Watt	124	128	129	129	129	129	128	131	131
AFL	4000K Lumens	7,904	15,709	23,320	30,902	39,120	46,323	54,410	63,079	70,817
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4	B4-U0-G4	B4-U0-G4
	Lumens per Watt	122	126	127	126	127	126	126	128	128

* Nominal data for 70 CRI. ** For additional performance data, please reference the Galleon Supplemental Performance Guide.

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Control Options

0-10V (DIM)
This fixture is offered standard with 0-10V dimming driver(s). The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

Photocontrol (BPC, PR and PR7)
Optional button-type photocontrol (BPC) and photocontrol receptacles (PR and PR7) provide a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the PR7 receptacle.

After Hours Dim (AHD)
This feature allows photocontrol-enabled luminaires to achieve additional energy savings by dimming during scheduled portions of the night. The dimming profile will automatically take effect after a "dusk-to-dawn" period has been calculated from the photocontrol input. Specify the desired dimming profile for a simple, factory-shipped dimming solution requiring no external control wiring. Reference the After Hours Dim supplemental guide for additional information.

Dimming Occupancy Sensor (SPB and MS/DIM-LXX)
These passive infrared (PIR) sensors are factory installed in the luminaire housing. When the SPB (FSP-321 or FSP-311) or MS/DIM (FSP-211) sensor options are selected, the occupancy sensor is connected to a dimming driver and the luminaire dims when no motion is detected. After a set period of time, the luminaire turns off, and when motion is detected, the luminaire returns to full light output. Both sensors are factory preset to dim down to approximately 10% power with a time delay of five minutes. The MS/DIM sensor requires the FSIR-100 programming tool to adjust factory defaults. The SPB sensor default parameters are listed in the table below and can be configured utilizing the Sensor Configuration mobile application for iOS and Android devices. The SPB/X is configured to control only the specified number of light squares (See SPB/X Availability Table below.) An integral photocontrol can be activated with the app for "dusk-to-dawn" control or daylight harvesting - the factory default is off. Four sensor colors are available; Bronze, Black, Gray and White, and are automatically selected based on the luminaire finish as indicated by the table below.

SPB sensor finish matched to luminaire finish		
Luminaire Finish		SPB Sensor Finish*
WH	White	White
BK	Black	Black
GM	Graphite Metallic	Black
BZ	Bronze	Bronze
AP	Gray	Gray
DP	Dark Platinum	Gray

*SPB bezel color automatically selected based on luminaire finish

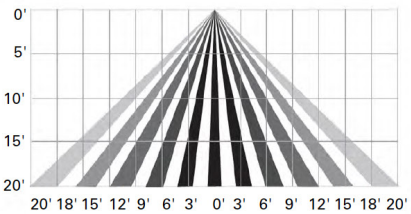
SPB/X Availability Table	
Fixture Square Count	Available SPB/X Square Count
1	Not Available
2	Not Available
3	Not Available
4	2
5	2 or 3
6	3
7	2, 3, 4 or 5
8	2, 3, 5 or 6
9	3 or 6

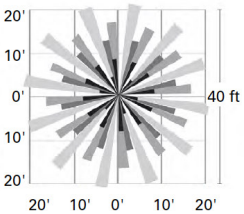
Default Program Settings (Out of the Box Functionality)

Occupancy Sensor				
Setting	MS/DIM	SPB	WaveLinx Lite (WOF / WOB)	WaveLinx (SWPD)
High Mode %	100%	100%	100%	100%
Low Mode %	10%	10%	50%	50%
Time Delay	5 min	5 min	15 min	15 min
Cut Off Delay	1 hr	1 hr	Disabled	Disabled
Photocell Enabled	No	No	Yes	Yes

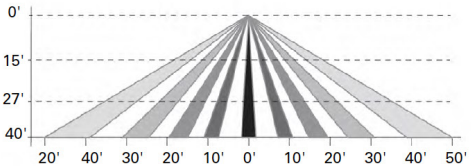
WaveLinx Wireless Control and Monitoring System
Operates on a wireless mesh network based on IEEE 802.15.4 standards enabling wireless control of outdoor lighting. WaveLinx and WaveLinx Lite sensors utilize the Zhaga Book 18 compliant 4-PIN receptacle (ZD or ZW), while the WOLC control module utilizes a 7-PIN receptacle. ZW option provides 4-PIN receptacle and control module to enable future installation of WaveLinx sensors. ZD option provides 4-PIN receptacle and sensor-ready (SR) driver to enable future installation of WaveLinx sensors, power monitoring, and advanced functionality. WaveLinx (SWPD4 to SWPD5) outdoor wireless sensors offer passive infrared (PIR) occupancy and photocell for closed loop daylight harvesting, and can be factory or field-installed. Sensors are factory preset to dim down to 50% after 15 minutes of no motion detected. Two lens options are available for mounting heights of 7' to 40'. Use the WaveLinx mobile application for set-up and configuration. At least one Wireless Area Controller (WAC) is required for full functionality and remote communication (including adjustment of any factory pre-sets). WaveLinx Lite (WOF and WOB) outdoor wireless sensors provide PIR occupancy and photocell for closed loop daylight harvesting, and can be factory or field-installed. Sensors are factory preset to dim down to 50% after 15 minutes of no motion detected. Two lens options are available for mounting heights of 7' to 40'. Use the WaveLinx Lite mobile application for set-up and configuration. WAC not required. WaveLinx Outdoor Control Module (WOLC-7P-10A) accessory provides a photocontrol enabling astronomic or time-based schedules to provide ON, OFF and dimming control of fixtures utilizing a 7-PIN receptacle. The out-of-box functionality is ON at dusk and OFF at dawn.

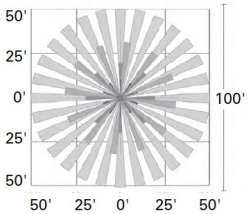
For mounting heights up to 15' (SWPD4 and WOB)





For mounting heights up to 40' (SWPD5 and WOF)





LumenSafe Integrated Network Security Camera (LD)
Cooper Lighting Solutions brings ease of camera deployment to a whole new level. No additional wiring is needed beyond providing line power to the luminaire. A variety of networking options allows security integrators to design the optimal solution for active surveillance. As the ideal solution to meet the needs for active surveillance, the LumenSafe integrated network camera is a streamlined, outdoor-ready fixed dome that provides HDTV 1080p video. This IP camera is optimally designed for deployment in the video management system or security software platform of choice.

Synapse (DIM10)
SimplySNAP integrated wireless controls system by Synapse. Includes factory installed DIM10 Synapse control module and FSP-201 motion sensor; requires additional Synapse system components for operation. Contact Synapse at www.synapsewireless.com for product support, warranty and terms and conditions.

Attachment: SP-2024-03_drawings_051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

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Specifications and dimensions subject to change without notice.

Amherst

Town of Amherst Planning Department *Erie County, New York*

Brian J. Kulp
Supervisor

Daniel C. Howard P
Planning Direc

Daniel J. Ulatowski P
Assistant Planning I or

MAY 23 2024 AM9

SEQR
Negative Declaration

NOTICE OF DETERMINATION OF NON-SIGNIFICANCE

Lead Agency:	Town of Amherst Planning Board	**Project:**	SP-2024-03
Address:	5583 Main Street Williamsville, NY 14221 (716) 631-7051	**Date:**	May 16, 2024

This notice is issued pursuant to Part 617 and Local Law #3-82, as amended, of the implementing regulations pertaining to Article 8 (State Environmental Quality Review) of the Environmental Conservation Law.

The Lead Agency has determined that the proposed action described below will not have a significant adverse effect on the environment.

Title of Action: Site Plan Review

SEQR Status: Unlisted Action

Description of Action: Demolition of an existing single-family home and an existing commercial building and construction of commercial/ apartment building consisting of 13,500 sf of commercial space and 34 residential apartments for lease. Work will include the site improvements not specifically stated above, including, stormwater, utilities, grading, lighting, paving, and landscaping.

Location: 6812, 6814 & 6832 Main Street and 29 & 37 Tennyson Terrace, Amherst, Erie County

Petitioner: 6812 Main Street, LLC

Attachment: SP-2024-03 signed neg dec 051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

MAY 23 2024 AM9

REASONS SUPPORTING THIS DETERMINATION

Based on information submitted by the applicant including a Full Environmental Assessment Form (EAF) - Part I, (as amended) and a complete site plan application, a preliminary staff analysis was undertaken. Compared to the criteria listed in Section 617.7, all indications are that this action will not have a significant impact on the environment, as follows:

1. The project is not expected to cause a substantial adverse change in existing air quality, ground or surface water quality or quantity, or noise levels; a substantial increase in solid waste production; or a substantial increase in the potential for erosion, flooding, leaching or drainage problems. The Engineering Service Division on May 2, 2024 reviewed the Engineer's Report submitted on March 25, 2024 prepared by Carmina Woods Design. The Stormwater Pollution Prevention Plan (SWPPP) submitted on March 25, 2024 was also reviewed. Based on its review of these documents, the Department has determined that the project has or will have met all applicable requirements and has no objection to its approval.

2. The project will not result in the removal or destruction of large quantities of vegetation or fauna; or in significant adverse impacts to fish or wildlife species, habitats or other natural resources. The Planning Department reviewed a Landscape Plan submitted on April 26, 2024 and determined that it meets or exceeds Zoning Ordinance requirements for greenspace. The Landscape Plan has or will have met all Zoning Ordinance and Town requirements for landscaping.

3. The project is consistent with the objectives and goals of the Town Comprehensive Plan.

4. The project is within an area identified by the State as having potential archaeological or historical significance. The NYS Office of Parks, Recreation and Historic Preservation has reviewed the project and, as stated in their letter of March 11, 2024, determined that there will be no impact on these resources.

5. The project will not impair the character or quality of important aesthetic resources or of existing community or neighborhood character. The project is located in the General Business District (GB) and Multifamily Residential District 5 (MFR-5) zoning districts; neighboring uses are mix of commercial, business and residential uses and zoned GB, Deep Corridor 5 District, and MFR-5; therefore, the project is consistent with surrounding land use.

6. The proposed subject development will include demolition of an existing single-family home and an existing commercial building and the construction of commercial/ apartment building consisting of 13,500 sq. ft. of commercial space and 34 residential apartments the development will not cause a major change in the use of either the quantity or type of energy.

Attachment: SP-2024-03 signed neg dec 051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

MAY 23 2024 AM9:

7. The project will not create any hazard to human health.

8. The project will not cause a substantial change in the use, or intensity of use, of land including agricultural, open space or recreational resources, or in its capacity to support existing uses. The 34 residences and 13,500 sq. ft. of commercial space will be consistent with the scale and use of surrounding land.

9. The function of the proposed commercial apartment building will increase the number of people using the site over its previous level of use, but is not anticipated to result in a significant adverse impact.

10. Review by the Town Traffic/Safety Board dated April 4, 2024, and NYSDOT dated April 26, 2024 indicate that significant negative traffic impacts are not expected to result from the proposed project.

11. A coordinated review of the project has been undertaken by Town Departments, in addition to those mentioned above, Highway on May 6, 2024, Assessor on April 3, 2024, Plumbing Division on April 2, 2024, and Right-of-Way Agent on April 10, 2024 along with outside agencies including the New York State Department of Transportation on April 26, 2024, and the New York State Office of Parks, Recreation and Historic Preservation on March 11, 2024. These reviews have not identified any significant environmental issues and indicate that the proposal will not have a significant damaging impact on the environment.

12. Issues not specifically mentioned above and/or those not specifically reviewed were not raised by Town departments, outside agencies or the public and are not determined to cause significant negative environmental impacts.

Planning Board Approval
Moved by: Raffaele; Seconded by: Kahn; Ayes 5; Noes 0; Absent 2 (Davis, Giuliani)

James Quinn, Assistant Planner — 5-21-2024 Date

Michael J. Chmiel, Planning Board Chair — 5/23/24 Date

Attachment: SP-2024-03 signed neg dec 051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

MAY 23 2024 AM9

JQ/ac
X:\Current_Planning\Files\Site Plans\2024\SP-2024-03_(6812_6814_&_6832_Main St)_2024\SP-2024-03_Blurb_051624.doc
cc: Commissioner of Building
Town Engineer
Fire Chiefs'
Highway
Traffic/Safety
ECDEP
NYSDOT
6812 Main Street, LLC, c/o Sean Hopkins, Esq., 5500 Main St., Suite 343, Williamsville, NY 14221
Patrick Sheedy, Carmina Wood Design, 487 Main Street #500, Buffalo, NY 14203

Attachment: SP-2024-03 signed neg dec 051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

TOWN OF AMHERST
PLANNING BOARD
SITE PLAN RESOLUTION
SP-2024-03

PETITIONER

6812 Main Street LLC
c/o Sean Hopkins, Esq.
5500 Main St., Suite 343
Williamsville, NY 14221

PROPERTY LOCATION

6812, 6814 & 6832 and 29 & 37
Tennyson Terrace

MAY 23 2024 AM9

WHEREAS, the Town of Amherst Planning Board on Thursday, May 16, 2024 held a public hearing on a Site Plan for a commercial/ apartment building consisting of 13,500 sf of commercial space and 34 residential apartments, and

WHEREAS, the Planning Board reviewed the plans and specifications for the proposed project, and

WHEREAS, the Site Plan was referred to the Town's various review agencies, and

WHEREAS, in accordance with Section 8-7-8 of the Zoning Ordinance, the Planning Board finds that:

A. The site plan does include usable space for active and passive recreation, including pedestrian connections.

B. The site plan does not include open space lands for public ownership and use offered for dedication or other disposition to the Town or other public entity.

C. School sites and facilities are adequate to accommodate the proposed site plan.

D. The site plan does not include the extension of roadways to adjacent property.

WHEREAS, in accordance with Section 8-7-9 of the Zoning Ordinance, the Planning Board finds that:

A. The proposed site plan is consistent with the development plan if one is required.

B. The proposed site plan is consistent with the purpose and specific requirements of the Zoning Ordinance and generally consistent with the policies of the Comprehensive Plan.

C. Adequate services and utilities will be available prior to occupancy.

D. The site plan is consistent with all other applicable laws.

Attachment: SP-2024-03 signed resolution 051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

TOWN OF AMHERST
PLANNING BOARD
SITE PLAN RESOLUTION
SP-2024-03

PETITIONER

6812 Main Street LLC

PROPERTY LOCATION

6812, 6814 & 6832 and 29 & 37

MAY 23 2024 AMS

E. Pursuant to Local Law #3-82, as amended, the Planning Board has determined that the requirements of SEQR are complete and that the subject proposal is not expected to have a significant adverse effect on the environment.

F. Review by the US Army Corps of Engineers under Section 404 of the Clean Water Act may be waived because the parcels are developed.

NOW THEREFORE BE IT RESOLVED that in accordance with 6 NYCRR, Part 617 and Local Law #3-82, as amended, the Planning Board has issued a Negative Declaration attached hereto, and

NOW THEREFORE BE IT FURTHER RESOLVED that the Planning Board, in accordance with Section 8-7 of the Zoning Ordinance approves said Site Plan subject to the following conditions:

1. That the consideration of signs is specifically excluded from this approval as they require a separate review and approval by the Town.

2. That all dumpsters/trash containers and all mechanical equipment, utility structures, multiple meter boards, generators, and similar appurtenances, including those which are mounted on any part of a primary structure shall be appropriately screened with a fence, wall, and/or landscaping. Provide gate on dumpster enclosure that shall be closed whenever dumpster is not being serviced, enclosure shall be high enough to screen the dumpster(s) within.

3. That as-built record drawings, including location of utilities, be provided to the Engineering Department prior to issuance of a Certificate of Occupancy by the Building Department.

4. That the conditions of the Assessor's Department letter dated April 4, 2024 are addressed to the satisfaction of the department.

5. That the conditions of the Traffic Safety Board letter dated April 4, 2024 are addressed to the satisfaction of that Board.

6. That the conditions of the Zoning Enforcement Officer and Planning Department letter dated April 4, 2024 are addressed to the satisfaction of the department.

Attachment: SP-2024-03 signed resolution 051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

TOWN OF AMHERST
PLANNING BOARD
SITE PLAN RESOLUTION
SP-2024-03

PETITIONER	PROPERTY LOCATION
6812 Main Street LLC	6812, 6814 & 6832 and 29 & 37

MAY 23 2024 AM9

7. That the concerns raised by the Amherst Fire Chief's Association letter dated April 4, 2024 letter dated April 4, 2024 are addressed to the satisfaction of the Association.

8. That a New York State Variance is granted for relief of Section 503 FCNYS 2020 Fire Apparatus Access Road.

The foregoing resolution was adopted by the Town of Amherst Planning Board, May 16, 2024; moved by Gill; seconded by Raffaele; ayes 5; noes 0; absent 2 (Davis, Giuliani).

Michael J. Chmiel, Planning Board Chair

5/23/24
Date

JQ/ac
X:\Current_Planning\Files\Site Plans\2024\SP-2024-03_(6812_6814_&_6832_Main St)_2024\SP-2024-03_resolution_051624.doc
cc: Commissioner of Building
Town Engineer
Fire Chiefs
Traffic/Safety
Highway Superintendent
ECDEP
NYSDOT
Approved Plan: Carmina Wood Design
Received: April 26, 2024
6812 Main Street, LLC, c/o Sean Hopkins, Esq., 5500 Main St., Suite 343, Williamsville, NY 14221
Patrick Sheedy, Carmina Wood Design, 487 Main Street #500, Buffalo, NY 14203

Attachment: SP-2024-03 signed resolution 051624 (28830 : SP-2024-03, 6812, 6814 & 6832 Main & 29 & 37 Tennyson Ter.)

Amherst Planning Board
5583 Main Street
Williamsville, NY 14221

DEFEATED

Meeting: 05/16/24 06:30 PM
Department: Planning
Category: Miscellaneous
Prepared By: Amy Carrato
Initiator: Dan Howard
Sponsors:
DOC ID: 28831

PLANNING BOARD ITEM (ID # 28831)

Request to Amend Figure 6 of the Bicentennial Comprehensive Plan from "Recreation, Open Space and Greenways" and "Industrial-Office" to "Commercial/Mixed Use and Figure 6A to "Suburban Center" for 62 Acres of Land, BCPA-2024-01

Property located at 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard (portion)
SBLC Development Corporation, Petitioner

Proposal to amend the Bicentennial Comprehensive Plan to change the land use designation on Figure 6 from "Recreation, Open Space & Greenways" and "Industrial Office" to "Commercial/Mixed Use" and Figure 6A to create a "Suburban Center" to allow for the potential future rezoning and construction of two mixed-use buildings each consisting of 4,000 sq. ft. of first floor commercial space (8,000 sq. ft. total) and 15 - 1st floor apartments and 20 - 2nd floor apartments, 86 townhome style units with attached garages, 55 lots for detached single-family homes, 64 multifamily units (140 residential units total) and all related site improvements including roadways, stormwater management, landscaping, lighting, utility improvements and connections.

Sean Hopkins, Esq., Hopkins Sorgi & McCarthy, represented the petitioner, explained the proposal and was available to answer questions from the Board.

In response to the Board's questions, Mr. Hopkins stated the isn't a demand for industrial uses in Amherst and there is a strong demand for apartments in WNY.

No further comments were heard on this proposal. .

Following discussion, Ms. Penberthy moved to deny the request based on the resolution. The motion was seconded by Mr. Gill and carried. Ayes 5, Noes 0, Absent 2 (Davis, Giuliani).

ATTACHMENTS:

- BCPA-2024-01_application_051624pdf (PDF)
- BCPA-2024-01_drawings_051624pdf (PDF)
- BCPA-2024-01 signed resolution 051624 (PDF)

RESULT:	**DENIED [UNANIMOUS]**
MOVER:	Brittany Lee Penberthy, Board Member
SECONDER:	Harbinder Gill, Board Member
AYES:	Chmiel, Gill, Kahn, Penberthy, Raffaele Jr.
ABSENT:	John B. Davis, Dal Giuliani

Amended BCPA Application
Date: April 4, 2024





TOWN OF AMHERST PLANNING DEPARTMENT

Request for Bicentennial Comprehensive Plan Amendment

For Official Use

File #: BCPA-2024-01 **Acreage** 62.03 **Fee $** 15

Address Verified by Assessor's Office _____ VERIFIED BY DATE

Application Received by Planning Department 3/25/24 ACCEPTED BY DATE

Materials & Fee Paid to Town Clerk _____ ACCEPTED BY DATE

		Fill In Applicable Fees
COMPREHENSIVE PLAN AMMENDMENT	**$0***	✓
AFFIDAVIT FEE FOR PUBLIC HEARING	**$15**	$15.00

Fee schedule subject to change by future Town Board action

TOTAL FEE: $ 15.00

TO BE COMPLETED BY APPLICANT

Petitioner:

Name: SBLC Development Corporation c/o Sean Hopkins, Esq.

Address: 5500 Main Street, Suite 343

Williamsville, NY 14221
City State Zip Code\

Phone: 716.510-4338 Fax _____

Email: shopkins@hsmlegal.com

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Owner of Land (if different than above):

Name: 1. Anthony Cimato - 1790 North French Road [SBL No. 27.04-1-12]; 2. North Forest Development Corp. - 1920 North French Road [SBL No. 27.04-1-20]; 3. SBLC Development Corp. - Portion of 999 Campbell Boulevard [SBL No. 27.00-2-29; and 4. ~~1860 North French Road Road [SBL No. 27.04-1-16.1] SBLC Development Corp.~~]

Address: _____

City State Zip Code

Phone: 716.510-4338 Fax _____

E Mail: shopkins@hsmlegal.com

Representative (Architect, Engineer, Landscape Architect, Surveyor or Attorney):

Name: _____

Address: _____

_____

City State Zip Code

Phone: _____ Fax _____

E Mail: _____

Petitioner's interest in property

- ☐ Option to purchase
- ☒ Owner
- ☒ Other (explain) The parcels at 1790 and 1920 North French Road are owned by related entities. The parcels will be merged into a single parcel owned by SBLC Development Corp.

The following are all others having an interest in this application and join herein with the petitioner named above: (describe extent of interest; attach sheets as needed)

Not Applicable

Street address(es) of land subject to Bicentennial Comprehensive Plan Amendment:

1790 North French Road, 1920 North French Road and Portion of 999 Campbell Boulevard & Portion of 1860 North French Road [SBL: 27.04-1-16.1]

SBL #(s): SBL No. 27.04-1-12, 2. SBL No. 27.04-1-20; and SBL No. 27.00-2-29

INFORMATION ON REQUEST

1. **The undersigned hereby requests the Honorable Town Board to amend the following text sections of the Bicentennial Comprehensive Plan:**

   Section(s) #/page(s): Not applicable.

Note: If the requested amendment does not involve a map change, skip #2 and #3.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

2. The undersigned hereby requests the Honorable Town Board to amend the Conceptual Land Use Map (Figure 6) and/or Commercial and Mixed-Use Designations (Figure 6A) as follows:

FROM:

- ☐ Rural Residential
- ☐ Single Family Residential
- ☐ Mixed Residential
- ☐ Medium Residential
- ☐ Commercial/ Mixed Use*
- ☐ Special Use Center
- ☐ Commercial-Office
- ☐ Industrial-Office
- ☐ Community Facilities
- ☐ Educational Campus
- ☒ Recreation, Open Space, & Greenways
- ☐ Agriculture
- ☐ Transportation

*Additional Designations in Figure 6-A:

- ☐ Suburban Center
- ☐ Suburban Corridor
- ☐ Traditional Areas

TO:

- ☐ Rural Residential
- ☐ Single Family Residential
- ☐ Mixed Residential
- ☐ Medium Residential
- ☒ Commercial/ Mixed Use*
- ☐ Special Use Center
- ☐ Commercial-Office
- ☐ Industrial-Office
- ☐ Community Facilities
- ☐ Educational Campus
- ☐ Recreation, Open Space, & Greenways
- ☐ Agriculture
- ☐ Transportation

*Additional Designations in Figure 6A:

- ☐ Suburban Center
- ☒ Suburban Corridor
- ☐ Traditional Areas

3. Other Bicentennial Comprehensive Plan Map Amendments (if applicable):

Figure # or Name**:** Figure 6 and 6-A

4. Information on prospective action (*to be provided in separate attachment*):

A. Description of any prospective action:

B. Rationale for request of amendment:

1. How will the requested amendment to the Bicentennial Comprehensive Plan consistent with *Section 2.2 (Vison Statement)*?
2. How will the requested amendment to the Bicentennial Comprehensive Plan consistent with *Section 2.3 (Key Initiatives)*?

C. How is the requested amendment align with the defined policies in Sections;

1. *3.0 Land Use and Development?*
2. *4.0 Natural and Cultural Resources?*
3. *5.0 Economic Development?*
4. *6.0 Transportation?*
5. *7.0 Infrastructure?*
6. *8.0 Housing & Neighborhoods?*
7. *9.0 Community Facilities & Services?*

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

SECTION 809 CERTIFICATION

The undersigned certifies that all information required to be disclosed pursuant to Section 809 of the General Municipal Law (see below) is as follows:

The undersigned swears or affirms that all statements made herein are true, that all drawings submitted correctly show the situation involved in this petition.

Signature of Petitioner

Subscribed and sworn to before me this 25th *day of* March, 20 24

Notary Public, Erie County, New York

NOREEN A. ZIMMERMAN
Notary Public, State of New York
Qualified in Niagara County
My Commission Expires Aug. 31, 2026

N.Y.S. General Municipal Law - Section 809 Disclosure in certain applications:

1. Every application, petition or request submitted for a variance, amendment, change of zoning, approval of a plat, exemption from a plat or official map, license or permit, pursuant to the provision of any ordinance, local law, rule or regulation constituting the zoning and planning regulations of a municipality shall state the name, residence and the nature and extent of the interest of any state office or any office or employee of such municipality or of a municipality of which such municipality is a part, in the person, partnership or association making such application, petition or request (hereinafter called the applicant) to the extent known to such applicant.

2. For the purpose of this section an officer or employee shall be deemed to have an interest in the applicant when he, his spouse, or their brothers, sisters, parents, children, grandchildren, or the spouse of any of them
   (a) is the applicant, or
   (b) is an officer, director, partner or employee of the applicant, or
   (c) legally or beneficially owns or controls stock of a corporate applicant or is a member of a partnership or association applicant, or
   (d) is a party to an agreement with such an applicant, express or implied, whereby he may receive any payment or other benefit, whether or not for services rendered, dependent or contingent upon the favorable approval of such applicant, petition or request.

3. In the county of Nassau the provisions of subdivisions one and two of this section shall also apply to a party officer. "Party Officer" shall mean any person holding any position or office, whether by election, appointment or otherwise, in any party as defined by subdivision four or section two of the election law.

4. Ownership of less than five per cent of the stock of a corporation whose stock is listed on the New York or American Stock Exchanges shall not constitute an interest for the purposes of this section.

5. A person who knowingly and intentionally violates this section shall be guilty of a misdemeanor.

Town of Amherst Planning Department 5583 Main Street Williamsville New York 14221
(716) 631-7051; Fax: (716) 631-7153; Web: www.amherst.ny.us

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: SBLC Mixed-Use Project		
Project Location (describe, and attach a general location map): 1790, 1860 and 1920 North French Road and portion of 999 Campbell Boulevard - Town of Amherst - Erie County		
Brief Description of Proposed Action (include purpose or need): The proposed redevelopment project ("action") consists of a mixed-use project to be located at 1790, 1860 and 1920 North French Road and the eastern portion 999 Campbell Boulevard (collectively the "Project Site") consisting of the following: 1. Two mixed-use buildings each consisting of 4,000 sq. ft. of first floor commercial space and 15 1st floor apartments and 20 2nd floor apartments; 2. 86 townhome style units with attached garages; 3. 55 lots for detached single-family homes and 4. 64 multifamily units; 5. All related site improvements including roadways, stormwater management, landscaping, lighting, utility improvements and connections. The proposed action has been defined broadly to include all required discretionary approvals and permits needed from governmental agencies. The proposed project is a Type I action pursuant to SEQRA.		
Name of Applicant/Sponsor: SBLC Development Corp. c/o Sean Hopkins, Esq.	Telephone: 716.510-4338 E-Mail: shopkins@hsmlegal.com	
Address: 5500 Main Street, Suite 343		
City/PO: Williamsville	State: NY	Zip Code: 14221
Project Contact (if not same as sponsor; give name and title/role):	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor): See Attachment "A"	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, or Village Board of Trustees ☑Yes ☐No	Town Board - Comp. Plan Amendment and Rezoning	March 2024 [Comp. Plan Amendment Application]
b. City, Town or Village Planning Board or Commission ☑Yes ☐No	Town of Amherst Planning Board - Site Plan and Subdivision Approval	To be Determined
c. City, Town or Village Zoning Board of Appeals ☑Yes ☐No	Town of Amherst ZBA - Area Variances	To be Determined
d. Other local agencies ☑Yes ☐No	Town of Amherst Engineering (DSCA); Amherst IDA (PILOT) and Building Dept (Floodplain Permit)	To be Determined
e. County agencies ☑Yes ☐No	ECWA (back flow), ECDOH (water and sewer)	To be Determined
f. Regional agencies ☐Yes ☑No		
g. State agencies ☑Yes ☐No	NYSDEC - Wetland Permit and DSCA	To be Determined
h. Federal agencies ☐Yes ☑No		

i. Coastal Resources.

i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes ☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes ☑No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes ☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes ☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☑Yes ☐No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☑Yes ☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes ☐No

If Yes, identify the plan(s):

NYS Heritage Areas:West Erie Canal Corridor

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes ☑No

If Yes, identify the plan(s):

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
Suburban Agriculture District ("SA")

b. Is the use permitted or allowed by a special or conditional use permit? ☐ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☑ Yes ☐ No
If Yes,
i. What is the proposed new zoning for the site? SC-3, R-3 and MFR-5

C.4. Existing community services.

a. In what school district is the project site located? Williamsville Central School District

b. What police or other public protection forces serve the project site?
Town of Amherst Police Department

c. Which fire protection and emergency medical services serve the project site?
Volunteer Fire Department

d. What parks serve the project site?
Various Town Parks

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Mixed-use (residential and commercial)

b. a. Total acreage of the site of the proposed action? 62.03 acres
b. Total acreage to be physically disturbed? 47.50 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 62.03 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☐ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☑ Yes ☐ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
Residential
ii. Is a cluster/conservation layout proposed? ☐ Yes ☑ No
iii. Number of lots proposed? 55
iv. Minimum and maximum proposed lot sizes? Minimum 8,470 Maximum 13,953

e. Will the proposed action be constructed in multiple phases? ☑ Yes ☐ No
i. If No, anticipated period of construction: _____ months
ii. If Yes:
- Total number of phases anticipated 4
- Anticipated commencement date of phase 1 (including demolition) 3 month 25 year
- Anticipated completion date of final phase 12 month 28 year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

f. Does the project include new residential uses? ☑ Yes ☐ No

If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases	141	2		132

g. Does the proposed action include new non-residential construction (including expansions)? ☑ Yes ☐ No

If Yes,

i. Total number of structures 2

ii. Dimensions (in feet) of largest proposed structure: 30 height; 140 width; and 235 length

iii. Approximate extent of building space to be heated or cooled: 20,300 square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☑ Yes ☐ No

If Yes,

i. Purpose of the impoundment: Stormwater retention

ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☑ Other specify: Stormwater runoff

iii. If other than water, identify the type of impounded/contained liquids and their source. Not applicable

iv. Approximate size of the proposed impoundment. Volume: TBD million gallons; surface area: 5.4 acres

v. Dimensions of the proposed dam or impounding structure: TBD height; TBD length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): Earth fill

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐ Yes ☐ No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)

If Yes:

i .What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.

_____

_____

iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No
If yes, describe. _____

_____

v. What is the total area to be dredged or excavated? _____acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? ☐ Yes ☐ No

ix. Summarize site reclamation goals and plan: _____

_____

_____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☑ Yes ☐ No

If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): Impacts to the 100-ft Adjacent Area of NYSDEC Freshwater Wetland TE-18 as delineated on Concept Plan C-100.

_____

[A copy of the Wetland Delineation Verification Letter issued by Charles P. Rosenburg of the NYS Dept. of Environmental Conservation on January 22, 2022 is provided at Attachment "B". A copy of the Jurisdictional Determination issued by the U.S. Army Corps of Engineers for 1920 North French Road dated March 14, 2023 is provided at Attachment "C".]

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:
Encroachment in to the 100-ft. Adjacent Area of NYSDEC Freshwater Wetland TE-18 includes excavation of retention ponds and the construction of the 10-unit multifamily buildings as depicted on Concept Plan C-100.

iii. Will the proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No
If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☐ No
If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

c. Will the proposed action use, or create a new demand for water? ☑ Yes ☐ No
If Yes:

i. Total anticipated water usage/demand per day: 72,450 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☐ Yes ☐ No
If Yes:

- Name of district or service area: Erie County Water Authority
- Does the existing public water supply have capacity to serve the proposal? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No
- Do existing lines serve the project site? ☑ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☐ No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____
- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☐ No
If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑ Yes ☐ No
If Yes:

i. Total anticipated liquid waste generation per day: 72,450 gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____
sanitary wastewater

iii. Will the proposed action use any existing public wastewater treatment facilities? ☑ Yes ☐ No
If Yes:

- Name of wastewater treatment plant to be used: Town of Amherst WWTP
- Name of district: Town of Amherst Consolidated Sanitary Sewer District
- Does the existing wastewater treatment plant have capacity to serve the project? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

- Do existing sewer lines serve the project site? ☑ Yes ☐ No
- Will a line extension within an existing district be necessary to serve the project? ☐ Yes ☑ No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐ Yes ☐ No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

_____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑ Yes ☐ No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 21.2 acres (impervious surface)

_____ Square feet or 62.03 acres (parcel size)

ii. Describe types of new point sources. New point sources include storm sewers, swales and curbing.

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

Stormwater runoff will be directed to on-site retention ponds.

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐ Yes ☑ No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐ Yes ☑ No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐ Yes ☐ No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐ Yes ☐ No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐ Yes ☐ No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☐No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☐No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

[A Traffic Impact Study prepared by Passero Associates dated April 4, 2024 has been submitted with this Amended Part 1 of the Full EAF.]

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☑Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

Typical of commercial retail demand

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

Local utility company

iii. Will the proposed action require a new, or an upgrade, to an existing substation? ☐Yes ☑No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 7 a.m. - 5 p.m.
- Saturday: 7 a.m. - 5 p.m. [as needed]
- Sunday: N/A
- Holidays: N/A

ii. During Operations:

- Monday - Friday: 8:00 to 10:00 [retail space]
- Saturday: 8:00 to 10:00 [retail space]
- Sunday: 8:00 to 8:00 [retail space]
- Holidays: 8:00 to 8:00 [retail space]

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Operation of constitution equipment may produce noise exceeding ambient levels. This is a temporary and unavoidable impact.

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☑ No

Describe: _____

n. Will the proposed action have outdoor lighting? ☐ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Dark sky compliant light poles, mounted at 15-ft will be spaced throughout the sight to provide even light distribution.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☑ No

Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☐ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☐ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally, describe the proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☐ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☑ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: 4-8 tons per week (unit of time)
- Operation : 1.5 tons per week (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____
- Operation: _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: _____
- Operation: _____

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☐ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☑ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☑ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

The existing site consists of wooded areas and is surrounded by residential and commercial uses.

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0.0	21.2	+21.2
• Forested	8.9	0.1	-8.8
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	45.6	27.8	-28.8
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)	0.0	5.4	+5.4
• Wetlands (freshwater or tidal)	7.5	7.5	0.0
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: Greenspace and Landscaping		??	??

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c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☐ No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐ Yes ☐ No
If Yes,
i. Identify Facilities:
_____
_____

e. Does the project site contain an existing dam? ☐ Yes ☐ No
If Yes:
i. Dimensions of the dam and impoundment:
- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection:
_____
_____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☐ No
If Yes:
i. Has the facility been formally closed? ☐ Yes ☐ No
- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:
_____
_____
iii. Describe any development constraints due to the prior solid waste activities: _____
_____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☐ Yes ☐ No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:
_____
_____

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐ Yes ☐ No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐ Yes ☐ No
☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____
☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____
☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures:_____
_____
_____
iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐ Yes ☑ No
If yes, provide DEC ID number(s): _____
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):
_____
_____

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☐

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? >6 feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____%

c. Predominant soil type(s) present on project site:

Getzville Silt loam	20 %
Swormville clay loam	52 %
Wayland soils complex	28 %

d. What is the average depth to the water table on the project site? Average: >6 feet

e. Drainage status of project site soils:

☐	Well Drained:	_____% of site
☐	Moderately Well Drained:	_____% of site
☑	Poorly Drained	100 % of site

f. Approximate proportion of proposed action site with slopes:

☑	0-10%:	100 % of site
☐	10-15%:	_____% of site
☐	15% or greater:	_____% of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name 837-44 Classification C
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal Waters, NYS Wetland, Federal Waters, Fe... Approximate Size NYS Wetland (in a...
- Wetland No. (if regulated by DEC) TE-18, TE-19

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100-year Floodplain? ☑ Yes ☐ No

k. Is the project site in the 500-year Floodplain? ☑ Yes ☐ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:

i. Name of aquifer: _____

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

m. Identify the predominant wildlife species that occupy or use the project site: _____
Typical suburban species _____ _____ _____
_____ _____ _____

n. Does the project site contain a designated significant natural community? ☐ Yes ☑ No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation): _____
_____
ii. Source(s) of description or evaluation: _____
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐ Yes ☑ No

If Yes:
i. Species and listing (endangered or threatened): _____
_____
_____

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐ Yes ☑ No

If Yes:
i. Species and listing: _____
_____

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐ Yes ☐ No
If yes, give a brief description of how the proposed action may affect that use: _____
_____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☑ No
If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐ Yes ☐ No
i. If Yes: acreage(s) on project site? _____
ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐ Yes ☑ No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____
_____
_____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐ Yes ☑ No
If Yes:
i. CEA name: _____
ii. Basis for designation: _____
iii. Designating agency and date: _____

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? ☐ Yes ☐ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☐ Yes ☑ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☐ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☐ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name SBLC Development Corp. Date April 4, 2024

Signature Sean Hopkins Title Counsel for Project Sponsor

PRINT FORM

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYS Heritage Areas:West Erie Canal Corridor
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	No
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Stream Name]	837-44
E.2.h.iv [Surface Water Features - Stream Classification]	C
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):103.0, NYS Wetland (in acres):38.7
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	TE-18, TE-19

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	Yes
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	No
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	No
E.3.i. [Designated River Corridor]	No

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

TOWN OF AMHERST
State Environmental Quality Review
ENVIRONMENTAL ASSESSMENT FORM
-- ADDENDUM --

1. For each applicable category of proposed <u>new</u> structures, including additions to existing structures, provide the following information for all soil types on the project site (*according to Soil Survey of Erie County, NY; Table 11, Building Site Development, pp 294-305):*

Soil Name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Getzville silt loam	X	X	X	X	X
Swormville clay loam	X	X	X	X	X
Wayland soils complex	X	X	X	X	X

2. Is your property located: On Youngs Road between Dodge and Klein Roads? □ Yes X No
   On Wehrle Dr. between Spindrift Dr. and Oakwood Rd? □ Yes X No

   If so, the property may be within an area of the Town that is affected by a moratorium on connections to the sanitary sewer system.

3. Are there alternative locations on the site for this project? □ Yes X No

4. Location and size of real property owned by petitioner within one (1) mile of subject proposal:
   1790 & 1920 North French Road and a portion of 999 Campbell Boulevard - 62.0 +/- acres total

5. Are you aware of current or future plans or intentions by others in the Town of Amherst to develop property within 1000± ft. of the present project request: □ Yes X No

   Describe_____

   (Potential environmental impacts from adjacent or nearby projects undergoing the approval process will receive a coordinated environmental review to determine cumulative effects on common receivers (e.g. traffic and drainage corridors) and other relevant environmental concerns.)

6. Maximum number of vehicular trips to be generated per peak hour upon completion of project 152
   Source: Traffic Impact Study performed by Passero Associates

7. Will blasting occur during construction? □ Yes X No

8. Does the project propose to connect and be tributary to the public sanitary sewer system? X Yes □ No

9. Proposed net additional gallons per day (gpd) of sanitary sewer discharge upon completion of project:
   72,450 average flow 281,533 peak flow.

   (Average flows of 2,500 gpd or greater will require an Engineer's Report that includes a detailed downstream sewer capacity analysis and the identification of and commitment to required I/I offset work during peak wastewater flow conditions.)

10. Based on the Town's *2011 Reconnaissance Level Survey of Historic Resources,* is your property 'blue-rated' for historic significance? □ Yes X No

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Attachment A of Part 1 of Full EAF - List of Parcels Comprising the Project Site

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

ATTACHMENT "A" OF PART 1 OF FULL ENVIRONMENTAL ASSESSMENT FORM – LIST OF PARCELS COMPRISING THE PROJECT SITE AND OWNERSHIP INFORMATION

1. 1790 North French Road [SBL No. 27.04-1-12] – Owner: Anthony Cimato

2. 1920 North French Road [SBL No. 27.04-1-20] – Owner: North Forest Development Corp.

3. Portion of 999 Campbell Boulevard [SBL No. 27.00-2-29] – Owner: SBLC Development Corp.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Attachment B of Part 1 of Full EAF - Wetland Delineation Verification Letter issued by Charles P. Rosenburg of the NYS Dept. of Environmental Conservation on January 22, 2022

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, Region 9
700 Delaware Avenue, Buffalo, NY 14209
P: (716) 851-7010 | F: (716) 851-7005
www.dec.ny.gov

January 22, 2024

Fred Cimato
Cimato Enterprises
9220 Transit Road
East Amherst, New York 14051

Dear Fred Cimato:

Wetland TE-18 Delineation Verification
SBLC Property
Town of Amherst, Erie County

This letter serves as notification that I verified the wetland delineation performed by Earth Dimensions, Inc. (EDI) of Freshwater Wetland TE-18 within the SBLC property (1790 & 1860 North French Road, 999 Campbell Blvd; Parcels 27.00-2-29; 27.04-1-16.1; & 27.04-1-12) in the Town of Amherst, Erie County. I field inspected EDI's delineated wetland boundaries on July 26, 2023. I verified a portion of EDI-delineated wetland W2, from delineation flags W2-1 to W2-40 and W2-99 to W2-143, is part of State-jurisdictional Freshwater Wetland TE-18 and that the location of this wetland is accurately depicted in EDI's delineation map (Figure 6, enclosed here) of their April 20, 2023 wetland delineation report. A 100-foot wide regulated adjacent area surrounds Wetland TE-18.

My field inspection also determined the following areas are not part of Wetland TE-18 since they are located greater than 50 meters from the field-delineated boundary of wetland W2/Wetland TE-18: the remaining portion of EDI-delineated wetland W2 (north of delineation flags W2-40 and W2-99), EDI-delineated wetlands W1 and W3, and wetlands observed within the adjoining 1920 North French Road parcel.

Please note that Wetland TE-19 is no longer a State-regulated freshwater wetland following a November 2016 field inspection that determined the total area of its associated wetlands is less than the 12.4-acre size threshold for state wetlands jurisdiction and the wetlands do not qualify for state wetlands jurisdiction under the NYSDEC's "unusual local importance" designation.

Please be aware that wetland boundaries may change over time and this letter does not fix wetland boundaries indefinitely. If you would like to document the precise boundaries of the wetlands that comprise Wetland TE-18 relative to the property boundaries, it is your responsibility to have the wetland boundaries surveyed. If you choose to complete a survey, the wetland boundary survey map should be submitted to me for verification. A copy of this Department's *Requirements for Wetland Survey and Mapping* is enclosed. Please note that a surveyed wetland boundary that has been verified by this Department will be considered valid for five years.

NEW YORK STATE | Department of Environmental Conservation

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

In 1975, the New York State Legislature passed the Freshwater Wetlands Act to preserve and protect wetlands and their functions, such as flood protection and fish and wildlife habitat. The New York State Department of Environmental Conservation is required to map all wetlands protected by this law, and to make those maps available for inspection in all local government clerks' offices. Certain activities within the wetland or its regulated 100-foot adjacent area require a permit from this Department, including but not limited to filling, clearing vegetation, draining, and construction. Contact our Division of Environmental Permits Office for information about permit requirements at:

New York State Department of Environmental Conservation
Division of Environmental Permits
700 Delaware Avenue
Buffalo, New York 14209
Telephone: (716) 851-7165

Finally, please be advised that the U.S. Army Corps of Engineers may also have wetland and stream jurisdiction irrespective of the Department of Environmental Conservation. For more information, you may contact the Corps at:

United States Army Corps of Engineers Regulatory Branch
478 Main Street
Buffalo, New York 14202
Telephone: (716) 879-4330

If you have any questions about this wetland delineation verification, feel free to contact me in the Buffalo office at (716) 851-7024 or Charles.Rosenburg@dec.ny.gov.

Sincerely,

Charles P. Rosenburg
Region 9 BEH Habitat Protection Manager

CPR:ck

Encl: Earth Dimensions Wetland Delineation Map (Figure 6)
Requirements for Wetland Survey and Mapping

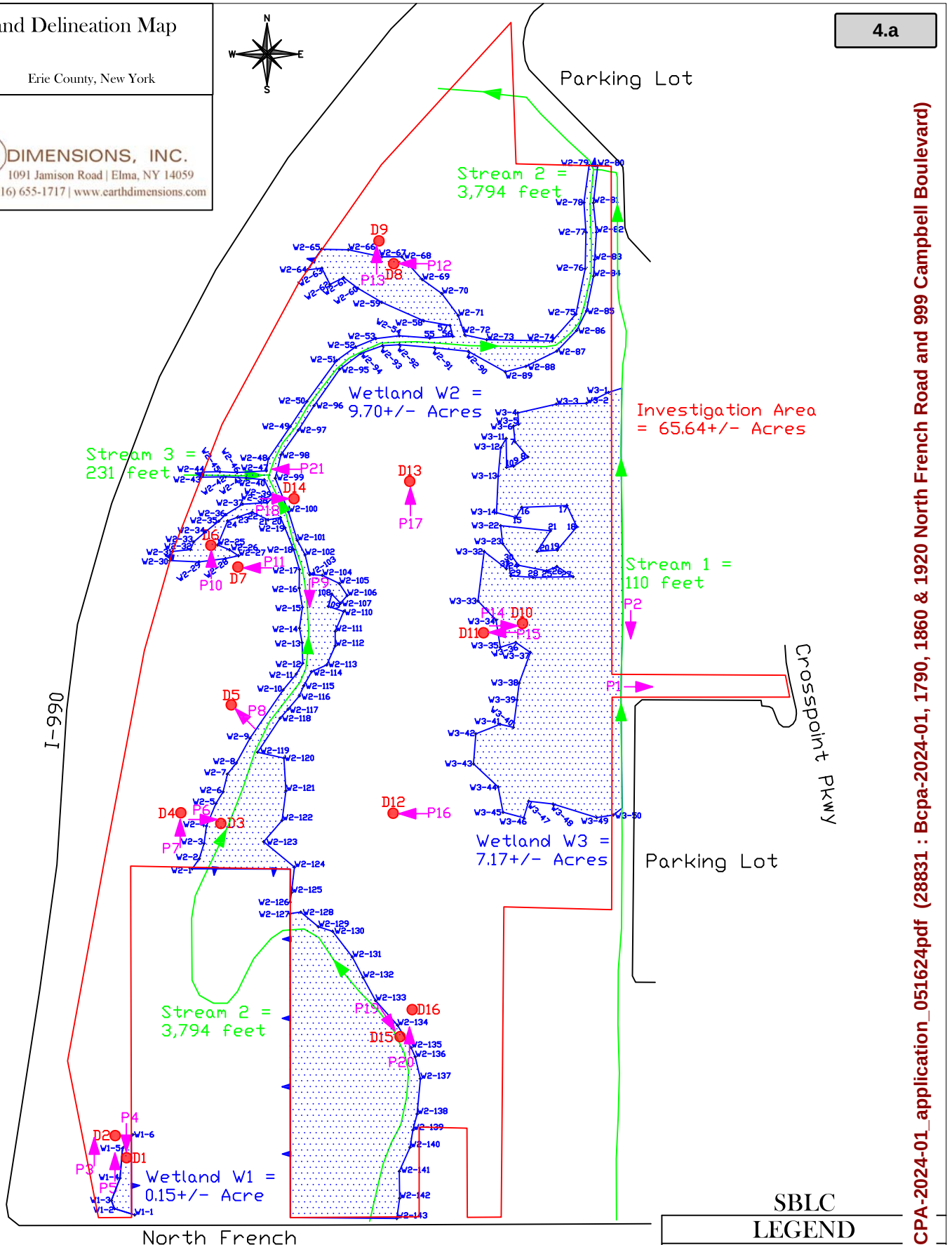
cc: Tom Somerville, Earth Dimensions, Inc.
Wetland TE-18 file

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Figure 6 - Wetland Delineation Map

Town of Amherst Erie County, New York

EARTH DIMENSIONS, INC.
1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | www.earthdimensions.com



Scale: 0 200' 400'	
Map Date: April 13, 2023/ TJS for EDI Revised:	
Base Map Provided By: Trimble Geo 7X	
File Name: Delineation Map.dwg	
EDI Project Code: W23E07a	

SBLC LEGEND

- Limits of Investigatio
- Streams
- W1-1 Wetland Boundary Fl
- Wetland Area
- P1 Photo Location
- D1 Data

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Attachment C of Part 1 of Full EAF - Jurisdictional Determination issued by the U.S. Army Corps of Engineers for 1920 North French Road dated March 14, 2023

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS, BUFFALO DISTRICT
478 MAIN STREET
BUFFALO, NY 14202-3278

March 14, 2024

Regulatory Branch

SUBJECT: Approved Jurisdictional Determination for Department of the Army Processing No. LRB-2023-00911

Elliot Lasky
PO Box 1454
Williamsville, New York 14231
Email: elasky@forbesdevcorp.com

Dear Mr. Lasky:

I have reviewed the approved jurisdictional determination (JD) request submitted by Earth Dimensions, Inc. for an for the approximate 5.71-acre review area located north and adjacent to North French Road, in the Town of Amherst, Erie County, New York (latitude 43.0351 N, and longitude -78.7532 W), as shown on sheets 1-2 of 2.

I have determined that the review area as depicted on attached Sheets 1-2 of 2 is comprised entirely of dry land and contains no potential aquatic resources regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Therefore, a Department of Army permit is not required for any activities occurring within the review area.

Enclosed is an approved JD. This approved JD will remain valid for a period of five (5) years from the date of this correspondence unless new information warrants revision of the approved JD before the expiration date. At the end of this period, a new aquatic resource delineation will be required to support any request for a new JD.

Further, the delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the particular review area identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Regulatory Branch

SUBJECT: Approved Jurisdictional Determination for Department of the Army Processing No. LRB-2023-00911

Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal the above JD, you must submit a completed RFA form within 60 days of the date on this letter to the Great Lakes/Ohio River Division Office at the following address:

Katherine McCafferty
Regulatory Appeals Officer
US Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10780
Cincinnati, Ohio 45202-3222
Phone: 513-684-2699 Fax: 513-684-2460
e-mail: katherine.a.mccafferty@usace.army.mil

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete; that it meets the criteria for appeal under 33 C.F.R. part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by **May 12, 2024**.

It is not necessary to submit an RFA to the Division office if you do not object to the determination in this letter.

A copy of this letter has been sent to Earth Dimensions, Inc.

Questions pertaining to this matter should be directed to me at (716) 879-4240, by writing to the following address: U.S. Army Corps of Engineers, 478 Main Street, Buffalo, New York 14202, or by e-mail at: Shaina.R.Souder@usace.army.mil

Sincerely,

Shaina R Souder

Shaina Souder
Biologist

Enclosures

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, BUFFALO DISTRICT
478 MAIN STREET
BUFFALO, NEW YORK 14202-3278

CELRB-TD-R 14 March 2024

MEMORANDUM FOR RECORD

SUBJECT: US Army Corps of Engineers (Corps) Approved Jurisdictional Determination in accordance with the "Revised Definition of 'Waters of the United States'"; (88 FR 3004 (January 18, 2023) as amended by the "Revised Definition of 'Waters of the United States'; Conforming" (8 September 2023) ,[1] *LRB-2023-00911 [MFR 1 of 1*][2]

BACKGROUND. An Approved Jurisdictional Determination (AJD) is a Corps document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. AJDs are clearly designated appealable actions and will include a basis of JD with the document.[3] AJDs are case-specific and are typically made in response to a request. AJDs are valid for a period of five years unless new information warrants revision of the determination before the expiration date or a District Engineer has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.[4]

On January 18, 2023, the Environmental Protection Agency (EPA) and the Department of the Army ("the agencies") published the "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule"). On September 8, 2023, the agencies published the "Revised Definition of 'Waters of the United States'; Conforming", which amended the 2023 Rule to conform to the 2023 Supreme Court decision in *Sackett v. EPA*, 598 U.S., 143 S. Ct. 1322 (2023) ("*Sackett*").

This Memorandum for Record (MFR) constitutes the basis of jurisdiction for a Corps AJD as defined in 33 CFR §331.2. For the purposes of this AJD, we have relied on Section 10 of the Rivers and Harbors Act of 1899 (RHA),[5] the 2023 Rule as amended,

[1] While the Revised Definition of "Waters of the United States"; Conforming had no effect on some categories of waters covered under the CWA, and no effect on any waters covered under RHA, all categories are included in this Memorandum for Record for efficiency.
[2] When documenting aquatic resources within the review area that are jurisdictional under the Clean Water Act (CWA), use an additional MFR and group the aquatic resources on each MFR based on the TNW, the territorial seas, or interstate water that they are connected to. Be sure to provide an identifier to indicate when there are multiple MFRs associated with a single AJD request (i.e., number them 1, 2, 3, etc.).
[3] 33 CFR 331.2.
[4] Regulatory Guidance Letter 05-02.
[5] USACE has authority under both Section 9 and Section 10 of the Rivers and Harbors Act of 1899 but for convenience, in this MFR, jurisdiction under RHA will be referred to as Section 10.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

as well as other applicable guidance, relevant case law, and longstanding practice in evaluating jurisdiction.

1. SUMMARY OF CONCLUSIONS.

   a. The review area is comprised entirely of dry land (i.e., there are no waters such as streams, rivers, wetlands, lakes, ponds, tidal waters, ditches, and the like in the entire review area and there are no areas that have previously been determined to be jurisdictional under the Rivers and Harbors Act of 1899 in the review area).

   A review of the submitted delineation report, which included wetland data points, showed no evidence of wetland criteria (hydrology, hydrophytic vegetation, and hydric soils) being present, and no evidence of aquatic resources/waters within the 5.71-acre review area, as described in item 3 below and as shown on attached map sheets 1 and 2 of 2.

   During a September 18, 2023 site visit, the forested area was walked through from the north. Specifically, I checked the location of Data point 2, due to the mixed vegetation (hydrophytic and upland vegetation) recorded on the data form. The forested area consisted of Facultative and Facultative Wet vegetation with some upland species intermixed; the area seemed remnant or transitional of wetland but lacked hydrology throughout the site. The adjacent property to the west was walked the same day and similar forested and non-forested areas had evidence of hydrology (standing water, saturation, drainage patterns) and none of these things were observed on this site. The observations made during the site visit were consistent with the dry land reported in the submitted delineation report.

   An in-office resource review supports that there are no aquatic resources within the review area. The U.S. Geographical Survey topographic map does not show waters within the review area but does show wetland symbols north of the review area and a dotted, blue-line stream feature to the east of the review area starting at the northeast corner (outside the review area). The U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) web soil survey listed the following soils within the review area: Ge – Getzville silt loam with a hydric rating of 85 within the forested portion of the review area and Sw – Swormville clay loam with a hydric rating of 10 located in the maintained residential portion of the review area. The soils information supports that there is possibility of wetland conditions forming in these soils. The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps do shows wetland in the forested area of the review area, labeled as PFO1Bd – [P] Palustrine [FO] Forested [1] Broad-leafed deciduous [B] Seasonally Saturated [d] partially drained/ditched and another water adjacent to the review area to the east consisting of a blue-line labeled R4SBC – [R] Riverine [SB] Streambed, [C]

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

seasonally flooded. A review of aerial imagery suggests some saturation some areas in the forested areas in the April 25,2020 oblique imagery. However, more recent aerial imagery (Google Earth dated November 2021, May 2022, and May 2023 do not show any saturation or evidence of hydrology.

The Antecedent Precipitation Tool (APT) was conducted for the aerial dates, USACE site visit date, and delineation date.

Latitude	*Longitude*	*Date*	*Date explanation*	*PDSI Value*	*PDSI Class*	*Season*	*Antecedent Precip Score*	*Antecedent Precip Condition*
43.0351	-78.7532	9/18/2023	Date of USACE site visit	1.47	Mild wetness	Wet Season	15	Wetter than Normal
43.0351	-78.7532	9/1/2020	Date of delineation	-1.32	Mild drought	Wet Season	9	Drier than Normal
43.0351	-78.7532	4/25/2020	Oblique Aerial (Connect Explorer)	-0.17	Normal	Wet Season	13	Normal Conditions
43.0351	-78.7532	5/8/2022	Google Earth aerial	2.04	Moderate wetness	Wet Season	11	Normal Conditions
43.0351	-78.7532	5/17/2023	Google Earth aerial	1.22	Mild wetness	Wet Season	15	Wetter than Normal
43.0351	-78.7532	11/23/2021	Google Earth aerial	3.6	Severe wetness	Wet Season	14	Normal Conditions

The APT indicates a period of minor drought on the date of the delineation, September 1, 2020. No wetland criteria were reported at any of the data points, not just hydrology. The APT report of drought conditions at the date of the site visit, which recorded no wetland conditions, indicates that the area is not wetland during normal conditions. The date of the USACE site visit was reported as wetter than normal conditions and hydrology indicators were not observed, supporting that hydrology is not typical within the review area even with wetter than normal conditions. The aerial/oblique imagery all reported normal conditions except for May 2023. No evidence of hydrology was observed in aerial/oblique

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

imagery except for the April 25, 2020 oblique, which was reported as normal conditions during the wet season.

Based on a detailed review of the submitted delineation report, a detailed in-office resource analysis, and the observations made during the September 18, 2023 USACE site visit as described above, it has been determined that the 5.71-acre review area is completely comprised of dry land and does not contain any aquatic resources or waters of the United States.

2. REFERENCES.

   a. "Revised Definition of 'Waters of the United States,'" 88 FR 3004 (January 18, 2023) ("2023 Rule")

   b. "Revised Definition of 'Waters of the United States'; Conforming" 88 FR 61964 (September 8, 2023))

   c. *Sackett v. EPA*, 598 U.S. _, 143 S. Ct. 1322 (2023)

3. REVIEW AREA. *An approximately 5.71-acre review area with relatively flat topography, located north and adjacent to North French Road, in the town of Amherst, Erie County, New York. The northern portion of the review area is forested. The southern portion of the review area is a single-family residential home with maintained (mowed) lawn. (Latitude: 43.0351, Longitude: -78.7532) See map sheets 1 and 2 of 2.*

4. NEAREST TRADITIONAL NAVIGABLE WATER (TNW), THE TERRITORIAL SEAS, OR INTERSTATE WATER TO WHICH THE AQUATIC RESOURCE IS CONNECTED. *N/A.*

5. FLOWPATH FROM THE SUBJECT AQUATIC RESOURCES TO A TNW, THE TERRITORIAL SEAS, OR INTERSTATE WATER. *N/A.*

6. SECTION 10 JURISDICTIONAL WATERS[6]: Describe aquatic resources or other features within the review area determined to be jurisdictional in accordance with Section 10 of the Rivers and Harbors Act of 1899. Include the size of each aquatic

[6] 33 CFR 329.9(a) A waterbody which was navigable in its natural or improved state, or which was susceptible of reasonable improvement (as discussed in § 329.8(b) of this part) retains its character as "navigable in law" even though it is not presently used for commerce, or is presently incapable of such use because of changed conditions or the presence of obstructions.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

resource or other feature within the review area and how it was determined to be jurisdictional in accordance with Section 10.[7] *N/A.*

7. SECTION 404 JURISDICTIONAL WATERS: Describe the aquatic resources within the review area that were found to meet the definition of waters of the United States in accordance with the 2023 Rule as amended, consistent with the Supreme Court's decision in *Sackett*. List each aquatic resource separately, by name, consistent with the naming convention used in section 1, above. Include a rationale for each aquatic resource, supporting that the aquatic resource meets the relevant category of "waters of the United States" in the 2023 Rule as amended. The rationale should also include a written description of, or reference to a map in the administrative record that shows, the lateral limits of jurisdiction for each aquatic resource, including how that limit was determined, and incorporate relevant references used. Include the size of each aquatic resource in acres or linear feet and attach and reference related figures as needed.

   a. Traditional Navigable Waters (TNWs) (a)(1)(i): *N/A.*

   b. The Territorial Seas (a)(1)(ii): *N/A.*

   c. Interstate Waters (a)(1)(iii): *N/A.*

   d. Impoundments (a)(2): *N/A.*

   e. Tributaries (a)(3): *N/A.*

   f. Adjacent Wetlands (a)(4): *N/A.*

   g. Additional Waters (a)(5): *N/A.*

8. NON-JURISDICTIONAL AQUATIC RESOURCES AND FEATURES

   a. Describe aquatic resources and other features within the review area identified in the 2023 Rule as amended as not "waters of the United States" even where they otherwise meet the terms of paragraphs (a)(2) through (5). Include the type of excluded aquatic resource or feature, the size of the aquatic resource or feature

[7] This MFR is not to be used to make a report of findings to support a determination that the water is a navigable water of the United States. The district must follow the procedures outlined in 33 CFR part 329.14 to make a determination that water is a navigable water of the United States subject to Section 10 of the RHA.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

within the review area and describe how it was determined to meet one of the exclusions listed in 33 CFR 328.3(b).[8] *N/A.*

b. Describe aquatic resources and features within the review area that were determined to be non-jurisdictional because they do not meet one or more categories of waters of the United States under the 2023 Rule as amended (e.g., tributaries that are non-relatively permanent waters; non-tidal wetlands that do not have a continuous surface connection to a jurisdictional water). *N/A.*

9. DATA SOURCES. List sources of data/information used in making determination. Include titles and dates of sources used and ensure that information referenced is available in the administrative record.

a. *Corps of Engineers' site visit: September 18, 2023. In-Office resource evaluation: September 15, 2023, October 2, 2023, and February 27, 2024.*

b. *Submitted Aquatic Resource Delineation Report: "Wetland Delineation Report, 1920 North French Road, Town of Amherst, NY," dated November 2, 2020 and includes data forms dated September 1, 2020; prepared for Elliot Lasky; Prepared by Davey Resource Group. Submitted to the USACE by Earth Dimensions, Inc on September 15, 2023.*

c. *U.S. Geological Survey Hydrologic Atlas: HA-730.*
_X_ USGS NHD data.
_X_ USGS 8 and 12 digit HUC maps.

d. *U.S. Geological Survey map(s). Cite scale & quad name: https://ngmdb.usgs.gov/topoview/viewer/ - USGS; Tonawanda East - NY; 2019 – and as provided in the submitted delineation report.*

e. *Natural Resources Conservation Service Soil Survey. Citation: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx - Erie County, New York; accessed September 15, 2023 and as provided in the submitted delineation report.*

f. *National wetlands inventory map(s). Cite name: https://www.fws.gov/program/national-wetlandsinventory/wetlands-mapper, accessed on February 27, 2024 and as provided in the delineation report.*

[8] 88 FR 3004 (January 18, 2023)

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

g. *State/local wetland inventory map(s): New York State Department of Environmental Resource Mapper - https://gisservices.dec.ny.gov/gis/erm/.*

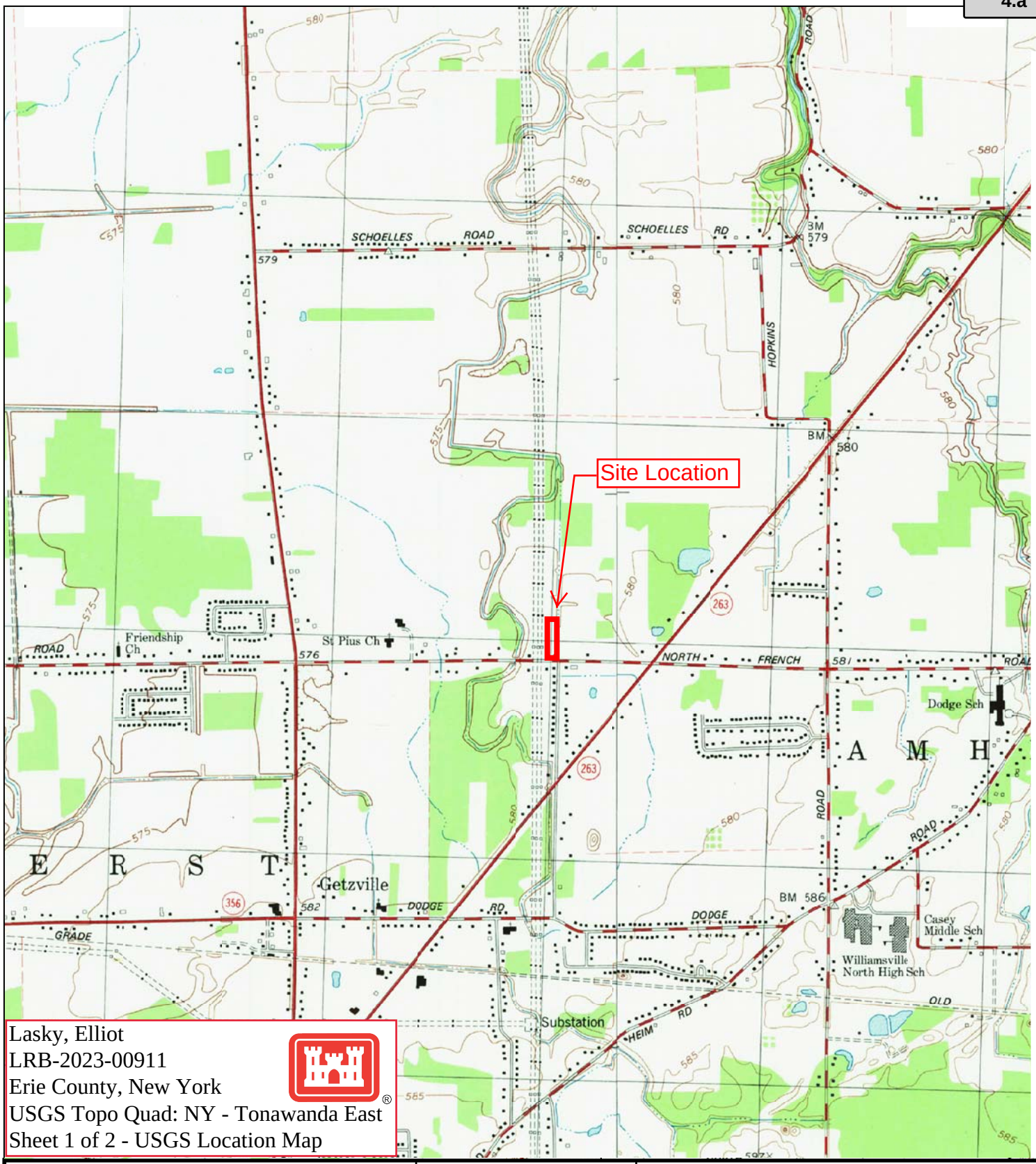
h. *Photographs:*
   - *Aerial (Name & Date): Google Earth aerial imagery November 2021, May 2022, May 2023. Connect Explorer Oblique imagery dated April 25, 2020 - https://explorer.eagleview.com/.*
   - *Other (Name & Date): Photographs included in the delineation report, dated September 1, 2020.*

i. *Antecedent Precipitation Tool conducted for dates: September 18, 2023 – date of USACE site visit, 9/1/2020 – date of delineation, April 25, 2020 date of oblique imagery, and dates of Google Earth aerials – November 23, 2021, May 8, 2022, May 17, 2023.*

10. OTHER SUPPORTING INFORMATION. *N/A.*

11. NOTE: The structure and format of this MFR were developed in coordination with the EPA and Department of the Army. The MFR's structure and format may be subject to future modification or may be rescinded as needed to implement additional guidance from the agencies; however, the approved jurisdictional determination described herein is a final agency action.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lasky, Elliot
LRB-2023-00911
Erie County, New York
USGS Topo Quad: NY - Tonawanda East
Sheet 1 of 2 - USGS Location Map

Figure 1: USGS Quadrangle Map

Tonawanda East Quadrangle

Scale 1: 24,000

N
W E
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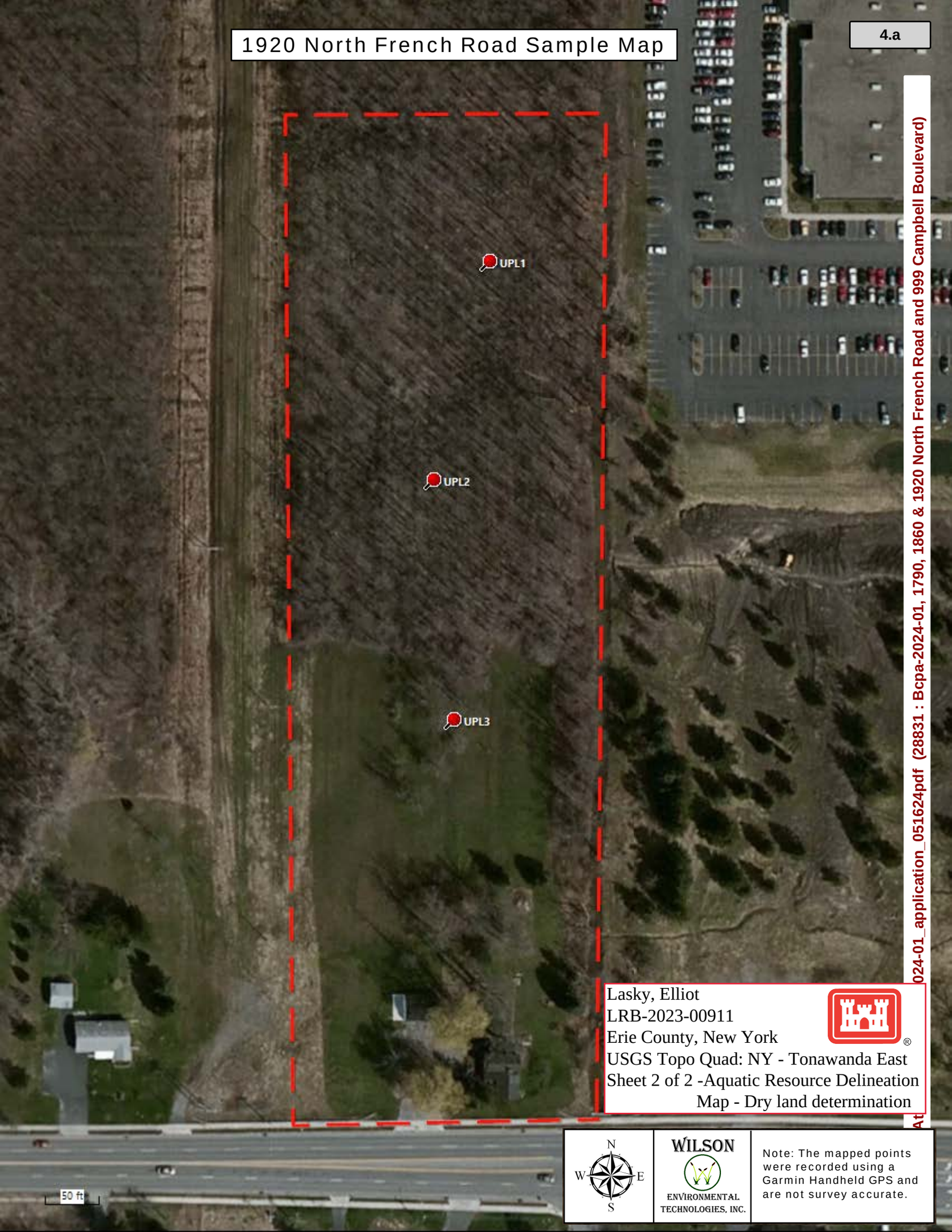
Town of Amherst
Erie County, New York

Prepared for:
Mr. Elliot Lasky

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

1920 North French Road Sample Map



Lasky, Elliot
LRB-2023-00911
Erie County, New York
USGS Topo Quad: NY - Tonawanda East
Sheet 2 of 2 -Aquatic Resource Delineation Map - Dry land determination

N
W E
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WILSON ENVIRONMENTAL TECHNOLOGIES, INC.

Note: The mapped points were recorded using a Garmin Handheld GPS and are not survey accurate.

024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Lasky, Elliot	File Number: LRB-2023-00911	Date: March 14, 2024
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL WITHOUT PREJUDICE	C
	PERMIT DENIAL WITH PREJUDICE	D
X	APPROVED JURISDICTIONAL DETERMINATION	E
	PRELIMINARY JURISDICTIONAL DETERMINATION	F

SECTION I

The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/appeals/ or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

C. PERMIT DENIAL WITHOUT PREJUDICE: Not appealable
You received a permit denial without prejudice because a required Federal, state, and/or local authorization and/or certification has been denied for activities which also require a Department of the Army permit before final action has been taken on the Army permit application. The permit denial without prejudice is not appealable. There is no prejudice to the right of the applicant to reinstate processing of the Army permit application if subsequent approval is received from the appropriate Federal, state, and/or local agency on a previously denied authorization and/or certification.

D: PERMIT DENIAL WITH PREJUDICE: You may appeal the permit denial
You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information for reconsideration

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.

- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

- RECONSIDERATION: You may request that the district engineer reconsider the approved JD by submitting new information or data to the district engineer within 60 days of the date of this notice. The district will determine whether the information submitted qualifies as new information or data that justifies reconsideration of the approved JD. A reconsideration request does not initiate the appeal process. You may submit a request for appeal to the division engineer to preserve your appeal rights while the district is determining whether the submitted information qualifies for a reconsideration.

F: PRELIMINARY JURISDICTIONAL DETERMINATION: Not appealable
You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision you may contact:

Shaina Souder
U.S. Army Corps of Engineers
478 Main St,
Buffalo, New York 14202
Phone: (716)879-4240
Email: Shaina.R.Souder@usace.army.mil

If you have questions regarding the appeal process, or to submit your request for appeal, you may contact:

Katherine McCafferty
Regulatory Appeals Officer
US Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10780
Cincinnati, Ohio 45202-3222
Phone: 513-684-2699 Fax: 513-684-2460
e-mail: katherine.a.mccafferty@usace.army.mil

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SECTION II – REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. Use additional pages as necessary. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:
Email address of appellant and/or agent:	Telephone number:

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, Region 9
700 Delaware Avenue, Buffalo, NY 14209
P: (716) 851-7010 | F: (716) 851-7005
www.dec.ny.gov

January 22, 2024

Fred Cimato
Cimato Enterprises
9220 Transit Road
East Amherst, New York 14051

Dear Fred Cimato:

Wetland TE-18 Delineation Verification
SBLC Property
Town of Amherst, Erie County

This letter serves as notification that I verified the wetland delineation performed by Earth Dimensions, Inc. (EDI) of Freshwater Wetland TE-18 within the SBLC property (1790 & 1860 North French Road, 999 Campbell Blvd; Parcels 27.00-2-29; 27.04-1-16.1; & 27.04-1-12) in the Town of Amherst, Erie County. I field inspected EDI's delineated wetland boundaries on July 26, 2023. I verified a portion of EDI-delineated wetland W2, from delineation flags W2-1 to W2-40 and W2-99 to W2-143, is part of State-jurisdictional Freshwater Wetland TE-18 and that the location of this wetland is accurately depicted in EDI's delineation map (Figure 6, enclosed here) of their April 20, 2023 wetland delineation report. A 100-foot wide regulated adjacent area surrounds Wetland TE-18.

My field inspection also determined the following areas are not part of Wetland TE-18 since they are located greater than 50 meters from the field-delineated boundary of wetland W2/Wetland TE-18: the remaining portion of EDI-delineated wetland W2 (north of delineation flags W2-40 and W2-99), EDI-delineated wetlands W1 and W3, and wetlands observed within the adjoining 1920 North French Road parcel.

Please note that Wetland TE-19 is no longer a State-regulated freshwater wetland following a November 2016 field inspection that determined the total area of its associated wetlands is less than the 12.4-acre size threshold for state wetlands jurisdiction and the wetlands do not qualify for state wetlands jurisdiction under the NYSDEC's "unusual local importance" designation.

Please be aware that wetland boundaries may change over time and this letter does not fix wetland boundaries indefinitely. If you would like to document the precise boundaries of the wetlands that comprise Wetland TE-18 relative to the property boundaries, it is your responsibility to have the wetland boundaries surveyed. If you choose to complete a survey, the wetland boundary survey map should be submitted to me for verification. A copy of this Department's *Requirements for Wetland Survey and Mapping* is enclosed. Please note that a surveyed wetland boundary that has been verified by this Department will be considered valid for five years.

NEW YORK STATE | Department of Environmental Conservation

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In 1975, the New York State Legislature passed the Freshwater Wetlands Act to preserve and protect wetlands and their functions, such as flood protection and fish and wildlife habitat. The New York State Department of Environmental Conservation is required to map all wetlands protected by this law, and to make those maps available for inspection in all local government clerks' offices. Certain activities within the wetland or its regulated 100-foot adjacent area require a permit from this Department, including but not limited to filling, clearing vegetation, draining, and construction. Contact our Division of Environmental Permits Office for information about permit requirements at:

New York State Department of Environmental Conservation
Division of Environmental Permits
700 Delaware Avenue
Buffalo, New York 14209
Telephone: (716) 851-7165

Finally, please be advised that the U.S. Army Corps of Engineers may also have wetland and stream jurisdiction irrespective of the Department of Environmental Conservation. For more information, you may contact the Corps at:

United States Army Corps of Engineers Regulatory Branch
478 Main Street
Buffalo, New York 14202
Telephone: (716) 879-4330

If you have any questions about this wetland delineation verification, feel free to contact me in the Buffalo office at (716) 851-7024 or Charles.Rosenburg@dec.ny.gov.

Sincerely,

Charles P. Rosenburg
Region 9 BEH Habitat Protection Manager

CPR:ck

Encl: Earth Dimensions Wetland Delineation Map (Figure 6)
Requirements for Wetland Survey and Mapping

cc: Tom Somerville, Earth Dimensions, Inc.
Wetland TE-18 file

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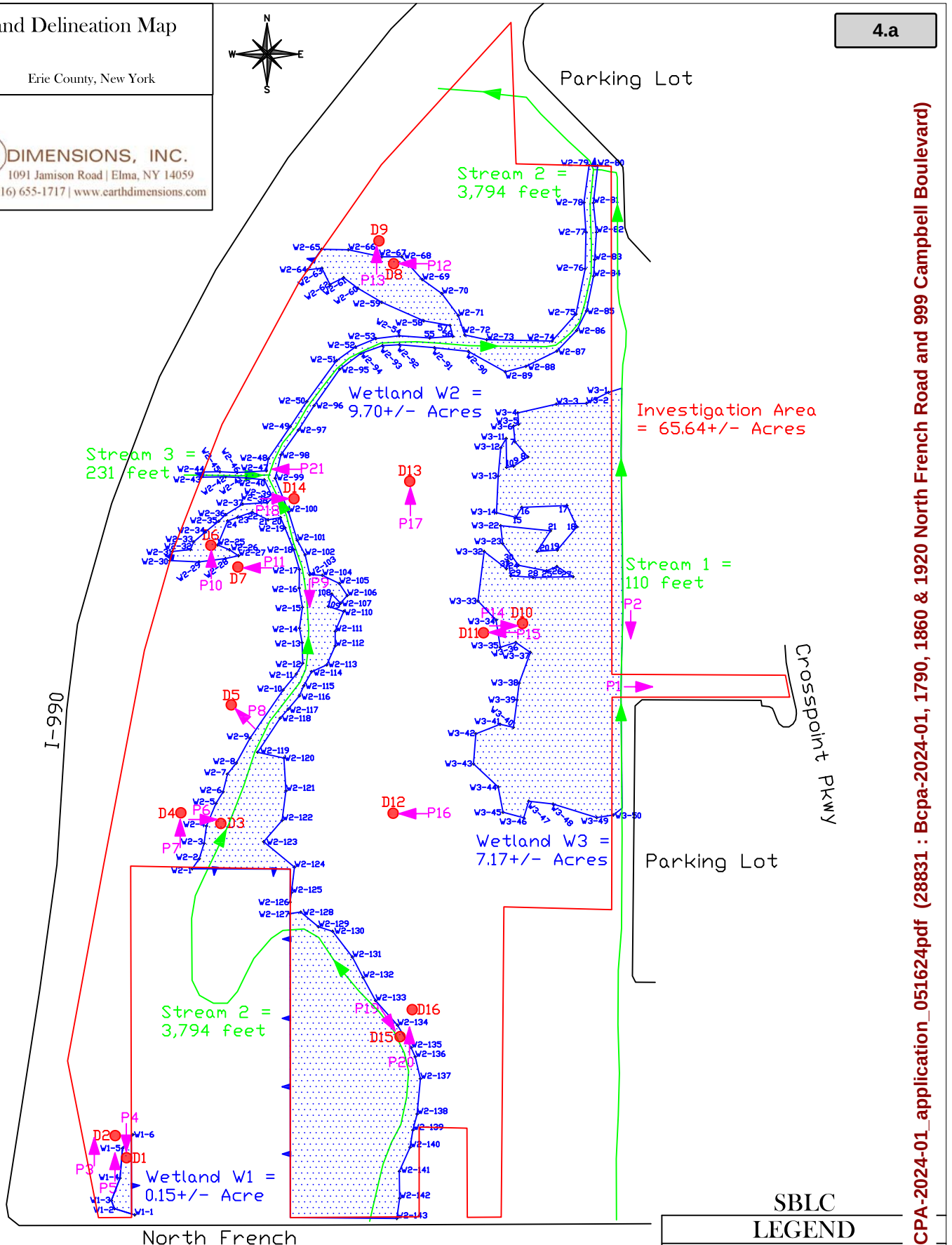
Figure 6 - Wetland Delineation Map

Town of Amherst Erie County, New York

EARTH DIMENSIONS, INC.
1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | www.earthdimensions.com



Scale: 0 200' 400'	
Map Date: April 13, 2023/ TJS for EDI Revised:	
Base Map Provided By: Trimble Geo 7X	
File Name: Delineation Map.dwg	
EDI Project Code: W23E07a	

SBLC LEGEND

- Limits of Investigatio
- Streams
- W1-1 Wetland Boundary Fl
- Wetland Area
- P1 Photo Location
- D1 Data

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TRAFFIC IMPACT REPORT

April 4, 2024

20233626.0004

NORTH FRENCH ROAD MIXED USE DEVELOPMENT

TOWN OF AMHERST, NY

PREPARED FOR:
Mr. Christopher Wood, P.E.
Carmina Wood Design
487 Main St #500
Buffalo, NY 14203

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 2
2.0 INTRODUCTION 4
2.1 Study Purpose and Objectives 4
2.2 Project Location 4
2.3 Study Area 4
3.0 TRANSPORTATION SETTING 4
3.1 Description of Study Area Roadways 4
Table 1: Existing Highway System 5
3.2 Description of Multimodal Network 5
Table 2: Multimodal Network 6
3.3 Planned/Programmed Highway Improvements 6
4.0 EXISTING CONDITIONS ANALYSIS 7
4.1 Peak Intervals for Analysis 7
4.2 Existing Traffic Volume Data 7
4.3 Existing Crash Investigation 7
Table 3: Intersection Crash Rate Analysis 8
5.0 BACKGROUND (NO BUILD) CONDITIONS 8
6.0 PROPOSED DEVELOPMENT CONDITIONS 8
6.1 Project Description 8
6.2 Proposed Traffic Generation 9
Table 4: Site Generated Trips 9
6.3 Trip Distribution 9
6.4 Full Development Volumes 10
7.0 TRAFFIC OPERATIONS AND ANALYSIS 10
7.1 Left-Turn Warrant Investigation 10
7.2 Description of Capacity Analysis 10
Table 5: Level of Service Criteria 11
7.3 Capacity Analysis Results 11
Table 6: Capacity Analysis Results 12
8.0 CONCLUSIONS AND RECOMMENDATIONS 15
9.0 REFERENCES 17
10.0 FIGURES 17

APPENDICES

APPENDIX A: EXISTING TRAFFIC COUNT DATA
APPENDIX B: MISCELLANEOUS CALCULATIONS
APPENDIX C: LOS CALCULATIONS – EXISTING CONDITIONS
APPENDIX D: LOS CALCULATIONS – BACKGROUND CONDITIONS
APPENDIX E: LOS CALCULATIONS – FULL BUILD CONDITIONS FULL ACCESS
APPENDIX F: LOS CALCULATIONS – FULL BUILD CONDITIONS RIGHT IN-RIGHT OUT
APPENDIX G: LOS CALCULATIONS – FULL BUILD CONDITIONS GATED ACCESS
APPENDIX H: LOS CALCULATIONS – FULL BUILD CONDITIONS FULL ACCESS WITH MITIGATION
APPENDIX I: LOS CALCULATIONS – FULL BUILD CONDITIONS RIGHT IN-RIGHT OUT WITH MITIGATION
APPENDIX J: LOS CALCULATIONS – FULL BUILD CONDITIONS GATED ACCESS WITH MITIGATIONS

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

1.0 EXECUTIVE SUMMARY

The purpose of this report is to evaluate the potential traffic impacts related to the proposed mixed use development located along North French Road in the Town of Amherst, NY. Within this report, the operating characteristics of the proposed access points and impacts to the adjacent roadway network are evaluated and mitigating measures are identified (if needed) to minimize operational concerns.

To define traffic impact, this analysis establishes existing baseline traffic conditions, projects background traffic flow including area growth, and determines the traffic operations that would result from the proposed project.

Project Location and Description

The project site is located along the north side of North French Road, between I-990 and Crosspoint Pkwy, in the Town of Amherst, Erie County, New York The project site is bounded by I-990 to the north and west, the SPX building and Crosspoint Pkwy to the east, North French Rd to the south. Land uses in the vicinity of the proposed project include commercial and residential.

The proposed project consists of 55 single family lots situated along a new private roadway, 30 townhome buildings containing a total of 150 units, and two buildings containing ±4,000 square feet (SF) of commercial space and 35 apartment units each. Three access scenarios are evaluated for the proposed development in this study:

1. Two full access driveways along North French Rd at the eastern end and western ends of the site and a cross connection affording access to Crosspoint Parkway.
2. One full access driveway along North French Rd at the eastern end of the site, a right in-right out (RIRO) driveway along North French Rd at the western end of the site and a cross connection affording access to Crosspoint Parkway.
3. One full access driveway along North French Rd at the eastern end of the site and a cross connection affording access to Crosspoint Parkway. The westerly driveway will be gated for emergency access only.

Study Area

To ensure a comprehensive analysis of potential traffic impacts, the following intersections define the study area:

- North French Road/I-990 SB Ramps
- North French Road/I-990 NB Ramps
- North French Road/Miller Road
- North French Road/Crosspoint Parkway

Existing and Background Conditions

Turning movement traffic counts were collected by Passero Associates on Wednesday, October 6th, 2021 at the North French Road/Crosspoint Pkwy intersection; Tuesday, July 26th, 2022, at the North French Rd/I-990 SB Ramps and North French Rd/I-990 NB Ramps intersections; and Tuesday, July 11th, 2023 at the North French Rd/Miller Rd intersection. Traffic counts were conducted between 7:00-9:00 AM for the weekday AM peak period and 4:00-6:00 PM for the weekday PM peak period. The peak hour traffic periods occurred from 7:45-8:45 AM and 4:30-5:30 PM.

Construction of the proposed project is anticipated to reach full build-out within approximately three years. Widely accepted methodology for preparing traffic impact studies requires that any projects in the study area that are currently approved and/or under construction must be considered in the traffic analysis. Projects that are contemplated but not yet approved are not included in a traffic analysis. Local municipal personnel were contacted to discuss any other specific projects that are currently approved or under construction that would generate additional traffic in the study

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

area. Town of Amherst officials identified a residential project at 50 Crosspoint Pkwy and a residential development at 3325 & 3275 Millersport Hwy. Site trips generated for both projects were added to the study intersections.

A review of available historical NYSDOT traffic volume data in the vicinity of the site and data collected by Passero Associates at the study intersections indicates that traffic has increased by approximately 1.35% between 2011 and 2023 on the roadway segments in the study area. To account for normal increases in background traffic growth, and any other unforeseen developments in the study area, a growth rate of 1.5% per year was applied to the existing traffic volumes for the four-year build out period from the existing analysis.

Conclusions and Recommendations

This Traffic Impact Study identified and evaluated the potential traffic impacts that can be expected from the proposed mixed-use development located along North French Road in the Town of Amherst, NY. The results of this study determined that the existing transportation network can adequately accommodate the projected traffic volumes and resulting minor impacts to study area intersections with the noted mitigation in place. The following sets forth the conclusions and recommendations based upon the results of the analyses:

Conclusions

1. The proposed project is expected to generate approximately 55 entering/130 exiting vehicle trips during the AM peak hour and 152 entering/108 exiting vehicle trips during the PM peak hour.

2. The combination of eastbound traffic volumes turning left into the proposed easterly driveway from North French Rd and the design speed of North French Rd indicate that a left-turn lane is warranted during both peak hours.

3. The North French Rd/Proposed Easterly Driveway intersection is projected to operate at LOS "D" or better under full build conditions during all peak hours with the recommended mitigation.

4. The North French Rd/Miller Rd intersection is projected to operate at LOS "E" or better under full build conditions during all peak hours with the recommended mitigation.

5. The detailed analysis contained in this Traffic Impact Study demonstrates the proposed project will not result in any potentially significant adverse environmental impacts for the purpose of the environmental review of the project pursuant to the State Environmental Quality Review Act ("SEQRA").

Recommendations

6. The right-in/right-out access scenario at the westerly driveway is preferred/recommended.

7. The westerly site driveway should be designed to prohibit left turns from entering and exiting the site and to accommodate the appropriate design vehicle.

8. An eastbound left turn lane is recommended on North French Rd at the proposed site driveway and a two-way left turn lane (TWLTL) should be provided between the site driveway and Miller Rd.

9. The proposed easterly driveway along North French Road should be designed to provide one entering and two exiting lanes.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

2.0 INTRODUCTION

2.1 Study Purpose and Objectives

The purpose of this report is to evaluate the potential traffic impacts related to the proposed mixed use development located along North French Road in the Town of Amherst, NY. Within this report, the operating characteristics of the proposed access points and impacts to the adjacent roadway network are evaluated and mitigating measures are identified (if needed) to minimize operational concerns.

To define traffic impact, this analysis establishes existing baseline traffic conditions, projects background traffic flow including area growth, and determines the traffic operations that would result from the proposed project.

2.2 Project Location

The project site is located along the north side of North French Road, between I-990 and Crosspoint Pkwy, in the Town of Amherst, Erie County, New York The project site is bounded by I-990 to the north and west, the SPX building and Crosspoint Pkwy to the east, North French Rd to the south. Land uses in the vicinity of the proposed project include commercial and residential.

2.3 Study Area

To ensure a comprehensive analysis of potential traffic impacts, the following intersections define the study area:

- North French Road/I-990 SB Ramps
- North French Road/I-990 NB Ramps
- North French Road/Miller Road
- North French Road/Crosspoint Parkway

The project site location and study area are illustrated in **Figure 1** (all figures are included at the end of this report).

3.0 TRANSPORTATION SETTING

3.1 Description of Study Area Roadways

The information outlined in **Table 1** provides a description of the existing roadway network within the study area. **Figure 2** illustrates the lane geometry and traffic control at each of the study intersections and the Annual Average Daily Traffic (AADT) volumes on the study roadways. The AADTs reflect the most recently collected data obtained from the NYSDOT.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Table 1: *Existing Highway System*

ROADWAY	CLASS[1]	AGENCY[2]	SPEED LIMIT[3]	TRAVEL LANES[4]	ORIENTATION OF TRAVEL	AADT[5]
North French Road (CR-299)	14	ECDPW	45	4	Two-way/ East-West	23,654 NYSDOT (2019)
Miller Road	19	Town of Amherst	35	2	Two-way/ North-South	673 Passero (2023)
Crosspoint Parkway	19	Town of Amherst	30	2	Two-way/ North-South	4,811 Passero (2023)

Notes:
1. State functional classification of roadway
2. Jurisdictional agency of roadway.
3. Posted or statewide limit in miles per hour (mph).
4. Number of travel lanes. Excludes turning/auxiliary lanes developed at intersections.
5. Estimated AADT in vehicles per day (vpd). AADT source (Year).

The Highway Functional Classification System defines the role a roadway plays in the overall road network. Functional classification of highways within the study area is determined by the NYSDOT and the Federal Highway Administration (FHWA).

Class 14: Urban Principle Arterial — According to the FHWA, this class of roadways "serve major activity centers, highest traffic volume corridors and longest trip demands." They "carry high proportions of total urban travel on minimum of mileage," and "interconnect and provide continuity for major rural corridors to accommodate trips entering and leaving urban area and movements through the urban area." These roads "serve demand for intra-area travel between the central business district and outlying residential areas."

Class 19: Urban Local — According to the FHWA, this class of roadway includes all facilities not in one of the higher systems (e.g., arterial, collector, etc.). It primarily permits direct access to abutting lands and connections to the higher order systems and is not intended for use in long distance travel. As public roads, they should be accessible for public use throughout the year. Generally, the streets carry little to no through-traffic flows.

3.2 Description of Multimodal Network

Table 2 summarizes the traffic controls, pedestrian, bicycle, and transit accommodations within the study area.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Table 2: *Multimodal Network*

ROADWAY/ INTERSECTION	TRAFFIC CONTROL	PEDESTRIAN	BICYCLE	TRANSIT
North French Road/ I-990 SB Ramps	Signalized	There is a crosswalk across the southbound approach with a countdown signal. There is a sidewalk along the north side of North French Rd.	There are no bicycle facilities at this intersection, but cyclists are permitted to share the road on all approaches	Public transit service within the study area is provided by the Niagara Frontier Transportation Association (NFTA). There are no transit stops at this intersection.
North French Road/ I-990 NB Ramps	Signalized	There are crosswalks across the southbound and westbound approaches with countdown signals. There is a sidewalk along the north side of North French Rd and another sidewalk along the south side of North French Rd to the east of the I-990.	There are no bicycle facilities at this intersection, but cyclists are permitted to share the road on all approaches	Public transit service within the study area is provided by the Niagara Frontier Transportation Association (NFTA). There are no transit stops at this intersection.
North French Road/ Miller Road	Unsignalized	There are no crosswalks at this intersection. There is a sidewalk along both sides of North French Rd.	There are no bicycle facilities at this intersection, but cyclists are permitted to share the road on all approaches	Public transit service within the study area is provided by the Niagara Frontier Transportation Association (NFTA). There are no transit stops at this intersection.
North French Road/Crosspoint Pkwy	Signalized	There are crosswalks across the southbound and westbound approaches without countdown signals. There is a sidewalk along both sides of North French Rd and another sidewalk along the east side of Crosspoint Pkwy.	There are no bicycle facilities at this intersection, but cyclists are permitted to share the road on all approaches	Public transit service within the study area is provided by the Niagara Frontier Transportation Association (NFTA). There are no transit stops at this intersection, however, Bus Route 44 provides bus stops to the east of the intersection, near Millersport Hwy, and to the north next to the proposed driveway along Crosspoint Pkwy.

3.3 Planned/Programmed Highway Improvements

There are no planned highway improvement projects in the study area.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

4.0 EXISTING CONDITIONS ANALYSIS

4.1 Peak Intervals for Analysis

Given the functional characteristics of the corridors, adjacent land uses, and the proposed land use for the project site, the peak hours selected for analysis are the weekday AM and PM peak periods. The combination of site traffic and adjacent street traffic produces the greatest demand during these time periods.

4.2 Existing Traffic Volume Data

Turning movement traffic counts were collected by Passero Associates on Wednesday, October 6th, 2021 at the North French Road/Crosspoint Pkwy intersection; Tuesday, July 26th, 2022, at the North French Rd/I-990 SB Ramps and North French Rd/I-990 NB Ramps intersections; and Tuesday, July 11th, 2023 at the North French Rd/Miller Rd intersection. Traffic counts were conducted between 7:00-9:00 AM for the weekday AM peak period and 4:00-6:00 PM for the weekday PM peak period. The peak hour traffic periods occurred from 7:45-8:45 AM and 4:30-5:30 PM. The existing peak hour traffic volumes are shown in **Figure 3A**.

All turning movement count data was collected on a typical weekday. No adverse weather conditions impacted the traffic counts. The traffic volumes were reviewed for seasonality and to confirm the accuracy and relative balance of the collective traffic counts. The actual differences in traffic volumes can be attributed to temporal variations in traffic volumes. Traffic volumes were adjusted where necessary to achieve an appropriate balance between intersections where no driveways are present. Additionally, the volumes collected at the North French Rd/I-990 SB Ramps, North French Rd/I-990 NB Ramps, and North French Road/Crosspoint Pkwy intersections were increased using the growth rate described in Section 5.0 to account for any growth in traffic between the time of data collection and 2023. **Figure 3B** illustrates the representative 2023 weekday AM and PM peak hour base volumes used for analysis purposes in this study.

4.3 Existing Crash Investigation

The purpose of this crash analysis is to identify inherent safety issues by studying and quantifying historical crashes at the study intersections and identifying potential crash patterns and clusters.

A crash cluster is defined as an abnormal occurrence of similar crash types occurring at approximately the same location or involving the same geometric features. The severity of the crashes should also be considered. A history of crashes is an indication that further analysis is required to determine the cause(s) of the crash(es) and to identify what actions, if any, could be taken to mitigate the crashes.

A crash investigation within the study area was conducted to assess the safety history from January 1, 2018, through December 31, 2022.

Reportable (non-injury, injury, and fatal injury) type crashes are defined as damage to one person's property in the amount of $1,001 or more. The Non-Reportable type crashes result in property damage of $1,000 or less. Crash rates were computed for the study intersections and compared with NYSDOT average crash rates for similar intersections, as summarized in **Table 3**. Intersection rates are listed as crashes per million entering vehicle (CR/MEV).

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Table 3: *Intersection Crash Rate Analysis*

INTERSECTION	NUMBER OF CRASHES	NUMBER OF ENTERING VEHICLES	ACTUAL CRASH RATE	STATEWIDE AVERAGE CRASH RATE
North Forest Rd at I-990 SB Ramps	7	22,863 vpd	0.17	0.19
North Forest Rd at I-990 NB Ramps	14	25,221 vpd	0.30	0.32
North Forest Rd at Miller Rd	5	24,347 vpd	0.11	0.31
North Forest Rd at Crosspoint Pkwy	9	19,274 vpd	0.26	0.19

The North French Rd/I-990 SB Ramps, North French Rd/I-990 NB Ramps, and North French Rd/Miller Rd intersections have a crash rate that is lower than the statewide average crash rate for similar intersections. No discernible crash patterns exist; therefore, no geometric improvements are recommended.

North Forest Rd at Crosspoint Pkwy

The study intersection has a crash rate that is 1.36 times higher than the statewide average crash rate for similar intersections. Nine total crashes occurred in this intersection. Of the nine crashes, five (56%) were attributed to rear end collisions. The remaining crashes were right angle (1), right turn (1), and sideswipe (2). The only crash pattern identified were three westbound rear end crashes which were caused by driver inattention and following too closely. No other discernible crash patterns exist; therefore, no geometric improvements are recommended.

5.0 BACKGROUND (NO BUILD) CONDITIONS

Construction of the proposed project is anticipated to reach full build-out within approximately four years. Widely accepted methodology for preparing traffic impact studies requires that any projects in the study area that are currently approved and/or under construction must be considered in the traffic analysis. Projects that are contemplated but not yet approved are not included in a traffic analysis. Local municipal personnel were contacted to discuss any other specific projects that are currently approved or under construction that would generate additional traffic in the study area. Town of Amherst officials identified a residential project at 50 Crosspoint Pkwy and a residential development at 3325 & 3275 Millersport Hwy. Site trips generated for both projects were added to the study intersections.

A review of available historical NYSDOT traffic volume data in the vicinity of the site indicates that traffic has increased by approximately 1.35% between 2011 and 2023 on the roadway segments in the study area. To account for normal increases in background traffic growth, and any other unforeseen developments in the study area, a growth rate of 1.5% per year was applied to the existing traffic volumes for the four-year build out period. The background traffic volumes are depicted in **Figure 4**.

6.0 PROPOSED DEVELOPMENT CONDITIONS

6.1 Project Description

The proposed project consists of 55 single family lots situated along a new private roadway, 30 townhome buildings containing a total of 150 units, and two buildings containing ±4,000 square feet (SF) of commercial space and 35 apartment units each. Three access scenarios are evaluated for the proposed development in this study:

1. Two full access driveways along North French Rd at the eastern end and western ends of the site and a cross connection affording access to Crosspoint Parkway.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

2. One full access driveway along North French Rd at the eastern end of the site, a right in-right out (RIRO) driveway along North French Rd at the western end of the site and a cross connection affording access to Crosspoint Parkway.
3. One full access driveway along North French Rd at the eastern end of the site and a cross connection affording access to Crosspoint Parkway. The westerly driveway will be gated for emergency access only.

6.2 Proposed Traffic Generation

The volume of traffic generated by a site is dependent on the intended land use and size of the development. Trip generation is an estimate of the number of trips generated by a specific building or land use. These trips represent the volume of traffic entering and exiting the development. *Trip Generation Manual* (11th Edition) published by the Institute of Transportation Engineers (ITE) is used as a reference for this information. The trip rate for the peak hour of the generator may or may not coincide in time or volume with the trip rate for the peak hour of adjacent street traffic. Volumes generated during the peak hour of the adjacent street traffic and proposed land uses, in this case, the weekday commuter AM and PM peak hours, represent a more critical volume when analyzing the capacity of the system; those intervals will provide the basis of this analysis. **Table 4** shows the estimated site generated trips that will be added to the existing roadway system under full project development.

Table 4: *Site Generated Trips*

DESCRIPTION	ITE LUC[1]	SIZE	AM PEAK HOUR		PM PEAK HOUR	
			ENTER	EXIT	ENTER	EXIT
Single-Family Detached Housing	210	55 units	11	32	36	21
Single-Family Attached Housing	215	150 units	18	54	51	35
Multifamily Housing (Low-Rise)	220	70 units	11	34	32	19
Strip Retail Plaza (<40k)	822	±8,000 SF	15	10	33	33
Total			**55**	**130**	**152**	**108**

Note:
1. LUC = Land Use Code.

The proposed project is expected to generate approximately 55 entering/130 exiting vehicle trips during the AM peak hour and 152 entering/108 exiting vehicle trips during the PM peak hour.

6.3 Trip Distribution

The cumulative effect of site-generated traffic on the transportation network is dependent on the origins and destinations of that traffic and the location of the access drives serving the site. The proposed arrival/departure distribution of traffic generated by the proposed project is considered a function of several parameters, including:

- Residential and Employment centers using U.S. Census Data
- Site layout and access locations
- Proximity and access to expressways (I-990) and other main roadways
- Existing traffic patterns
- Existing traffic conditions and controls

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Figure 5A, 5B, and 5C shows the anticipated trip distribution pattern percentage for the project site under the full access western driveway, right in-right out western driveway, and the restricted access western driveway respectively. All three scenarios also have a full access easterly driveway on North French Rd and a cross connection with access on Crosspoint Parkway. **Figure 6A, 6B, 6C** shows the total site generated trips based on the distribution patterns in the three different scenarios.

6.4 Full Development Volumes

The proposed design hour traffic volumes are developed for the peak hours by combining the background traffic conditions (**Figure 4**) and the new site-generated traffic volumes (**Figures 6A, 6B, and 6C**) to yield the traffic volumes under full development conditions. **Figure 7A, 7B, 7C** illustrates the total peak hour volumes anticipated for the proposed project under full build-out conditions for all three scenarios.

7.0 TRAFFIC OPERATIONS AND ANALYSIS

7.1 Left-Turn Warrant Investigation

This study used the Transportation Research Board's (TRB) *NCHRP Report 279 Intersection Channelization Design Guide* to evaluate the volume warrants for a left-turn treatment at the proposed driveway locations. Provisions for left-turn lane facilities should be established where traffic volumes are high enough and safety considerations are sufficient to warrant the additional lane. This investigation analyzed warrants during the weekday AM and PM peak hours for the intersections under full development conditions. The warrants are based on the design speed of the major roadway.

The combination of eastbound traffic volumes turning left into the proposed easterly driveway from North French Rd and the design speed of North French Rd indicate that a left-turn treatment is warranted during both peak hours for all three scenarios. It is recommended that an eastbound left turn lane is installed at the proposed driveway location. Additionally, a two-way left turn lane (TWLTL) is provided via restriping the existing pavement markings to the east of the intersection between the proposed easterly driveway and Miller Rd. A concept plan of showing this mitigation can be found at the end of the report.

The combination of eastbound traffic volumes turning left into the proposed westerly driveway from North French Rd and the design speed of North French Rd indicate that a left-turn treatment is warranted during both peak hours for the full access If this access scenario is pursued, an eastbound left turn lane is recommended at the proposed westerly driveway location.

7.2 Description of Capacity Analysis

Capacity analysis is a technique used for determining a measure of effectiveness for a section of roadway and/or intersection based on the number of vehicles during a specific time period. The measure of effectiveness used for the capacity analysis is referred to as a Level of Service (LOS). Levels of service are calculated to provide an indication of the amount of delay that a motorist experiences while traveling along a roadway or through an intersection. Since the most amount of delay to motorists usually occurs at intersections, capacity analysis focuses on intersections, as opposed to highway segments.

The standard procedure for capacity analysis of signalized and unsignalized intersections is outlined in the *Highway Capacity Manual* (HCM) *7th Edition* published by the Transportation Research Board (TRB). Traffic analysis software, Synchro 12, which is based on procedures and methodologies contained in the HCM, was used to analyze operating

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conditions at study area intersections. The procedure yields a level of service based on the HCM as an indicator of how well intersections operate.

Six levels of service are defined for analysis purposes. They are assigned letter designations, from "A" to "F", with LOS "A" representing the conditions with little to no delay, and LOS "F" conditions with very long delays. Suggested ranges of service capacity and an explanation of levels of service are included in the Appendices. LOS "C" or better is desirable, but LOS "D" for signalized locations and LOS "E" for unsignalized locations are generally thresholds of acceptable operation during peak periods so long as the volume to capacity ratio (v/c) is below 1.0. **Table 5** depicts level of service criteria for both signalized and unsignalized intersections.

***Table 5:** Level of Service Criteria*

LEVEL OF SERVICE	SIGNALIZED CONTROL DELAY PER VEHICLE (seconds)	STOP CONTROL DELAY PER VEHICLE (seconds)
A	< 10	< 10
B	10 – 20	10 – 15
C	20 – 35	15 – 25
D	35 – 55	25 – 35
E	55 – 80	35 – 50
F	> 80	> 50

LOS for signalized intersections is defined in terms of delay specifically, average total delay per vehicle for a 15-minute analysis period. LOS for unsignalized intersections, however, are different from a signalized intersection. The primary reason for this is driver expectation that a signalized intersection is designed to carry higher volumes than an unsignalized intersection. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable than they are at signals.

The v/c ratio, also referred to as degree of saturation, represents the sufficiency of an intersection to accommodate the vehicular demand. A v/c ratio less than 0.85 generally indicates that adequate capacity is available, and vehicles are not expected to experience significant queues and delays. As the v/c ratio approaches 1.0, traffic flow may become unstable, and delay and queuing conditions may occur.

7.3 Capacity Analysis Results

Existing and background operating conditions during the peak study periods are evaluated to determine a basis for comparison with the projected future conditions. The future traffic conditions generated by the project were analyzed to assess the operation of the study area intersections. Capacity results for existing, background, and the three full development access conditions are listed in **Table 6**. The discussion following the table summarizes capacity conditions. The detailed Synchro capacity analysis worksheets are contained in the Appendices.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

TABLE 6: CAPACITY ANALYSIS RESULTS

INTERSECTION	2023 EXISTING BASE CONDITIONS				2027 BACKGROUND CONDITIONS				2027 FULL BUILD CONDITIONS FULL ACCESS AT ALL DRIVEWAYS				2027 FULL BUILD CONDITIONS RIRO			
	AM		PM		AM		PM		AM		PM		AM		PM	
1. North French Road/I-990 SB Ramps (S)																
EB Thru - North French Road	B	10.8	B	10.9	B	11.2	B	11.1	B	11.4	B	11.4	B	11.4	B	11.4
EB Right - North French Road	A	4.7	A	1.6	A	5.8	A	1.9	A	6.1	A	1.7	A	6.1	A	1.7
WB Left - North French Road	D	47.9	E	61.5	D	49.0	E	75.1	D	50.0	E	78.6	D	50.0	E	78.6
WB Thru - North French Road	A	4.7	A	7.9	A	4.7	A	9.3	A	4.9	B	14.1	A	4.9	B	14.1
SB - I-990 SB Ramps	A	2.4	A	2.2	A	2.7	A	2.4	A	2.8	A	2.4	A	2.8	A	2.4
Overall LOS	**B**	**15.4**	**C**	**21.3**	**B**	**16.2**	**C**	**25.3**	**B**	**16.9**	**C**	**28.2**	**B**	**16.9**	**C**	**28.2**
Volume-to-Capacity (v/c) Ratio	**0.59**		**0.88**		**0.65**		**0.94**		**0.68**		**0.96**		**0.68**		**0.96**	
2. North French Road/I-990 NB Ramps (S)																
EB Left/Thru - North French Road	B	13.4	B	14.1	B	14.2	B	14.9	B	14.8	B	17.0	B	14.8	B	17.0
WB Thru/Right - North French Road	B	13.4	C	20.1	B	14.6	C	21.1	B	15.6	C	22.1	B	15.6	C	22.1
NB Left - I-990 NB Ramps	D	48.4	E	62.9	D	49.7	E	65.9	D	50.1	F	80.6	D	50.1	F	80.6
NB Thru - I-990 NB Ramps	B	13.7	A	7.1	C	20.3	A	9.5	C	22.9	B	15.4	C	22.9	B	15.4
NB Right - I-990 NB Ramps	B	13.5	A	7.0	C	20.1	A	9.4	C	22.7	B	15.1	C	22.7	B	15.1
Overall LOS	**B**	**16.0**	**C**	**21.6**	**B**	**18.7**	**C**	**22.8**	**B**	**19.9**	**C**	**26.3**	**B**	**19.9**	**C**	**26.3**
Volume-to-Capacity (v/c) Ratio	**0.59**		**0.88**		**0.65**		**0.94**		**0.68**		**0.96**		**0.68**		**0.96**	
3. North French Road/ Proposed Westerly Driveway (U)																
EB Left - North French Road	N/A		N/A		N/A		N/A		A	9.9	B	14.1	N/A		N/A	
SB - Proposed Driveway									C	18.3	E	38.5	B	12.2	C	16.4
4. North French Road/Proposed Easterly Driveway (U)																
EB Left - North French Road	N/A		N/A		N/A		N/A		A	9.7	B	13.4	A	9.9	C	15.1
SB Left - Proposed Driveway									F	63.9	F	216.1	F	87.0	F	626.1
SB Right - Proposed Driveway									B	11.6	C	15.5	B	11.6	C	15.5
5. North French Road/Miller Road (U)																
WB Left - North French Road	B	12.6	B	10.9	B	13.3	B	11.5	B	13.6	B	12.3	B	13.6	B	12.3
NB - Miller Road	F	71.3	F	60.2	F	101.6	F	82.6	F	109.1	F	135.4	F	109.1	F	135.4
6. North French Road/Crosspoint Pkwy (S)																
EB Left - North French Road	C	21.2	C	24.5	C	23.3	C	27.3	C	24.1	C	33.1	C	24.1	C	33.1
EB Thru - North French Road	A	4.8	A	6.5	A	5.3	A	6.9	A	5.7	A	7.2	A	5.7	A	7.2
WB Thru - North French Road	B	17.2	B	15.3	B	18.8	B	16.3	B	19.3	B	18.0	B	19.3	B	18.0
WB Right - North French Road	A	4.5	A	5.5	A	5.2	A	5.7	A	5.4	A	6.1	A	5.4	A	6.1
SB Left - Crosspoint Pkwy	C	25.6	C	25.2	C	27.9	C	28.0	C	28.8	D	35.5	C	28.8	D	35.5
SB Right - Crosspoint Pkwy	A	9.2	A	5.8	A	7.9	A	5.7	A	7.7	A	6.3	A	7.7	A	6.3
Overall LOS	**B**	**11.7**	**B**	**11.1**	**B**	**13.0**	**B**	**12.0**	**B**	**13.5**	**B**	**13.5**	**B**	**13.5**	**B**	**13.5**
Volume-to-Capacity (v/c) Ratio	**0.60**		**0.66**		**0.65**		**0.68**		**0.66**		**0.73**		**0.66**		**0.73**	

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TABLE 6: CAPACITY ANALYSIS RESULTS

INTERSECTION	2027 FULL BUILD CONDITIONS GATED ACCESS				2027 FULL BUILD CONDITIONS FULL ACCESS AT ALL DRIVEWAYS WITH MITIGATIONS				2027 FULL BUILD CONDITIONS RIRO WITH MITIGATIONS				2027 FULL BUILD CONDITIONS GATED ACCESS WITH MITIGATIONS			
	AM		PM		AM		PM		AM		PM		AM		PM	
1. North French Road/I-990 SB Ramps (S)																
EB Thru - North French Road	B	11.4	B	11.4			B	11.4			B	11.4			B	11.4
EB Right - North French Road	A	6.1	A	1.7			A	1.7			A	1.7			A	1.7
WB Left - North French Road	D	50.0	E	78.6	N/A		E	78.6	N/A		E	78.6	N/A		E	78.6
WB Thru - North French Road	A	4.9	B	14.1			B	14.1			B	14.1			B	14.1
SB - I-990 SB Ramps	A	2.8	A	2.4			A	3.1			A	2.4			A	2.4
Overall LOS	**B**	**16.9**	**C**	**28.2**			**C**	**28.2**			**C**	**28.2**			**C**	**28.2**
Volume-to-Capacity (v/c) Ratio	**0.68**		**0.96**				**0.96**				**0.96**				**0.96**	
2. North French Road/I-990 NB Ramps (S)																
EB Left/Thru - North French Road	B	14.8	B	17.0			B	18.0			B	18.0			B	18.0
WB Thru/Right - North French Road	B	15.6	C	22.1			C	22.8			C	22.8			C	22.8
NB Left - I-990 NB Ramps	D	50.1	F	80.6	N/A		E	76.5	N/A		E	76.5	N/A		E	76.5
NB Thru - I-990 NB Ramps	C	22.9	B	15.4			B	15.5			B	15.5			B	15.5
NB Right - I-990 NB Ramps	C	22.7	B	15.1			B	15.3			B	15.3			B	15.3
Overall LOS	**B**	**19.9**	**C**	**26.3**			**C**	**26.4**			**C**	**26.4**			**C**	**26.4**
Volume-to-Capacity (v/c) Ratio	**0.68**		**0.96**				**0.96**				**0.96**				**0.96**	
3. North French Road/ Proposed Westerly Driveway (U)																
EB Left - North French Road	N/A		N/A		A	9.9	B	14.1	N/A		N/A		N/A		N/A	
SB - Proposed Driveway					C	18.1	E	35.2	B	12.2	C	16.4				
4. North French Road/Proposed Easterly Driveway (U)																
EB Left - North French Road	A	9.9	C	15.2	A	9.7	B	13.4	A	9.9	C	15.1	A	9.9	C	15.2
SB Left - Proposed Driveway	F	86.9	F	627.5	C	23.9	E	40.1	D	26.0	F	53.8	D	26.0	F	53.8
SB Right - Proposed Driveway	B	12.5	C	17.5	B	11.6	C	15.5	B	11.6	C	15.5	B	12.5	C	17.5
5. North French Road/Miller Road (U)																
WB Left - North French Road	B	13.6	B	12.3	B	13.6	B	12.3	B	13.6	B	12.3	B	13.6	B	12.3
NB - Miller Road	F	109.4	F	136.5	E	36.3	D	31.5	E	36.3	D	31.5	E	36.3	D	31.6
6. North French Road/Crosspoint Pkwy (S)																
EB Left - North French Road	C	24.1	C	33.3												
EB Thru - North French Road	A	5.7	A	7.1												
WB Thru - North French Road	B	19.3	B	18.0												
WB Right - North French Road	A	5.4	A	6.1	N/A		N/A		N/A		N/A		N/A		N/A	
SB Left - Crosspoint Pkwy	C	28.8	D	35.7												
SB Right - Crosspoint Pkwy	A	7.7	A	6.3												
Overall LOS	**B**	**13.5**	**B**	**13.5**												
Volume-to-Capacity (v/c) Ratio	**0.66**		**0.73**													

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

1. North French Road/I-990 SB Ramps (Signalized)

All approaches operate at LOS "D" or better under existing and background conditions during both peak hours with the exception of the westbound left approach which operates at a LOS "E" during the PM peak hour. In between background and full build conditions, the westbound thru approach is projected to change from LOS "A" to "B" during the PM peak hour period, however, this is considered a borderline condition as the threshold between LOS "A" and "B" is 10.0 seconds per vehicle and the actual increase in delay projected is 1.1 seconds per vehicle. No other changes in LOS are anticipated and no other mitigation is warranted or recommended as a result of the project at this intersection.

2. North French Road/I-990 NB Ramps (Signalized)

All approaches operate at LOS "D" or better under all conditions during all peak hours with the exception of the northbound left approach which operates at a LOS "E" during the PM peak hour. In between background and full build conditions, the northbound thru and northbound right approaches are projected to change from LOS "A" to "B" during the PM peak hour period, however, this is considered a borderline condition as the threshold between LOS "B" and "C" is 20.0 seconds per vehicle and the actual increase in delay projected is 2.5 seconds and 2.7 seconds per vehicle for the northbound thru and northbound right approaches, respectively. The northbound thru and northbound right approaches are projected to change from LOS "A" to an acceptable LOS "B" during the PM peak hour period. In between background and full build the northbound left changes from LOS "E" to LOS "F". This change in LOS is mitigated through minor adjustments to the signal timings (less than two seconds).. The traffic signal is fully actuated will automatically adjust to the increased traffic without any changes to the controller settings. No other changes in level of service are anticipated, and no improvements are warranted nor recommended at this location.

3. North French Road/Proposed Westerly Driveway (Unsignalized)

All approaches operate at LOS "B" under full build conditions during all peak hours with the exception of the southbound left approach which operates at a LOF "E" during both peak hours under the full access scenario. Under the right-in/right-out scenario, traffic exiting the site will operate at LOS "C" or better during both peak hours. The full access scenario is not recommended for the following reasons:

- Full build conditions result in poor operating conditions for left turns exiting the site
- Left turns entering and exiting the site create additional conflict points
- Permitting left turns entering the site requires installation of a left turn lane
- Permitting right turns to enter and exit the site relieves traffic volumes at the main site driveway on North French Rd

Therefore, the right-in/right-out access scenario is recommended. The driveway should be designed to prohibit left turns from entering and exiting the site and to accommodate the appropriate design vehicle.

4. North French Road/Proposed Easterly Driveway (Unsignalized)

All approaches operate at LOS "C" or better under full build conditions during all peak hours with the exception of the southbound left approach which operates at a LOF "F" during both peak hours. An eastbound left turn lane is warranted based on the analysis contained in Section 7.1. An eastbound left turn lane is recommended on North French Rd at the proposed site driveway and a two-way left turn lane (TWLTL) should be provided between the site driveway and Miller Rd. The southbound left turn movement is projected to operate at LOS "D" and LOS "F" with moderate delays during the AM and PM peak hour periods, respectively. The proposed driveway should consist of one entering and two exiting lanes.

5. North French Road/Miller Road (Unsignalized)

All approaches operate at LOS "B" under all conditions during all peak hours with the exception of the northbound approach which operates at a LOS "F" during both peak hours. No changes in level of service are anticipated. A TWLTL

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

will be installed between the proposed site driveway and Miller Rd as mitigation for this project. Northbound left turns can utilize the TWLTL to cross the eastbound lanes before merging with the westbound traffic. Under the mitigated conditions, the northbound approach is projected to operate at a LOS "E" and LOS "D" during the AM and PM peak hour periods, respectively.

6. North French Road/Crosspoint Parkway (Signalized)

All approaches operate at LOS "C" or better under existing and background conditions during both peak hours. In between background and full build conditions the southbound left approach changes from a LOS "C" to" D" during the PM peak hour. No other changes in level of service are anticipated, and no improvements are warranted nor recommended at this location.

8.0 CONCLUSIONS AND RECOMMENDATIONS

This Traffic Impact Study identified and evaluated the potential traffic impacts that can be expected from the proposed mixed-use development located along North French Road in the Town of Amherst, NY. The results of this study determined that the existing transportation network can adequately accommodate the projected traffic volumes and resulting minor impacts to study area intersections with the noted mitigation in place. The following sets forth the conclusions and recommendations based upon the results of the analyses:

Conclusions

1. The proposed project is expected to generate approximately 55 entering/130 exiting vehicle trips during the AM peak hour and 152 entering/108 exiting vehicle trips during the PM peak hour.

2. The combination of eastbound traffic volumes turning left into the proposed easterly driveway from North French Rd and the design speed of North French Rd indicate that a left-turn lane is warranted during both peak hours.

3. The North French Rd/Proposed Easterly Driveway intersection is projected to operate at LOS "D" or better under full build conditions during all peak hours with the recommended mitigation.

4. The North French Rd/Miller Rd intersection is projected to operate at LOS "E" or better under full build conditions during all peak hours with the recommended mitigation.

5. The detailed analysis contained in this Traffic Impact Study demonstrates the proposed project will not result in any potentially significant adverse environmental impacts for the purpose of the environmental review of the project pursuant to the State Environmental Quality Review Act ("SEQRA").

Recommendations

6. The right-in/right-out access scenario at the westerly driveway is preferred/recommended.

7. The westerly site driveway should be designed to prohibit left turns from entering and exiting the site and to accommodate the appropriate design vehicle.

8. An eastbound left turn lane is recommended on North French Rd at the proposed site driveway and a two-way left turn lane (TWLTL) should be provided between the site driveway and Miller Rd.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

9. The proposed easterly driveway along North French Road should be designed to provide one entering and two exiting lanes.

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

9.0 REFERENCES

- Synchro 12 Software. Cubic ITS.
- Highway Capacity Manual (HCM 7th TWSC). Transportation Research Board (TRB). Washington, DC. 2016.
- Highway Functional Classification Concepts, Criteria, and Procedures. FHWA. 2013.
- Trip Generation (11th Edition). Institute of Transportation Engineers (ITE). Washington, DC. 2021.
- OnTheMap. US Census Bureau. 2023.
- Traffic Data Viewer. New York State Department of Transportation (NYSDOT). 2023.

10.0 FIGURES

Figures 1 through 7C are included on the following pages.

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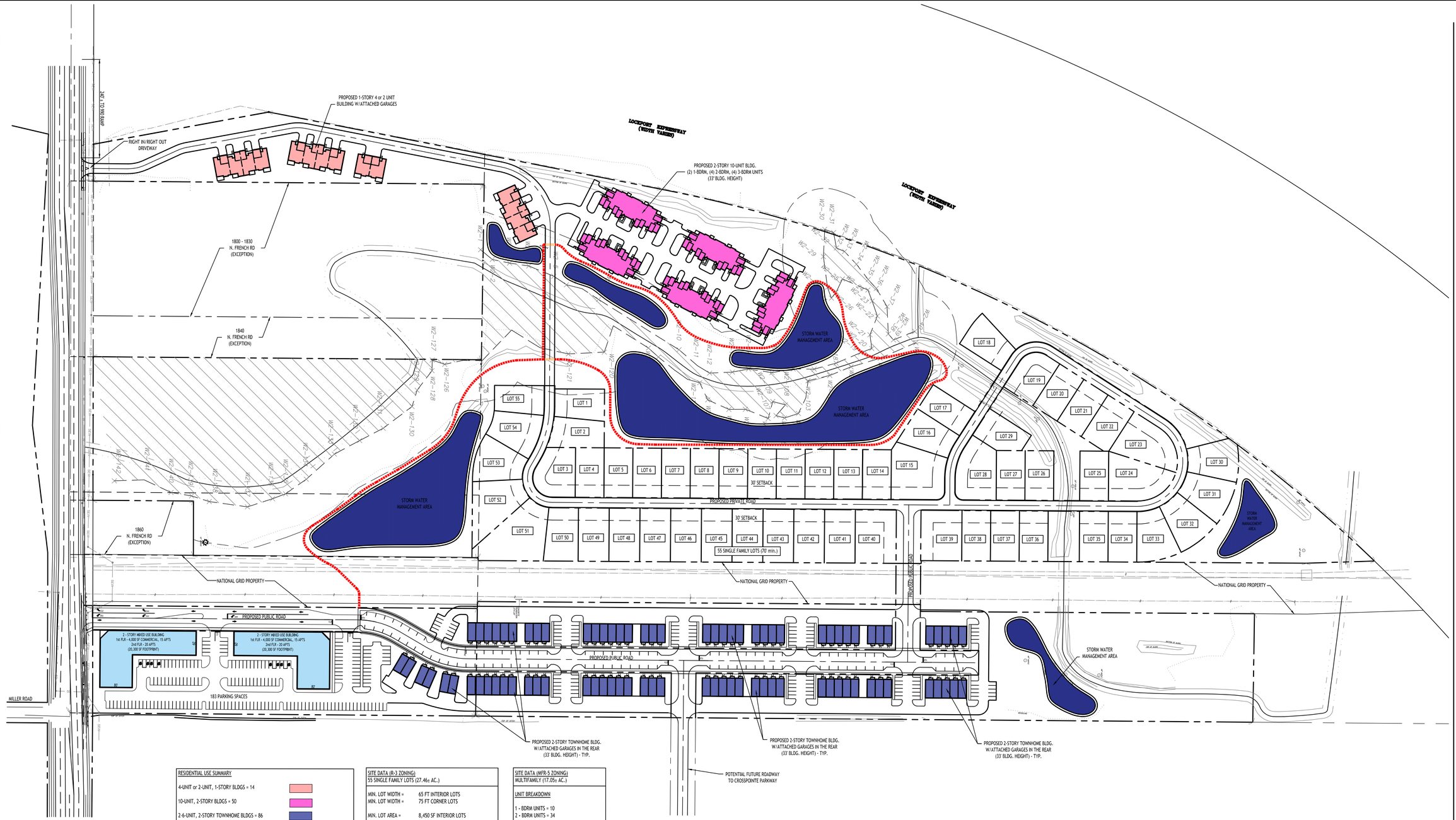

RESIDENTIAL USE SUMMARY	
4-UNIT or 2-UNIT, 1-STORY BLDGS = 14	
10-UNIT, 2-STORY BLDGS = 50	
2-6-UNIT, 2-STORY TOWNHOME BLDGS = 86	
2-STORY MIXED USE BUILDINGS = 70	
TOTAL RESIDENTIAL UNITS = 220	

PROPOSED
WALKING/JOGGING TRAILS

SITE DATA (R-3 ZONING) 55 SINGLE FAMILY LOTS (27.46± AC.)	
MIN. LOT WIDTH =	65 FT INTERIOR LOTS
MIN. LOT WIDTH =	75 FT CORNER LOTS
MIN. LOT AREA =	8,450 SF INTERIOR LOTS
MIN. LOT AREA =	9,750 SF CORNER LOTS
FRONT SETBACK = 30 FT SIDE SETBACK = 5 FT REAR SETBACK = 30 FT	
MAXIMUM LOT COVERAGE = 35% MAXIMUM BUILDING HEIGHT = 35 FT	
MINIMUM FLOOR AREA = 1,000 SF (1 STORY) MINIMUM FLOOR AREA = 1,200 SF (2 STORIES)	

SITE DATA (MFR-5 ZONING) MULTIFAMILY (17.05± AC.)
UNIT BREAKDOWN
1 - BDRM UNITS = 10 2 - BDRM UNITS = 34 3 - BDRM UNITS = 20
TOTAL = 64 UNITS
DENSITY CALCULATION
REQD LAND AREA
1 - BDRM: 10 x 3630 SF = 36,300 SF 2 - BDRM: 34 x 4356 SF = 148,104 SF 3 - BDRM: 20 x 5445 SF = 108,900 SF
TOTAL = 293,304 SF = 6.73 ACRES REQD
PARKING CALCULATION
REQD = 2 SPACES PER UNIT REQD = 64 UNITS x 2 = 128 SPACES REQD
PROVIDED = 128 SPACES W/ GARAGES

N CONCEPT SITE PLAN

SCALE: 1"=110'

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS, CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

110 0 110 220Ft.
110'

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Buffalo | Utica | Greensboro

Mixed Use Development

1790 & 1920 North French Road & Portion of 999 Campbell Blvd.
Amherst, New York
SBL No. 27.04-1-12, 16.1 & 20, 27.00-2-29

REVISIONS:

No.	Description	Date

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWING NAME:
Concept Site Plan

Date: 3/20
Drawn By: C. W
Scale: As No

DRAWING NO.
C-100

Project No: 23-4131

Attachment: BCPA-2024-01_application_05162&pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Figure 1

PASSERO
engineering architecture



North French Rd Mixed Use Development| Town of Amherst, Erie County, NY

0 400 800 1,600 Feet N

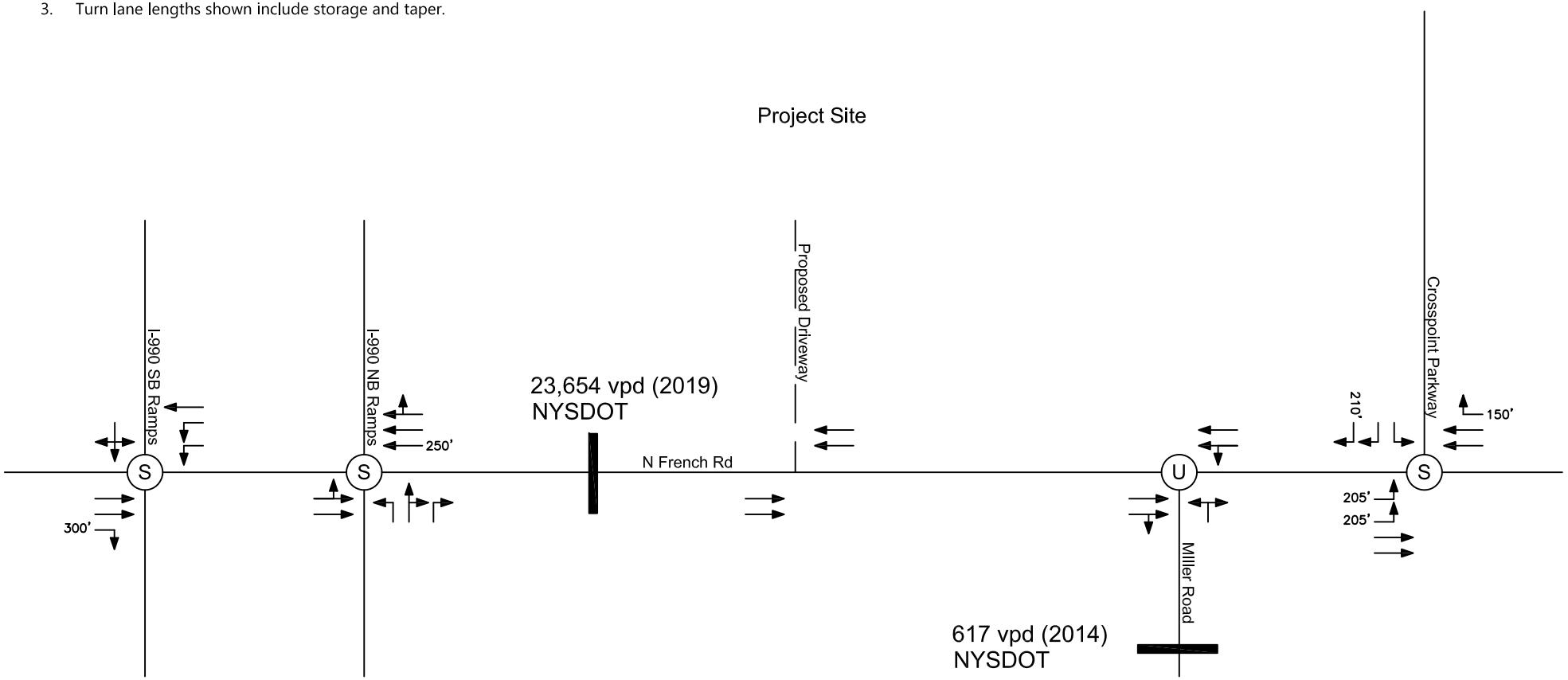
Site Location and Study Area

Key:
- # Study Intersection
- # Proposed Intersection

Proje Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Figure 2

Notes:
1. All AADT volumes by those noted:
   1.1. NYSDOT = New York State Department of Transportation.
   1.2. PA = Passero Associates.
2. vpd = Vehicles per day.
3. Turn lane lengths shown include storage and taper.



N French Road Mixed Use Development | Town of Amherst, NY

Lane Geometry and Average Daily Traffic

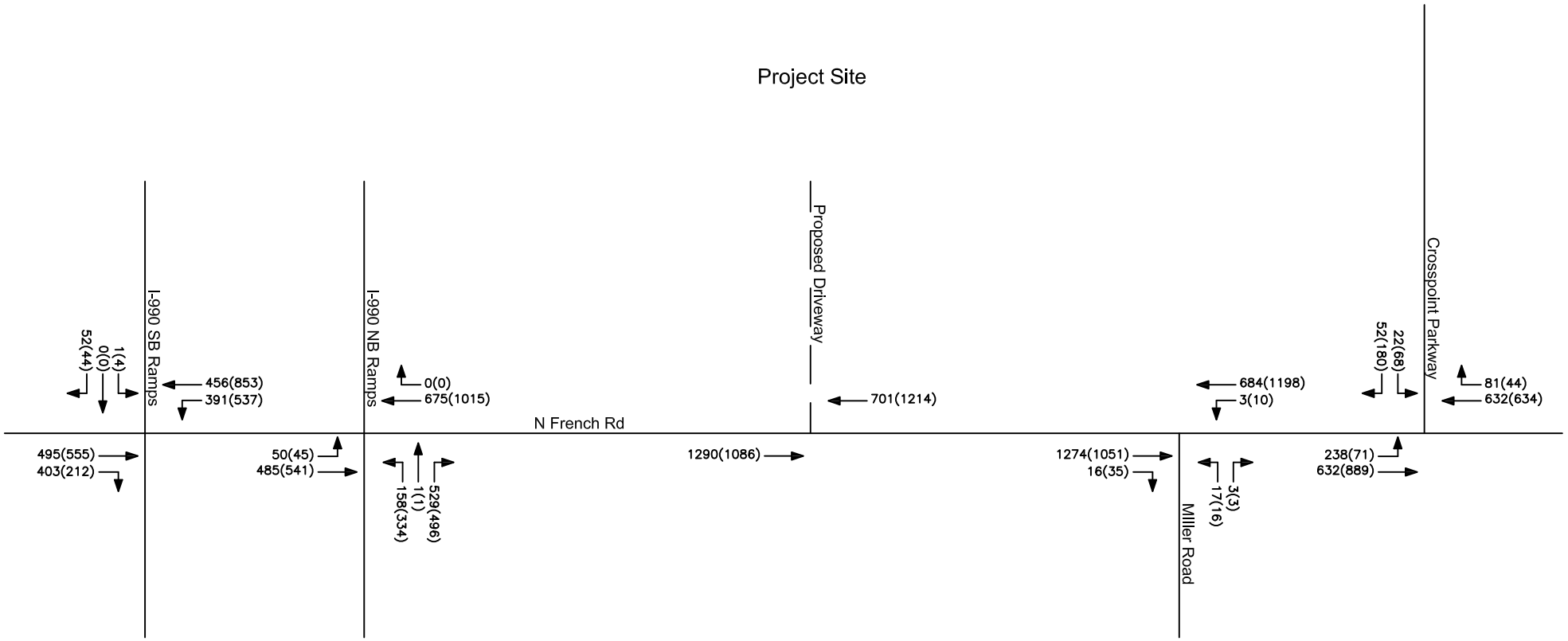
N
NOT TO SCALE

KEY:
00(00) = AM(PM)
– – – Proposed Access

Project Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Figure 3A

PASSERO engineering architecture



N French Road Mixed Use Development| Town of Amherst, NY

N
NOT TO SCALE

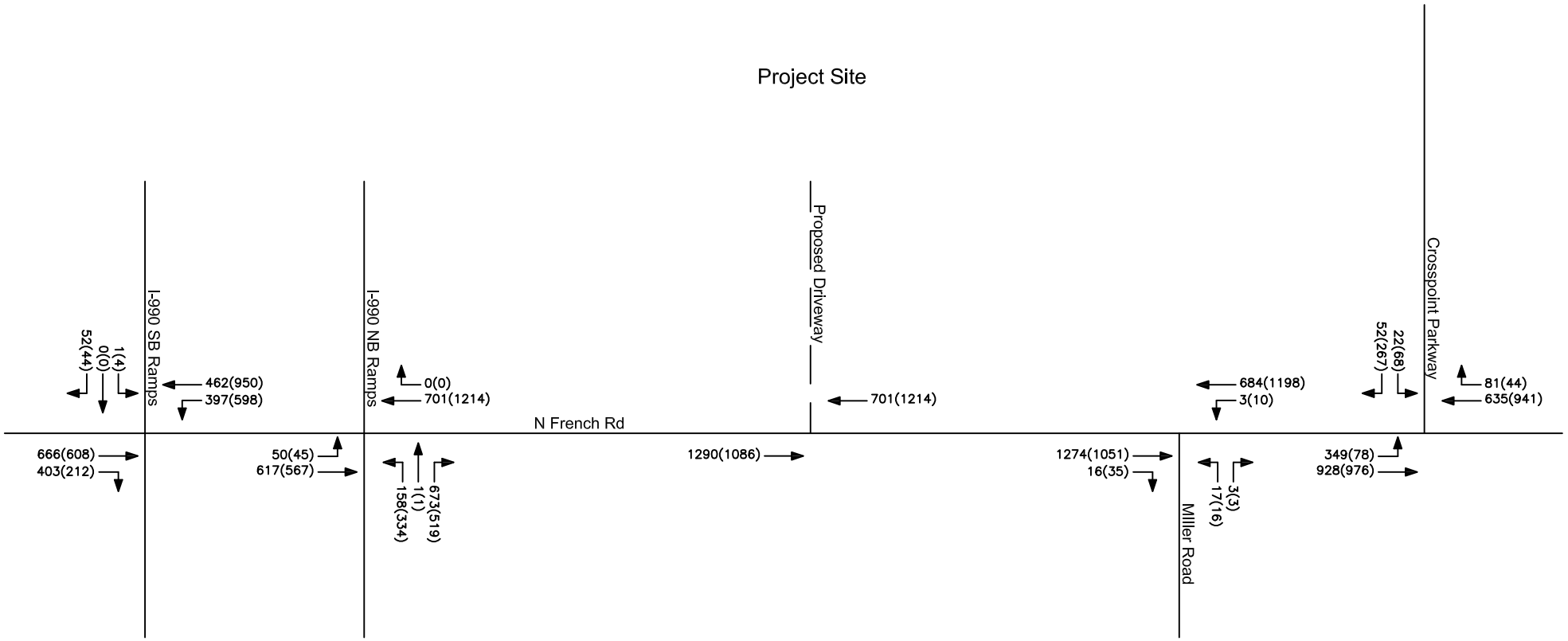
Peak Hour Volumes
2023 Existing Conditions

KEY:
00(00) = AM(PM)
– – – Proposed Access

Project Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Figure 3B

PASSERO engineering architecture



N French Road Mixed Use Development| Town of Amherst, NY

N
NOT TO SCALE

Peak Hour Volumes
2023 Balanced Existing Conditions

KEY:
00(00) = AM(PM)
– – – Proposed Access

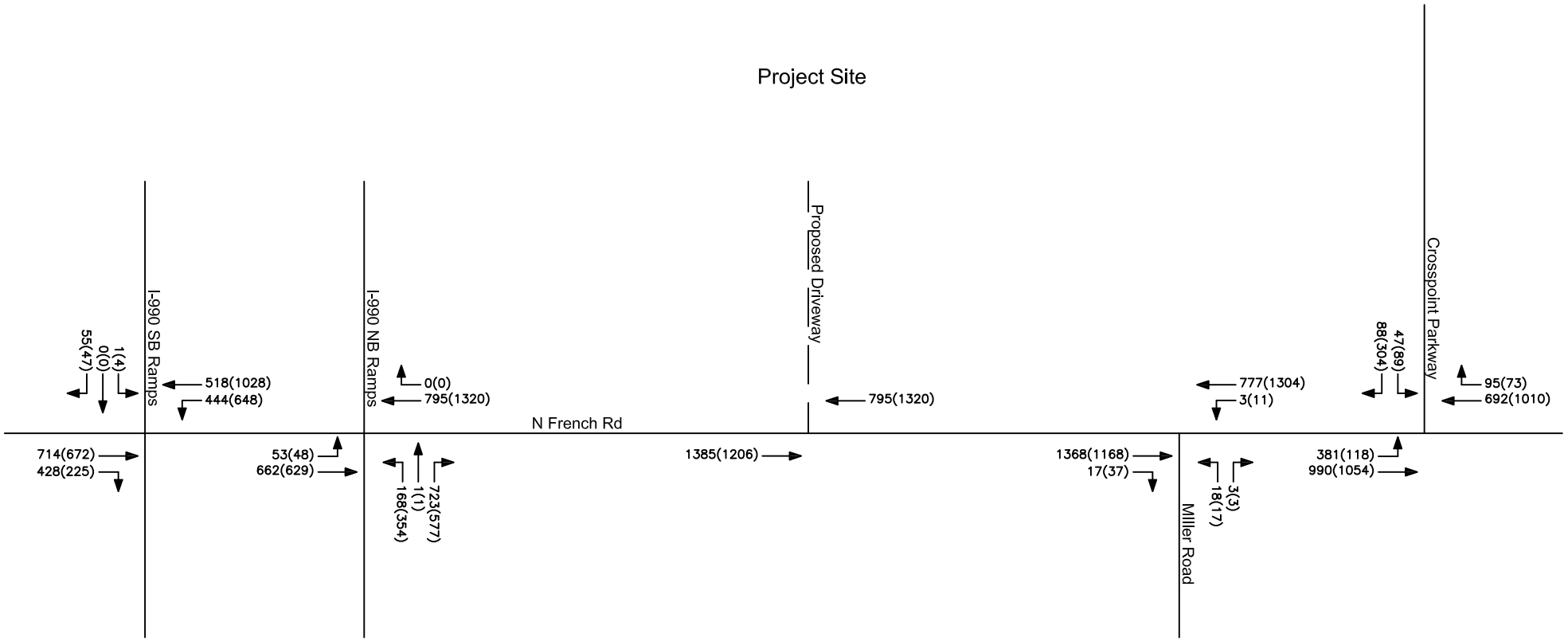
Packet Pg. 1560

4.a

Project Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Figure 4

PASSERO engineering architecture



N French Road Mixed Use Development| Town of Amherst, NY

N
NOT TO SCALE

Peak Hour Volumes
2027 Background Conditions

KEY:
00(00) = AM(PM)
– – – Proposed Access

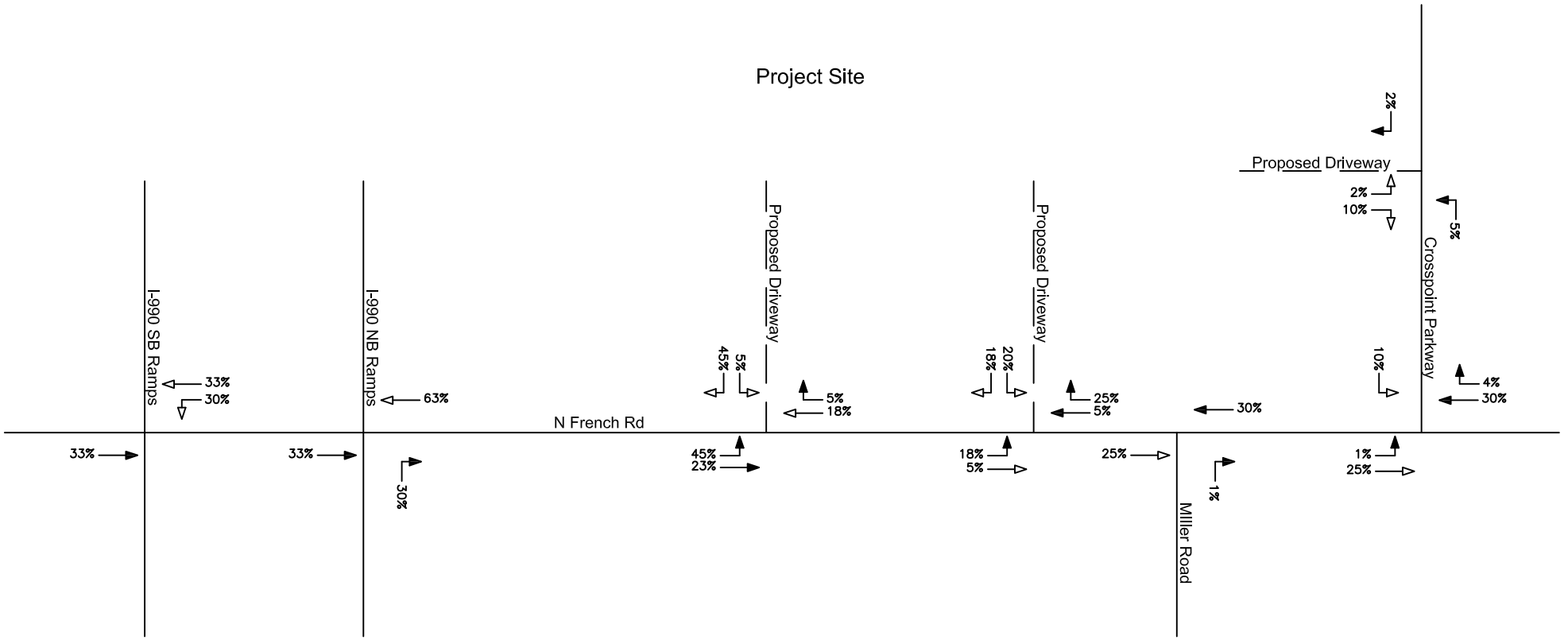
Packet Pg. 1561

4.a

Project Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Figure 5A

PASSERO engineering architecture



N French Road Mixed Use Development| Town of Amherst, NY

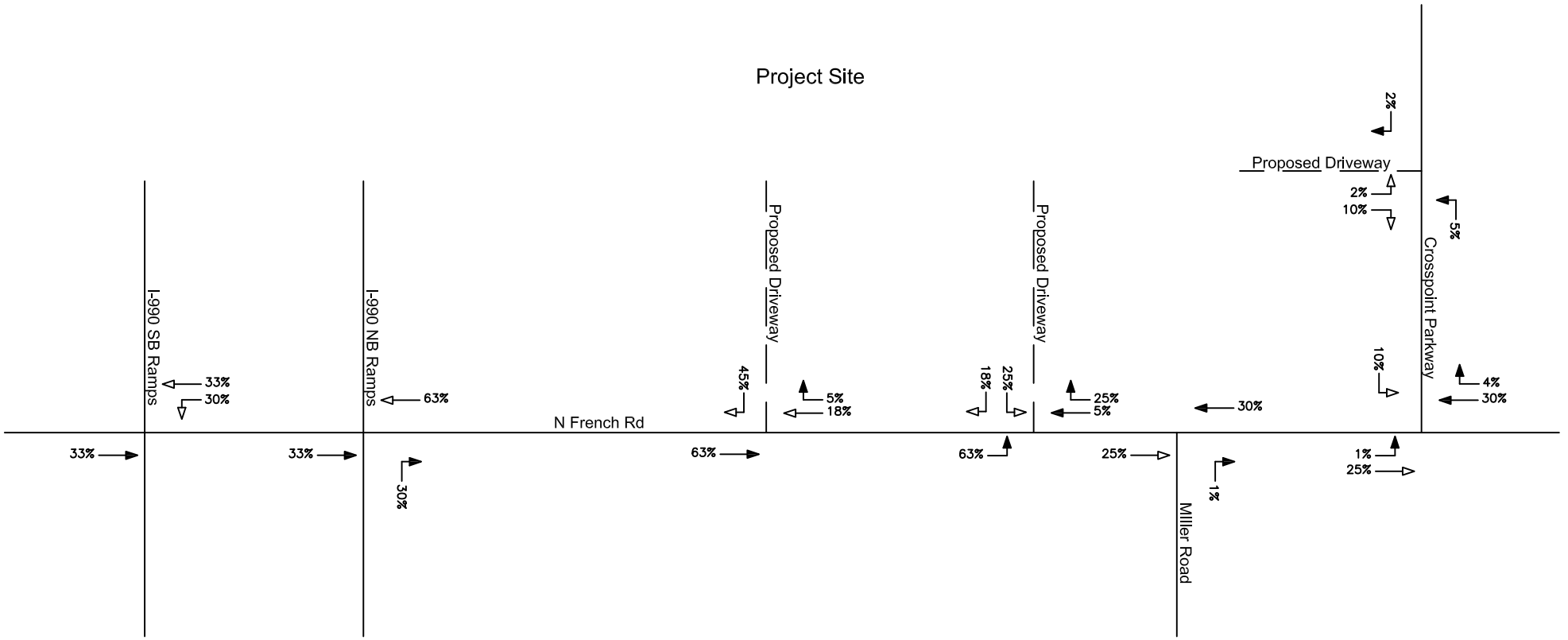
Trip Distribution | Full Access At All Three Driveways

N
NOT TO SCALE

KEY:
00(00) = AM(PM)
→ Entering Trip

Figure 5B

PASSERO engineering architecture



N French Road Mixed Use Development| Town of Amherst, NY

N
NOT TO SCALE

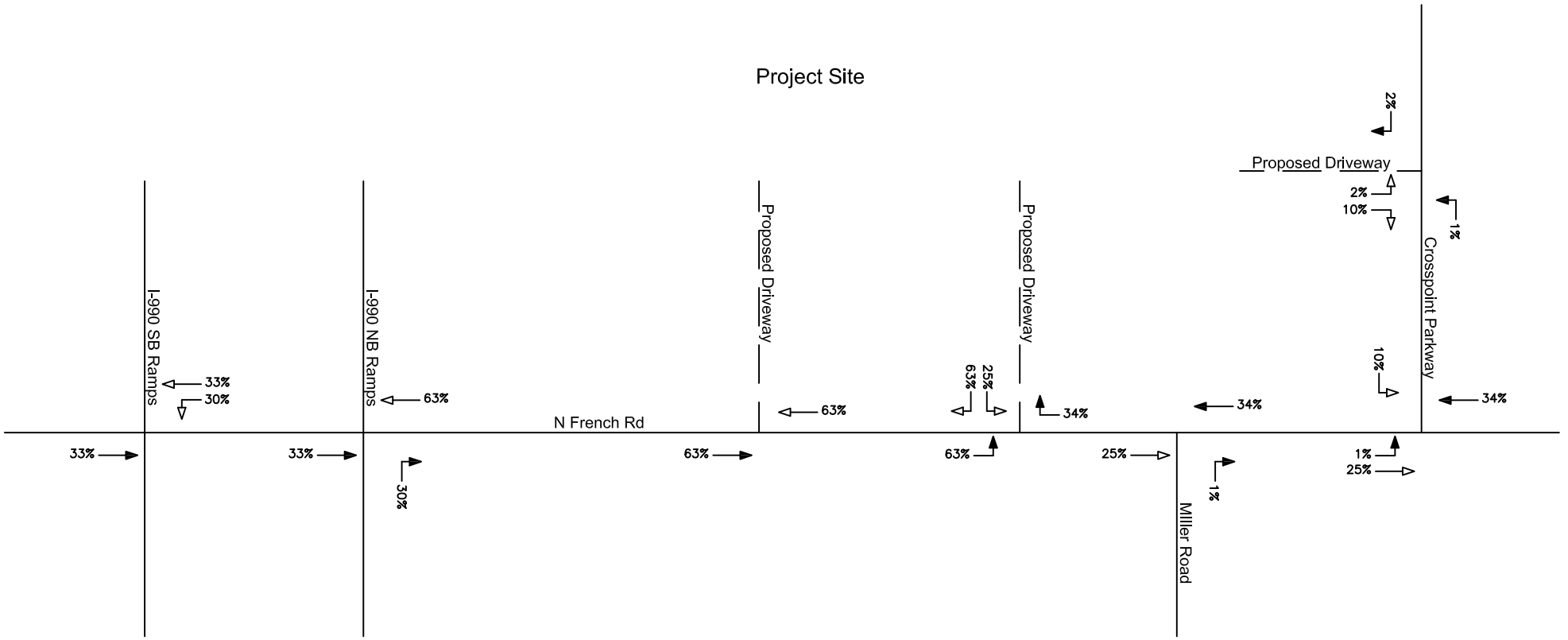
Trip Distribution | RIRO W Driveway, FA E Driveway, FA Crosspoint Driveway

KEY:
00(00) = AM(PM)
→ Entering Trip

Project Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Figure 5C

PASSERO engineering architecture



N French Road Mixed Use Development| Town of Amherst, NY

Trip Distribution | E Dwy FA, W Dwy Gated, FA Crosspoint Dwy

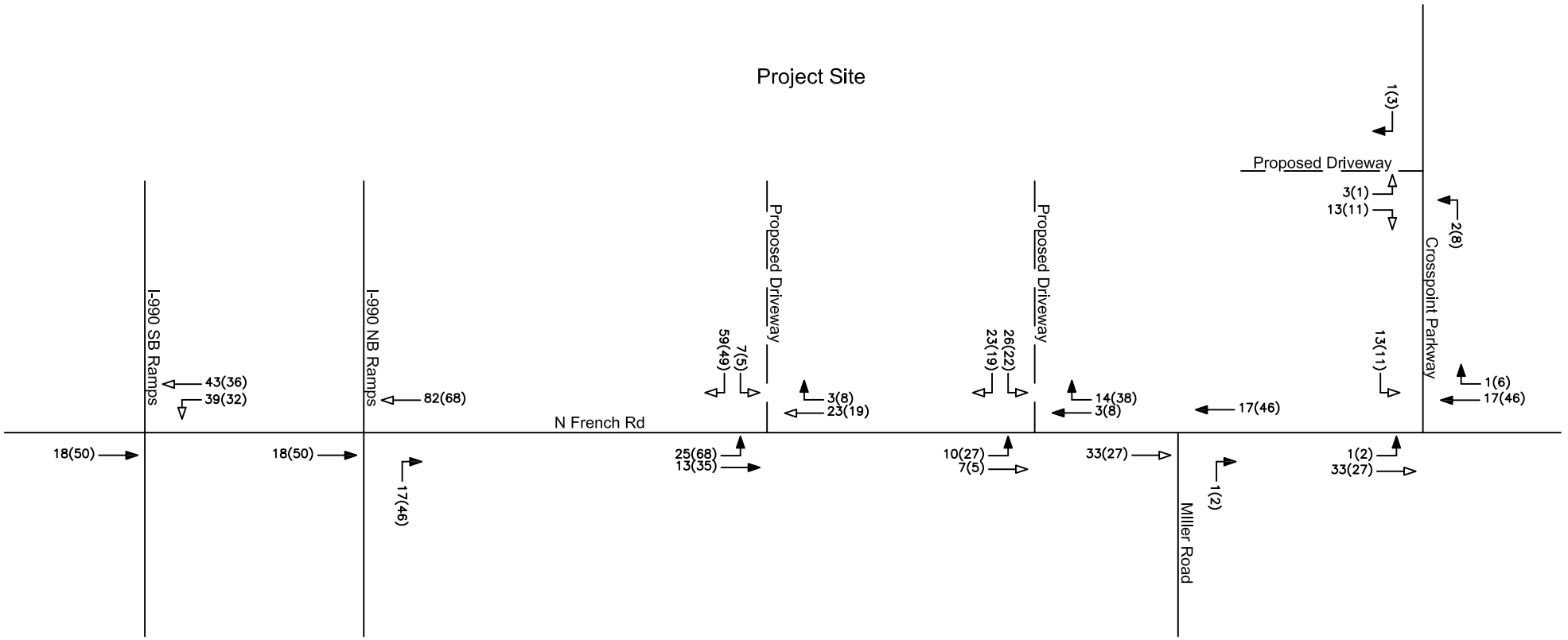
N
NOT TO SCALE

KEY:
00(00) = AM(PM)
→ Entering Trip

Project Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Figure 6A

PASSERO engineering architecture



N French Road Mixed Use Development| Town of Amherst, NY

N
NOT TO SCALE

Site Generated Trips | Full Access At All Three Driveways

KEY:
00(00) = AM(PM)
→ Entering Trip

Packet Pg. 1565

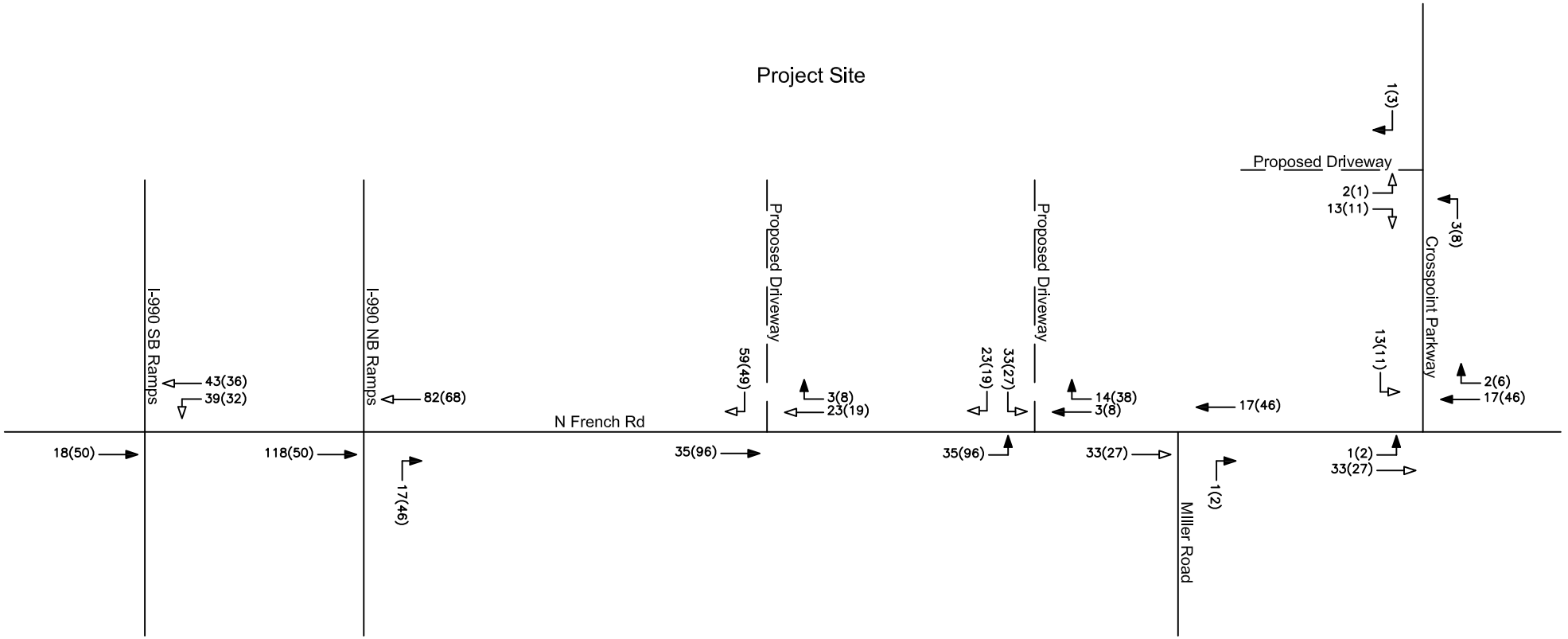
4.a

Project Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

:cess

Figure 6B

PASSERO engineering architecture



N French Road Mixed Use Development| Town of Amherst, NY

N
NOT TO SCALE

Site Generated Trips | RIRO W Driveway, FA E Driveway, FA Crosspoint Driveway

KEY:
00(00) = AM(PM)
→ Entering Trip

Packet Pg. 1566

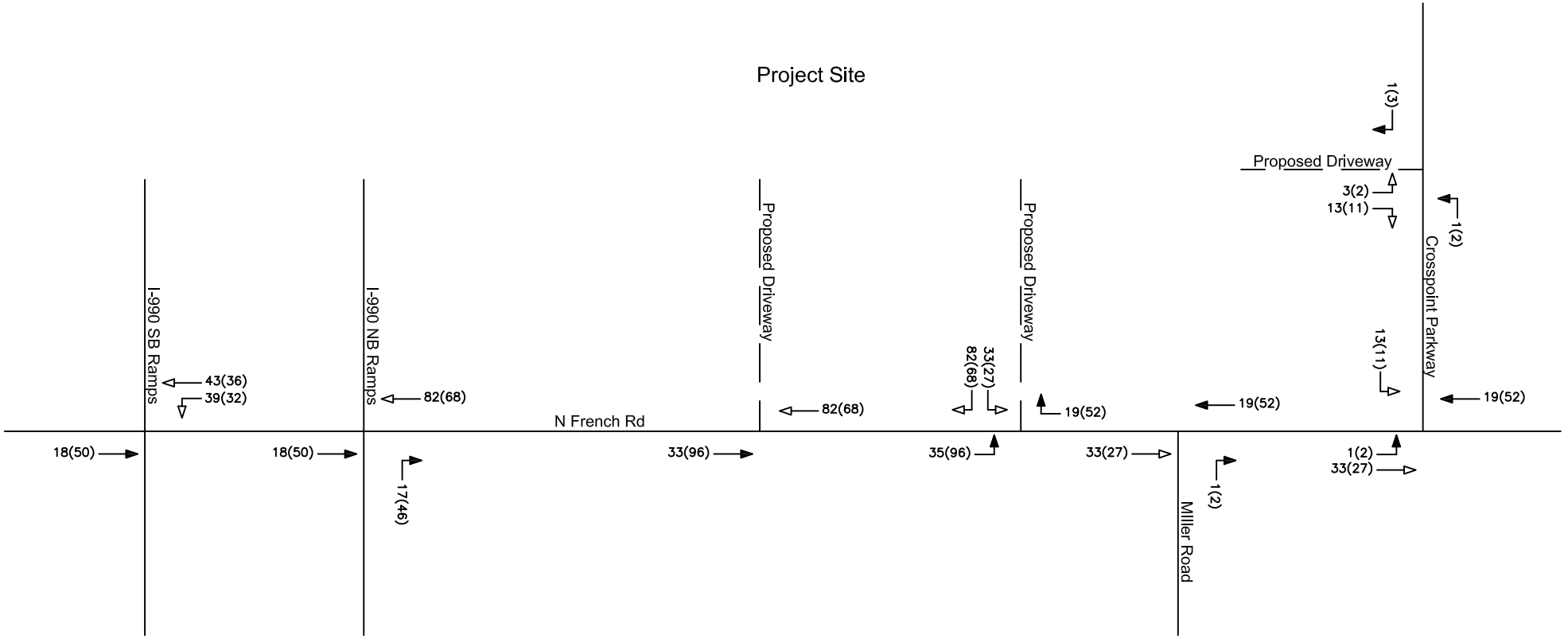
4.a

Project Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

:cess

Figure 6C

PASSERO engineering architecture



N French Road Mixed Use Development| Town of Amherst, NY

N
NOT TO SCALE

Site Generated Trips | E Dwy FA, W Dwy Gated, FA Crosspoint Dwy

KEY:
00(00) = AM(PM)
→ Entering Trip

Packet Pg. 1567

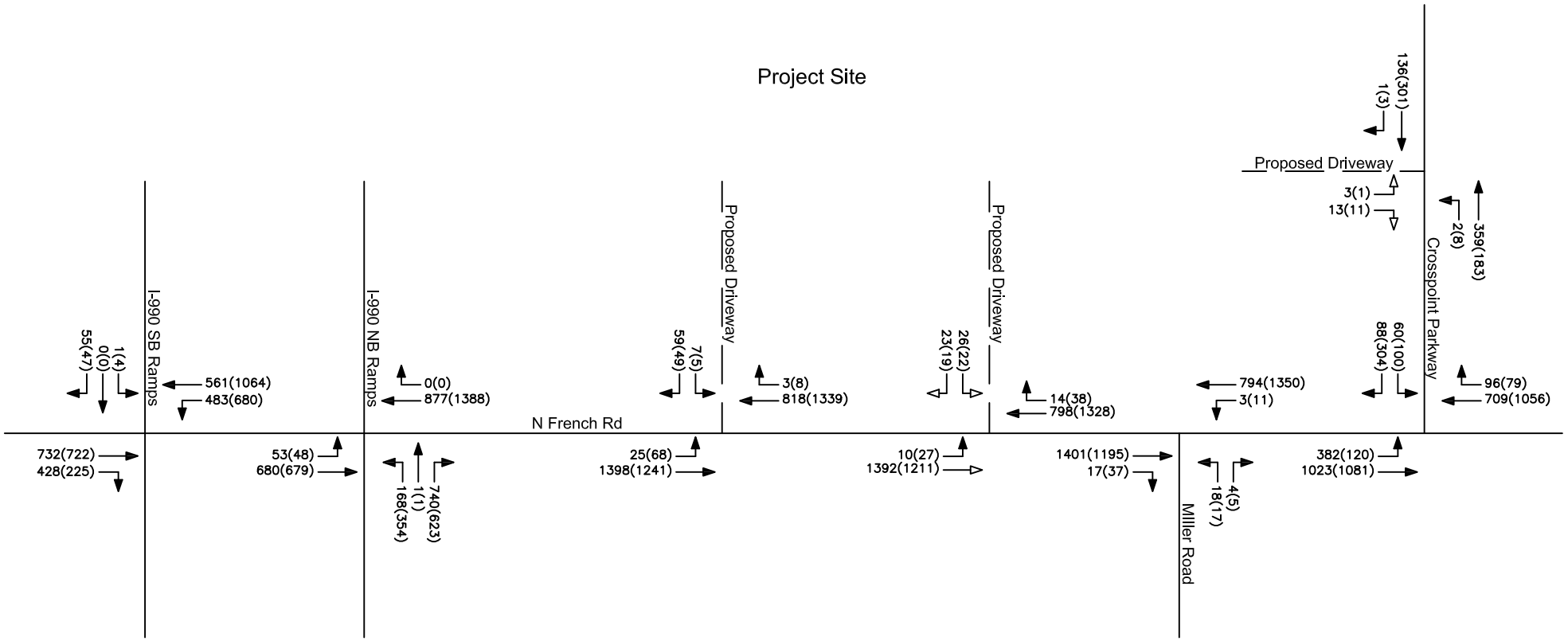
4.a

Project Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

:cess

Figure 7A

PASSERO engineering architecture



N French Road Mixed Use Development| Town of Amherst, NY

N
NOT TO SCALE

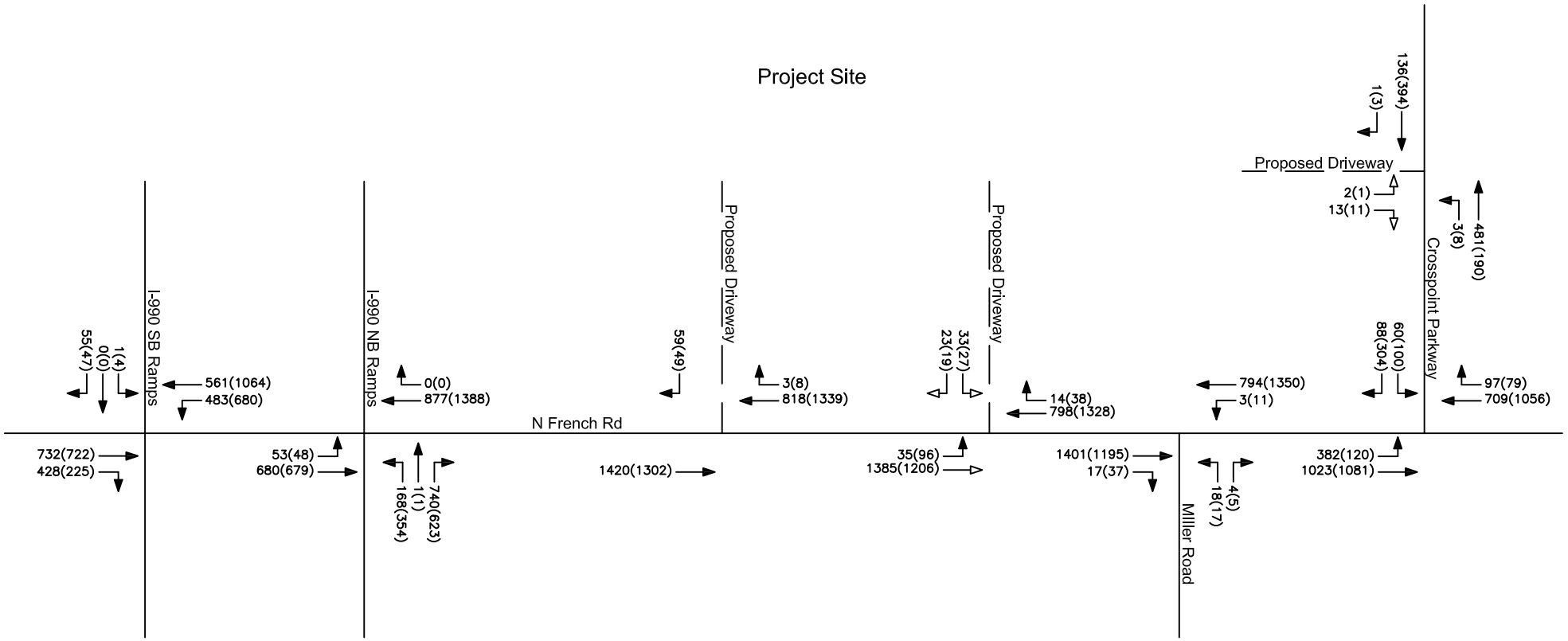
Peak Hour Volumes
Full Development Conditions | Full Access At All Three Driveways

KEY:
00(00) = AM(PM)
– – – Proposed Access

Project **Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)**

Figure 7B

PASSERO engineering architecture



N French Road Mixed Use Development| Town of Amherst, NY

N
NOT TO SCALE

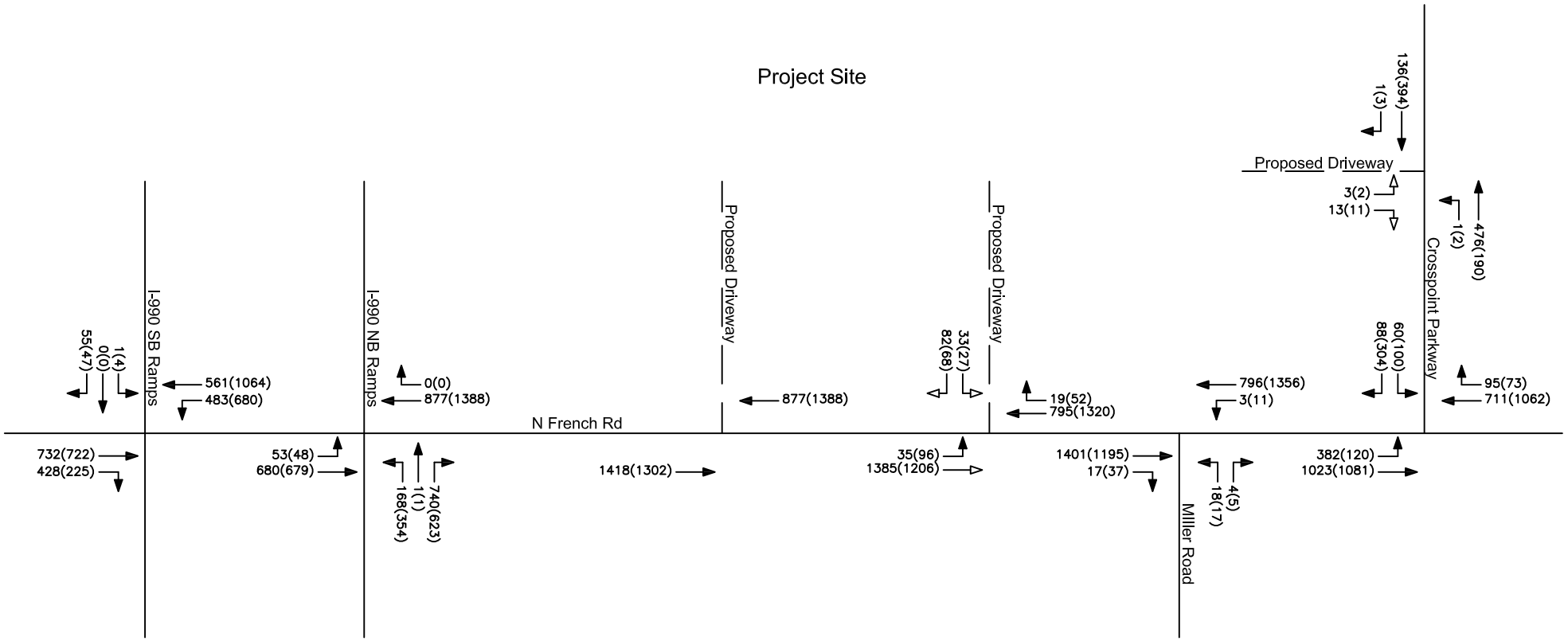
Peak Hour Volumes
Full Development Conditions | RIRO W Driveway, FA E Driveway, FA Crosspoint Drivewav

KEY:
00(00) = AM(PM)
– – – Proposed Access

Project Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Figure 7C

PASSERO engineering architecture



N French Road Mixed Use Development| Town of Amherst, NY

N
NOT TO SCALE

Peak Hour Volumes
Full Development Conditions | E Dwy FA, W Dwy Gated, FA Crosspoint Dwy

KEY:
00(00) = AM(PM)
– – – Proposed Access

Project Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

APPENDICES

APPENDIX A: EXISTING TRAFFIC COUNT DATA

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 NB Ramps / French Rd - TMC

Tue Jul 26, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974743, Location: 43.034807, -78.759085

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	I990 NB Ramps Southbound						French Rd Westbound					
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*
2022-07-26 7:00AM	0	0	0	0	**0**	0	0	120	0	0	**120**	0
7:15AM	0	0	0	0	**0**	0	0	134	0	0	**134**	0
7:30AM	0	0	0	0	**0**	0	0	158	0	0	**158**	0
7:45AM	0	0	0	0	**0**	0	0	176	0	0	**176**	0
Hourly Total	0	0	0	0	**0**	0	0	588	0	0	**588**	0
8:00AM	0	0	0	0	**0**	0	0	166	0	0	**166**	0
8:15AM	0	0	0	0	**0**	0	0	164	0	0	**164**	0
8:30AM	0	0	0	0	**0**	1	0	159	0	0	**159**	0
8:45AM	0	0	0	0	**0**	0	0	144	0	0	**144**	0
Hourly Total	0	0	0	0	**0**	1	0	633	0	0	**633**	0
9:00AM	0	0	0	0	**0**	0	0	0	0	0	**0**	0
Hourly Total	0	0	0	0	**0**	0	0	0	0	0	**0**	0
4:00PM	0	0	0	0	**0**	0	0	206	0	0	**206**	0
4:15PM	0	0	0	0	**0**	0	0	199	0	0	**199**	0
4:30PM	0	0	0	0	**0**	0	0	260	0	0	**260**	0
4:45PM	0	0	0	0	**0**	0	0	195	0	0	**195**	0
Hourly Total	0	0	0	0	**0**	0	0	860	0	0	**860**	0
5:00PM	0	0	0	0	**0**	0	0	325	0	0	**325**	0
5:15PM	0	0	0	0	**0**	0	0	220	0	0	**220**	0
5:30PM	0	0	0	0	**0**	0	0	226	0	0	**226**	0
5:45PM	0	0	0	0	**0**	0	0	173	0	0	**173**	0
Hourly Total	0	0	0	0	**0**	0	0	944	0	0	**944**	0
Total	0	0	0	0	**0**	1	0	3025	0	0	**3025**	0
% Approach	0%	0%	0%	0%	**-**	-	0%	100%	0%	0%	**-**	-
% Total	0%	0%	0%	0%	**0%**	-	0%	38.5%	0%	0%	**38.5%**	-
Motorcycles	0	0	0	0	**0**	-	0	4	0	0	**4**	-
% Motorcycles	0%	0%	0%	0%	**-**	-	0%	0.1%	0%	0%	**0.1%**	-
Lights	0	0	0	0	**0**	-	0	2949	0	0	**2949**	-
% Lights	0%	0%	0%	0%	**-**	-	0%	97.5%	0%	0%	**97.5%**	-
Heavy	0	0	0	0	**0**	-	0	72	0	0	**72**	-
% Heavy	0%	0%	0%	0%	**-**	-	0%	2.4%	0%	0%	**2.4%**	-
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 NB Ramps / French Rd - TMC

Tue Jul 26, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974743, Location: 43.034807, -78.759085

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

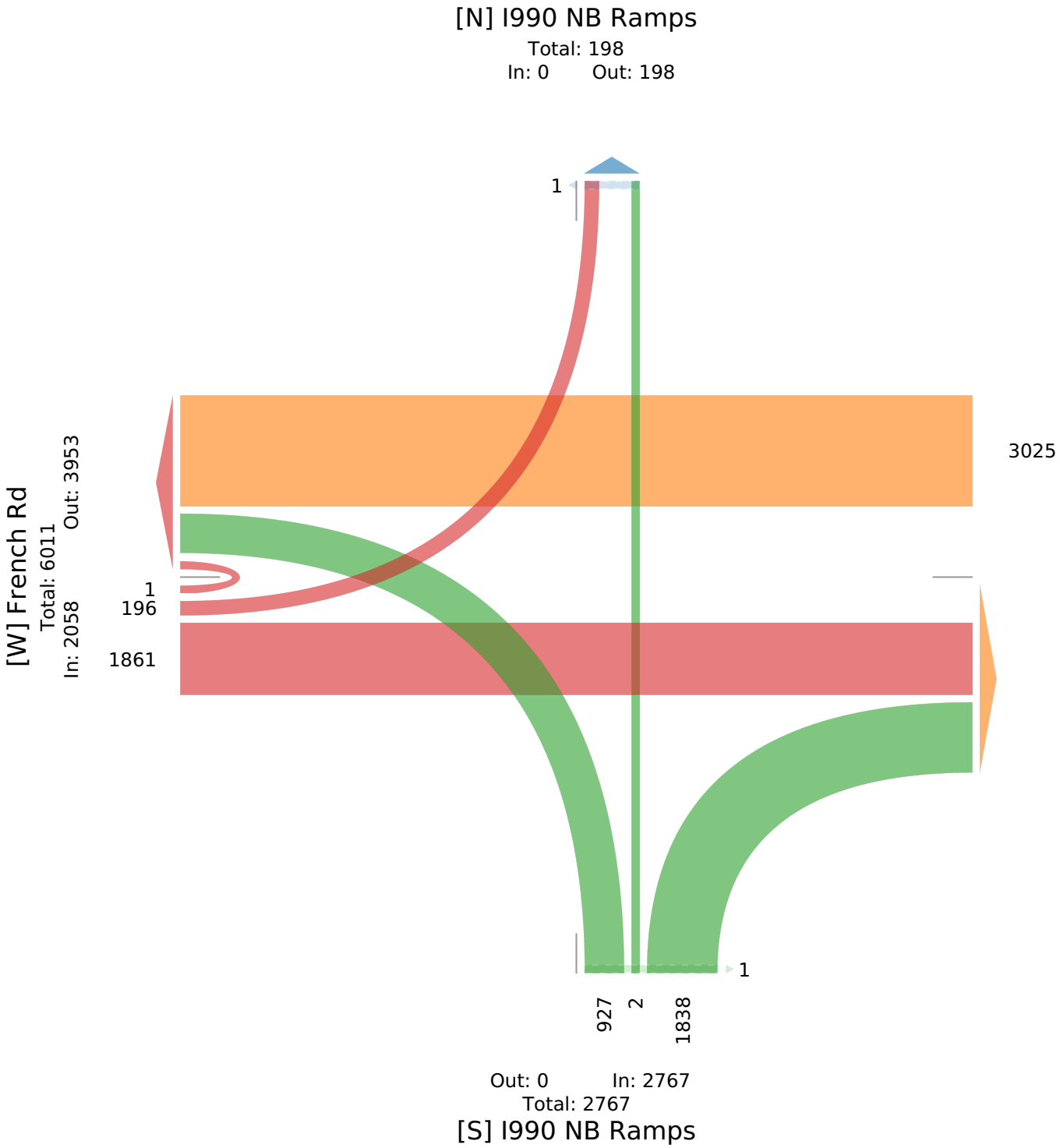
Leg	I990 NB Ramps							French Rd							
Direction	Northbound							Eastbound							
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	RR	App	Ped*	Int
2022-07-26 7:00AM	13	0	27	0	40	**80**	0	0	62	8	0	0	**70**	0	**270**
7:15AM	66	0	38	0	46	**150**	0	0	97	18	0	0	**115**	0	**399**
7:30AM	60	0	30	0	60	**150**	0	0	97	10	0	0	**107**	0	**415**
7:45AM	115	0	41	0	50	**206**	0	0	110	8	0	0	**118**	0	**500**
Hourly Total	254	0	136	0	196	**586**	0	0	366	44	0	0	**410**	0	**1584**
8:00AM	58	0	42	0	49	**149**	1	0	105	7	0	0	**112**	0	**427**
8:15AM	95	0	43	0	45	**183**	0	0	133	17	0	0	**150**	0	**497**
8:30AM	58	1	30	0	51	**140**	0	0	130	17	0	0	**147**	0	**446**
8:45AM	70	0	39	0	38	**147**	0	0	131	12	0	0	**143**	0	**434**
Hourly Total	281	1	154	0	183	**619**	1	0	499	53	0	0	**552**	0	**1804**
9:00AM	0	0	0	0	0	**0**	0	0	1	0	0	0	**1**	0	**1**
Hourly Total	0	0	0	0	0	**0**	0	0	1	0	0	0	**1**	0	**1**
4:00PM	47	0	79	0	53	**179**	0	0	120	27	0	0	**147**	0	**532**
4:15PM	66	0	80	0	55	**201**	0	0	110	10	0	0	**120**	0	**520**
4:30PM	75	0	92	0	58	**225**	0	0	142	12	0	0	**154**	0	**639**
4:45PM	76	1	76	0	51	**204**	0	0	116	15	0	0	**131**	0	**530**
Hourly Total	264	1	327	0	217	**809**	0	0	488	64	0	0	**552**	0	**2221**
5:00PM	57	0	77	0	52	**186**	0	0	130	7	0	0	**137**	0	**648**
5:15PM	59	0	84	0	61	**204**	0	0	145	10	0	0	**155**	0	**579**
5:30PM	58	0	81	0	49	**188**	0	0	116	9	1	0	**126**	0	**540**
5:45PM	62	0	68	0	45	**175**	0	0	116	9	0	0	**125**	0	**473**
Hourly Total	236	0	310	0	207	**753**	0	0	507	35	1	0	**543**	0	**2240**
Total	1035	2	927	0	803	**2767**	1	0	1861	196	1	0	**2058**	0	**7850**
% Approach	37.4%	0.1%	33.5%	0%	29.0%	**-**	-	0%	90.4%	9.5%	0%	0%	**-**	-	-
% Total	13.2%	0%	11.8%	0%	10.2%	**35.2%**	-	0%	23.7%	2.5%	0%	0%	**26.2%**	-	-
Motorcycles	0	1	4	0	2	**7**	-	0	9	0	0	0	**9**	-	20
% Motorcycles	0%	50.0%	0.4%	0%	0.2%	**0.3%**	-	0%	0.5%	0%	0%	0%	**0.4%**	-	0.3%
Lights	1004	1	864	0	787	**2656**	-	0	1814	194	1	0	**2009**	-	7614
% Lights	97.0%	50.0%	93.2%	0%	98.0%	**96.0%**	-	0%	97.5%	99.0%	100%	0%	**97.6%**	-	97.0%
Heavy	31	0	59	0	14	**104**	-	0	38	2	0	0	**40**	-	216
% Heavy	3.0%	0%	6.4%	0%	1.7%	**3.8%**	-	0%	2.0%	1.0%	0%	0%	**1.9%**	-	2.8%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	1	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 NB Ramps / French Rd - TMC
Tue Jul 26, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974743, Location: 43.034807, -78.759085

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 NB Ramps / French Rd - TMC

Tue Jul 26, 2022
AM Peak (7:45 AM - 8:45 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974743, Location: 43.034807, -78.759085

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	I990 NB Ramps Southbound						French Rd Westbound					
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*
2022-07-26 7:45AM	0	0	0	0	**0**	0	0	176	0	0	**176**	0
8:00AM	0	0	0	0	**0**	0	0	166	0	0	**166**	0
8:15AM	0	0	0	0	**0**	0	0	164	0	0	**164**	0
8:30AM	0	0	0	0	**0**	1	0	159	0	0	**159**	0
Total	0	0	0	0	**0**	1	0	665	0	0	**665**	0
% Approach	0%	0%	0%	0%	**-**	-	0%	100%	0%	0%	**-**	-
% Total	0%	0%	0%	0%	**0%**	-	0%	35.6%	0%	0%	**35.6%**	-
PHF	-	-	-	-	**-**	-	-	0.945	-	-	**0.945**	-
Motorcycles	0	0	0	0	**0**	-	0	0	0	0	**0**	-
% Motorcycles	0%	0%	0%	0%	**-**	-	0%	0%	0%	0%	**0%**	-
Lights	0	0	0	0	**0**	-	0	643	0	0	**643**	-
% Lights	0%	0%	0%	0%	**-**	-	0%	96.7%	0%	0%	**96.7%**	-
Heavy	0	0	0	0	**0**	-	0	22	0	0	**22**	-
% Heavy	0%	0%	0%	0%	**-**	-	0%	3.3%	0%	0%	**3.3%**	-
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 NB Ramps / French Rd - TMC

Tue Jul 26, 2022
AM Peak (7:45 AM - 8:45 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974743, Location: 43.034807, -78.759085

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

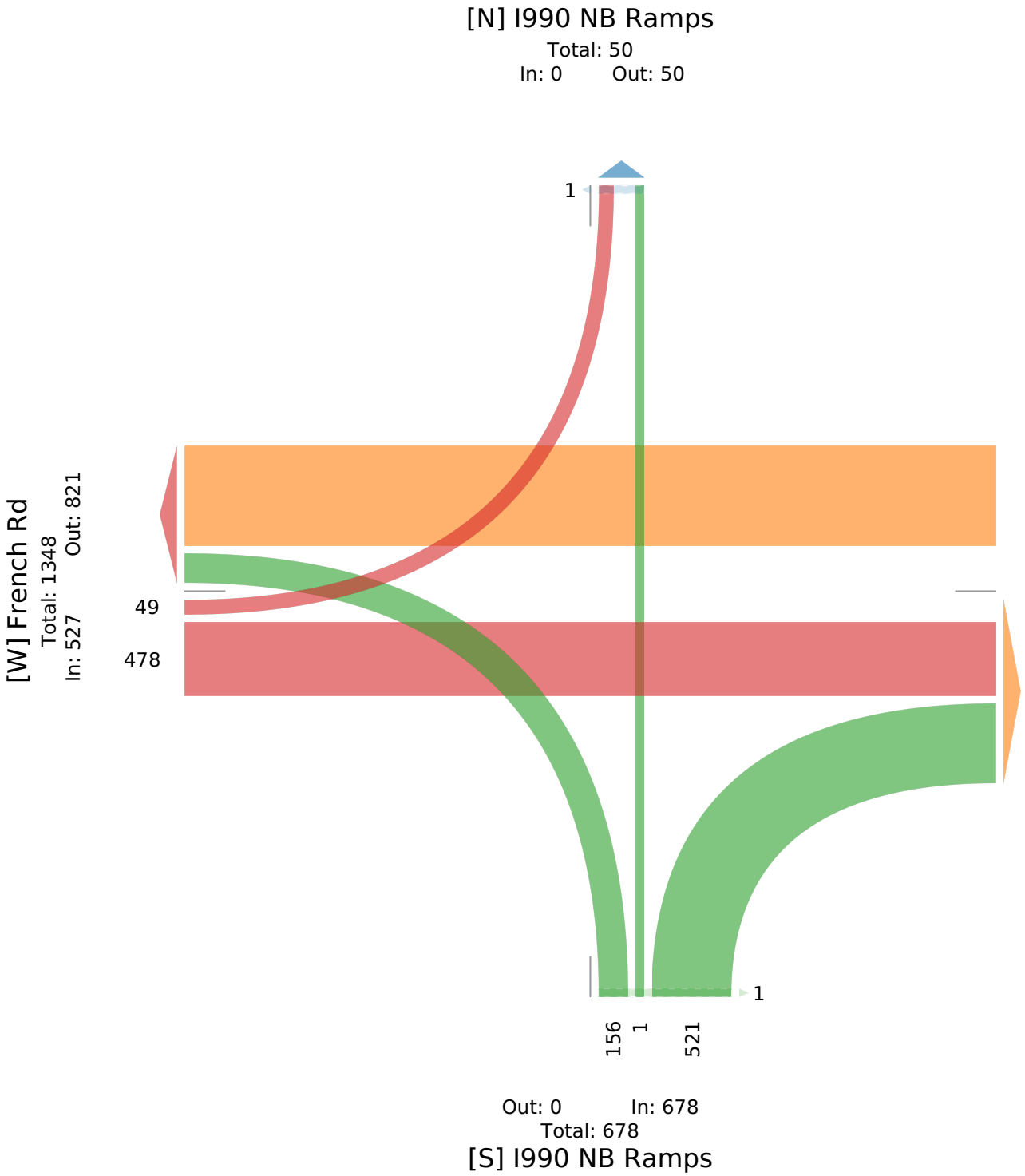
Leg Direction	I990 NB Ramps Northbound							French Rd Eastbound							
Time	R	T	L	U	RR	**App**	Ped*	R	T	L	U	RR	**App**	Ped*	**Int**
2022-07-26 7:45AM	115	0	41	0	50	**206**	0	0	110	8	0	0	**118**	0	**500**
8:00AM	58	0	42	0	49	**149**	1	0	105	7	0	0	**112**	0	**427**
8:15AM	95	0	43	0	45	**183**	0	0	133	17	0	0	**150**	0	**497**
8:30AM	58	1	30	0	51	**140**	0	0	130	17	0	0	**147**	0	**446**
Total	326	1	156	0	195	**678**	1	0	478	49	0	0	**527**	0	**1870**
% Approach	48.1%	0.1%	23.0%	0%	28.8%	**-**	-	0%	90.7%	9.3%	0%	0%	**-**	-	-
% Total	17.4%	0.1%	8.3%	0%	10.4%	**36.3%**	-	0%	25.6%	2.6%	0%	0%	**28.2%**	-	-
PHF	0.709	0.250	0.907	-	0.956	**0.823**	-	-	0.898	0.721	-	-	**0.878**	-	0.935
Motorcycles	0	0	0	0	1	**1**	-	0	2	0	0	0	**2**	-	3
% Motorcycles	0%	0%	0%	0%	0.5%	**0.1%**	-	0%	0.4%	0%	0%	0%	**0.4%**	-	0.2%
Lights	309	1	129	0	188	**627**	-	0	457	47	0	0	**504**	-	1774
% Lights	94.8%	100%	82.7%	0%	96.4%	**92.5%**	-	0%	95.6%	95.9%	0%	0%	**95.6%**	-	94.9%
Heavy	17	0	27	0	6	**50**	-	0	19	2	0	0	**21**	-	93
% Heavy	5.2%	0%	17.3%	0%	3.1%	**7.4%**	-	0%	4.0%	4.1%	0%	0%	**4.0%**	-	5.0%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	1	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 NB Ramps / French Rd - TMC
Tue Jul 26, 2022
AM Peak (7:45 AM - 8:45 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974743, Location: 43.034807, -78.759085

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 NB Ramps / French Rd - TMC

Tue Jul 26, 2022
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974743, Location: 43.034807, -78.759085

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	I990 NB Ramps Southbound						French Rd Westbound					
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*
2022-07-26 4:30PM	0	0	0	0	**0**	0	0	260	0	0	**260**	0
4:45PM	0	0	0	0	**0**	0	0	195	0	0	**195**	0
5:00PM	0	0	0	0	**0**	0	0	325	0	0	**325**	0
5:15PM	0	0	0	0	**0**	0	0	220	0	0	**220**	0
Total	0	0	0	0	**0**	0	0	1000	0	0	**1000**	0
% Approach	0%	0%	0%	0%	**-**	-	0%	100%	0%	0%	**-**	-
% Total	0%	0%	0%	0%	**0%**	-	0%	41.7%	0%	0%	**41.7%**	-
PHF	-	-	-	-	**-**	-	-	0.769	-	-	**0.769**	-
Motorcycles	0	0	0	0	**0**	-	0	3	0	0	**3**	-
% Motorcycles	0%	0%	0%	0%	**-**	-	0%	0.3%	0%	0%	**0.3%**	-
Lights	0	0	0	0	**0**	-	0	989	0	0	**989**	-
% Lights	0%	0%	0%	0%	**-**	-	0%	98.9%	0%	0%	**98.9%**	-
Heavy	0	0	0	0	**0**	-	0	8	0	0	**8**	-
% Heavy	0%	0%	0%	0%	**-**	-	0%	0.8%	0%	0%	**0.8%**	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 NB Ramps / French Rd - TMC

Tue Jul 26, 2022
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974743, Location: 43.034807, -78.759085

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg / Direction	I990 NB Ramps Northbound							French Rd Eastbound							
Time	R	T	L	U	RR	**App**	Ped*	R	T	L	U	RR	**App**	Ped*	**Int**
2022-07-26 4:30PM	75	0	92	0	58	**225**	0	0	142	12	0	0	**154**	0	**639**
4:45PM	76	1	76	0	51	**204**	0	0	116	15	0	0	**131**	0	**530**
5:00PM	57	0	77	0	52	**186**	0	0	130	7	0	0	**137**	0	**648**
5:15PM	59	0	84	0	61	**204**	0	0	145	10	0	0	**155**	0	**579**
Total	267	1	329	0	222	**819**	0	0	533	44	0	0	**577**	0	**2396**
% Approach	32.6%	0.1%	40.2%	0%	27.1%	**-**	-	0%	92.4%	7.6%	0%	0%	**-**	-	-
% Total	11.1%	0%	13.7%	0%	9.3%	**34.2%**	-	0%	22.2%	1.8%	0%	0%	**24.1%**	-	-
PHF	0.878	0.250	0.894	-	0.910	**0.910**	-	-	0.919	0.733	-	-	**0.931**	-	0.924
Motorcycles	0	1	4	0	0	**5**	-	0	4	0	0	0	**4**	-	12
% Motorcycles	0%	100%	1.2%	0%	0%	**0.6%**	-	0%	0.8%	0%	0%	0%	**0.7%**	-	0.5%
Lights	261	0	319	0	221	**801**	-	0	527	44	0	0	**571**	-	2361
% Lights	97.8%	0%	97.0%	0%	99.5%	**97.8%**	-	0%	98.9%	100%	0%	0%	**99.0%**	-	98.5%
Heavy	6	0	6	0	1	**13**	-	0	2	0	0	0	**2**	-	23
% Heavy	2.2%	0%	1.8%	0%	0.5%	**1.6%**	-	0%	0.4%	0%	0%	0%	**0.3%**	-	1.0%
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

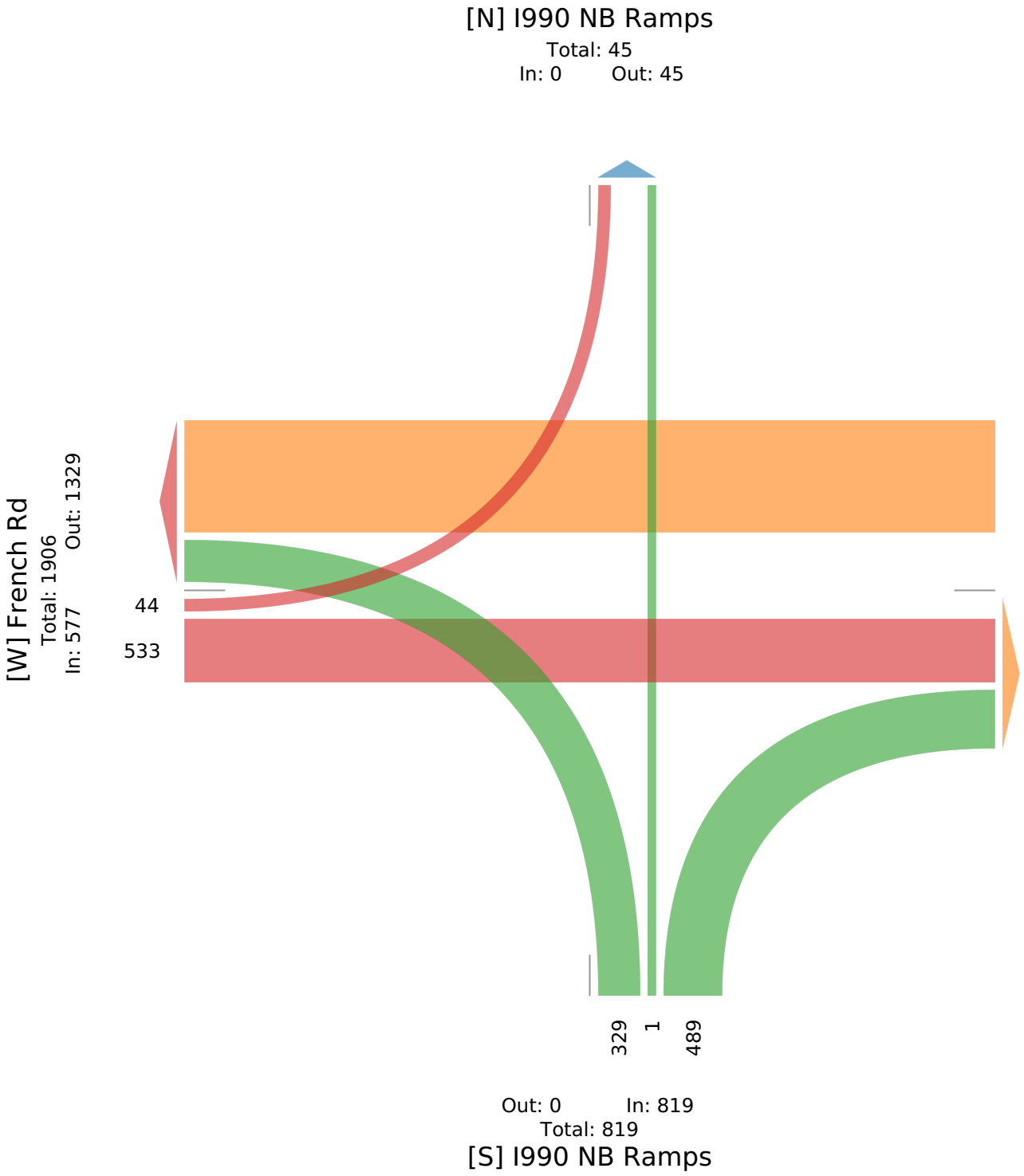
*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 NB Ramps / French Rd - TMC

Tue Jul 26, 2022
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974743, Location: 43.034807, -78.759085

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 SB Ramps / N French Rd - TMC

Tue Jul 26, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974742, Location: 43.034796, -78.760736

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg	I990 SB Ramps							N French Rd					
Direction	Southbound							Westbound					
Time	R	T	L	U	RR	App	Ped*	R	T	L	U	App	Ped*
2022-07-26 7:00AM	3	0	0	0	3	**6**	0	0	72	73	0	**145**	0
7:15AM	5	0	2	0	7	**14**	0	0	95	77	0	**172**	0
7:30AM	3	0	0	0	13	**16**	0	0	104	89	0	**193**	0
7:45AM	7	0	1	0	2	**10**	0	0	128	90	0	**218**	0
Hourly Total	18	0	3	0	25	**46**	0	0	399	329	0	**728**	0
8:00AM	3	0	0	0	7	**10**	0	0	108	94	0	**202**	0
8:15AM	9	0	0	0	8	**17**	0	0	103	112	0	**215**	0
8:30AM	8	0	0	0	7	**15**	1	0	110	89	0	**199**	0
8:45AM	5	0	0	0	9	**14**	0	0	117	71	0	**188**	0
Hourly Total	25	0	0	0	31	**56**	1	0	438	366	0	**804**	0
4:00PM	2	0	2	0	5	**9**	0	0	165	120	0	**285**	0
4:15PM	5	0	2	0	6	**13**	0	0	221	77	0	**298**	0
4:30PM	5	0	1	0	7	**13**	0	0	217	152	0	**369**	0
4:45PM	0	0	3	0	9	**12**	0	0	195	81	0	**276**	0
Hourly Total	12	0	8	0	27	**47**	0	0	798	430	0	**1228**	0
5:00PM	0	0	0	0	11	**11**	0	0	226	186	0	**412**	0
5:15PM	3	0	0	0	8	**11**	0	0	202	110	0	**312**	0
5:30PM	5	0	0	0	9	**14**	0	0	197	107	0	**304**	0
5:45PM	4	0	0	0	2	**6**	0	0	161	85	0	**246**	0
Hourly Total	12	0	0	0	30	**42**	0	0	786	488	0	**1274**	0
6:00PM	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0
Hourly Total	0	0	0	0	0	**0**	0	0	0	0	0	**0**	0
Total	67	0	11	0	113	**191**	1	0	2421	1613	0	**4034**	0
% Approach	35.1%	0%	5.8%	0%	59.2%	**-**	-	0%	60.0%	40.0%	0%	**-**	-
% Total	0.9%	0%	0.2%	0%	1.5%	**2.6%**	-	0%	33.1%	22.0%	0%	**55.1%**	-
Motorcycles	0	0	0	0	0	**0**	-	0	6	3	0	**9**	-
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0.2%	0.2%	0%	**0.2%**	-
Lights	64	0	10	0	111	**185**	-	0	2306	1563	0	**3869**	-
% Lights	95.5%	0%	90.9%	0%	98.2%	**96.9%**	-	0%	95.2%	96.9%	0%	**95.9%**	-
Heavy	3	0	1	0	2	**6**	-	0	109	47	0	**156**	-
% Heavy	4.5%	0%	9.1%	0%	1.8%	**3.1%**	-	0%	4.5%	2.9%	0%	**3.9%**	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	0%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	1	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	100%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 SB Ramps / N French Rd - TMC

Tue Jul 26, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974742, Location: 43.034796, -78.760736

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg	I990 SB Ramps						N French Rd							
Direction	Northbound						Eastbound							
Time	R	T	L	U	App	Ped*	R	T	L	U	RR	App	Ped*	Int
2022-07-26 7:00AM	0	0	0	0	**0**	0	66	67	0	0	21	**154**	0	**305**
7:15AM	0	0	0	0	**0**	0	67	97	0	0	36	**200**	0	**386**
7:30AM	0	0	0	0	**0**	0	94	107	0	0	16	**217**	0	**426**
7:45AM	0	0	0	0	**0**	0	31	115	0	0	64	**210**	0	**438**
Hourly Total	0	0	0	0	**0**	0	258	386	0	0	137	**781**	0	**1555**
8:00AM	0	0	0	0	**0**	0	49	111	0	0	42	**202**	0	**414**
8:15AM	0	0	0	0	**0**	0	71	138	0	0	32	**241**	0	**473**
8:30AM	0	0	0	0	**0**	0	70	124	0	0	38	**232**	0	**446**
8:45AM	0	0	0	0	**0**	0	14	133	0	0	48	**195**	0	**397**
Hourly Total	0	0	0	0	**0**	0	204	506	0	0	160	**870**	0	**1730**
4:00PM	0	0	0	0	**0**	0	18	129	0	0	30	**177**	0	**471**
4:15PM	0	0	0	0	**0**	0	14	131	0	0	26	**171**	0	**482**
4:30PM	0	0	0	0	**0**	0	25	133	0	0	21	**179**	0	**561**
4:45PM	0	0	0	0	**0**	0	25	132	0	0	19	**176**	0	**464**
Hourly Total	0	0	0	0	**0**	0	82	525	0	0	96	**703**	0	**1978**
5:00PM	0	0	0	0	**0**	0	25	137	0	0	26	**188**	0	**611**
5:15PM	0	0	0	0	**0**	0	29	145	0	0	39	**213**	0	**536**
5:30PM	0	0	0	0	**0**	0	27	131	0	0	27	**185**	0	**503**
5:45PM	0	0	0	0	**0**	0	11	117	0	0	32	**160**	0	**412**
Hourly Total	0	0	0	0	**0**	0	92	530	0	0	124	**746**	0	**2062**
6:00PM	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	**0**
Hourly Total	0	0	0	0	**0**	0	0	0	0	0	0	**0**	0	**0**
Total	0	0	0	0	**0**	0	636	1947	0	0	517	**3100**	0	**7325**
% Approach	0%	0%	0%	0%	**-**	-	20.5%	62.8%	0%	0%	16.7%	**-**	-	-
% Total	0%	0%	0%	0%	**0%**	-	8.7%	26.6%	0%	0%	7.1%	**42.3%**	-	-
Motorcycles	0	0	0	0	**0**	-	0	10	0	0	7	**17**	-	26
% Motorcycles	0%	0%	0%	0%	**-**	-	0%	0.5%	0%	0%	1.4%	**0.5%**	-	0.4%
Lights	0	0	0	0	**0**	-	587	1897	0	0	489	**2973**	-	7027
% Lights	0%	0%	0%	0%	**-**	-	92.3%	97.4%	0%	0%	94.6%	**95.9%**	-	95.9%
Heavy	0	0	0	0	**0**	-	49	40	0	0	21	**110**	-	272
% Heavy	0%	0%	0%	0%	**-**	-	7.7%	2.1%	0%	0%	4.1%	**3.5%**	-	3.7%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

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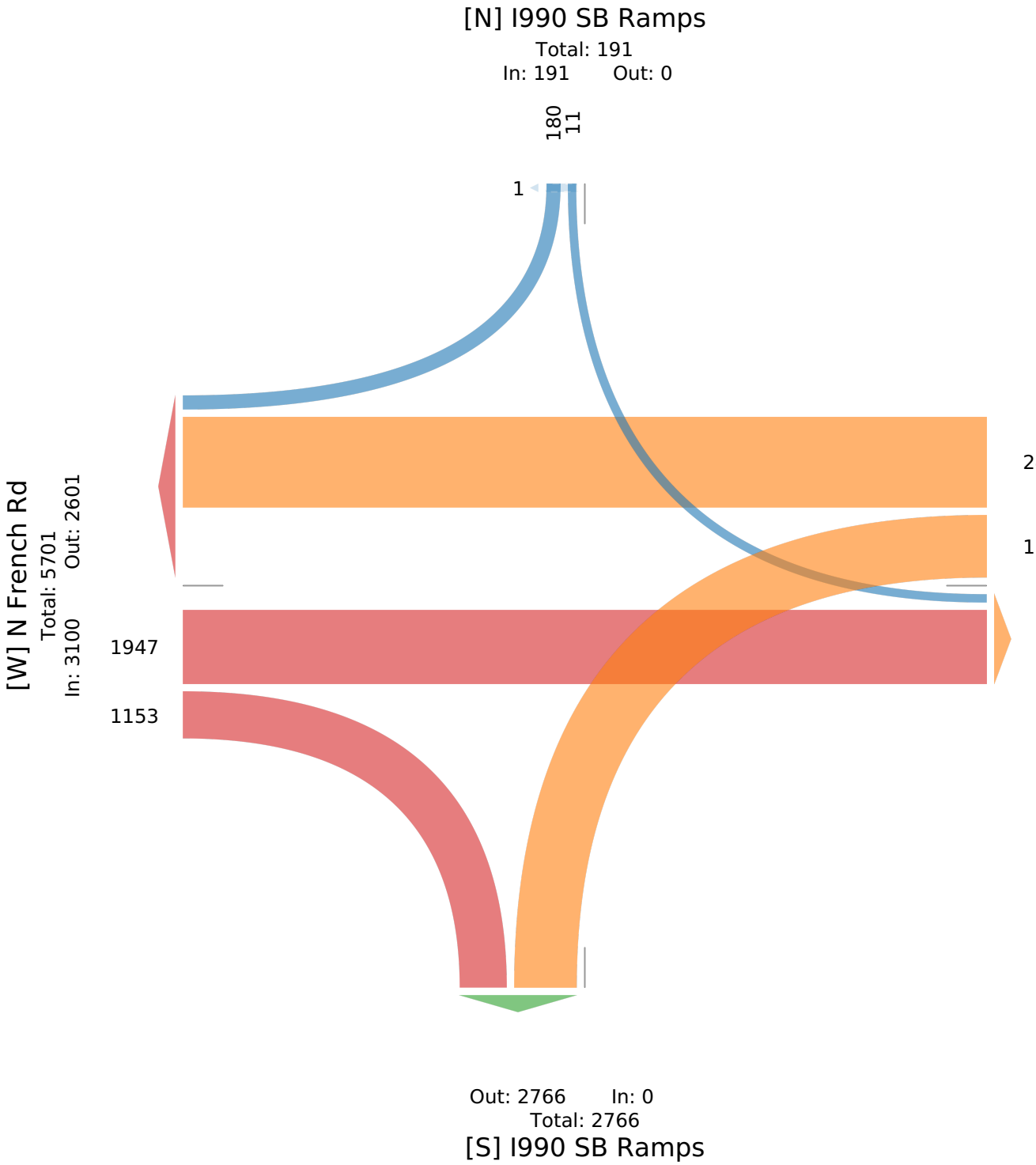
I990 SB Ramps / N French Rd - TMC
Tue Jul 26, 2022
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974742, Location: 43.034796, -78.760736

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 SB Ramps / N French Rd - TMC

Tue Jul 26, 2022
AM Peak (7:45 AM - 8:45 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974742, Location: 43.034796, -78.760736

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	I990 SB Ramps Southbound							N French Rd Westbound					
Time	R	T	L	U	RR	**App**	Ped*	R	T	L	U	**App**	Ped*
2022-07-26 7:45AM	7	0	1	0	2	**10**	0	0	128	90	0	**218**	0
8:00AM	3	0	0	0	7	**10**	0	0	108	94	0	**202**	0
8:15AM	9	0	0	0	8	**17**	0	0	103	112	0	**215**	0
8:30AM	8	0	0	0	7	**15**	1	0	110	89	0	**199**	0
Total	27	0	1	0	24	**52**	1	0	449	385	0	**834**	0
% Approach	51.9%	0%	1.9%	0%	46.2%	**-**	-	0%	53.8%	46.2%	0%	**-**	-
% Total	1.5%	0%	0.1%	0%	1.4%	**2.9%**	-	0%	25.4%	21.7%	0%	**47.1%**	-
PHF	0.750	-	0.250	-	0.750	**0.765**	-	-	0.877	0.859	-	**0.956**	-
Motorcycles	0	0	0	0	0	**0**	-	0	1	0	0	**1**	-
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0.2%	0%	0%	**0.1%**	-
Lights	25	0	1	0	23	**49**	-	0	401	372	0	**773**	-
% Lights	92.6%	0%	100%	0%	95.8%	**94.2%**	-	0%	89.3%	96.6%	0%	**92.7%**	-
Heavy	2	0	0	0	1	**3**	-	0	47	13	0	**60**	-
% Heavy	7.4%	0%	0%	0%	4.2%	**5.8%**	-	0%	10.5%	3.4%	0%	**7.2%**	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	0%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	1	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	100%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 SB Ramps / N French Rd - TMC

Tue Jul 26, 2022
AM Peak (7:45 AM - 8:45 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974742, Location: 43.034796, -78.760736

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

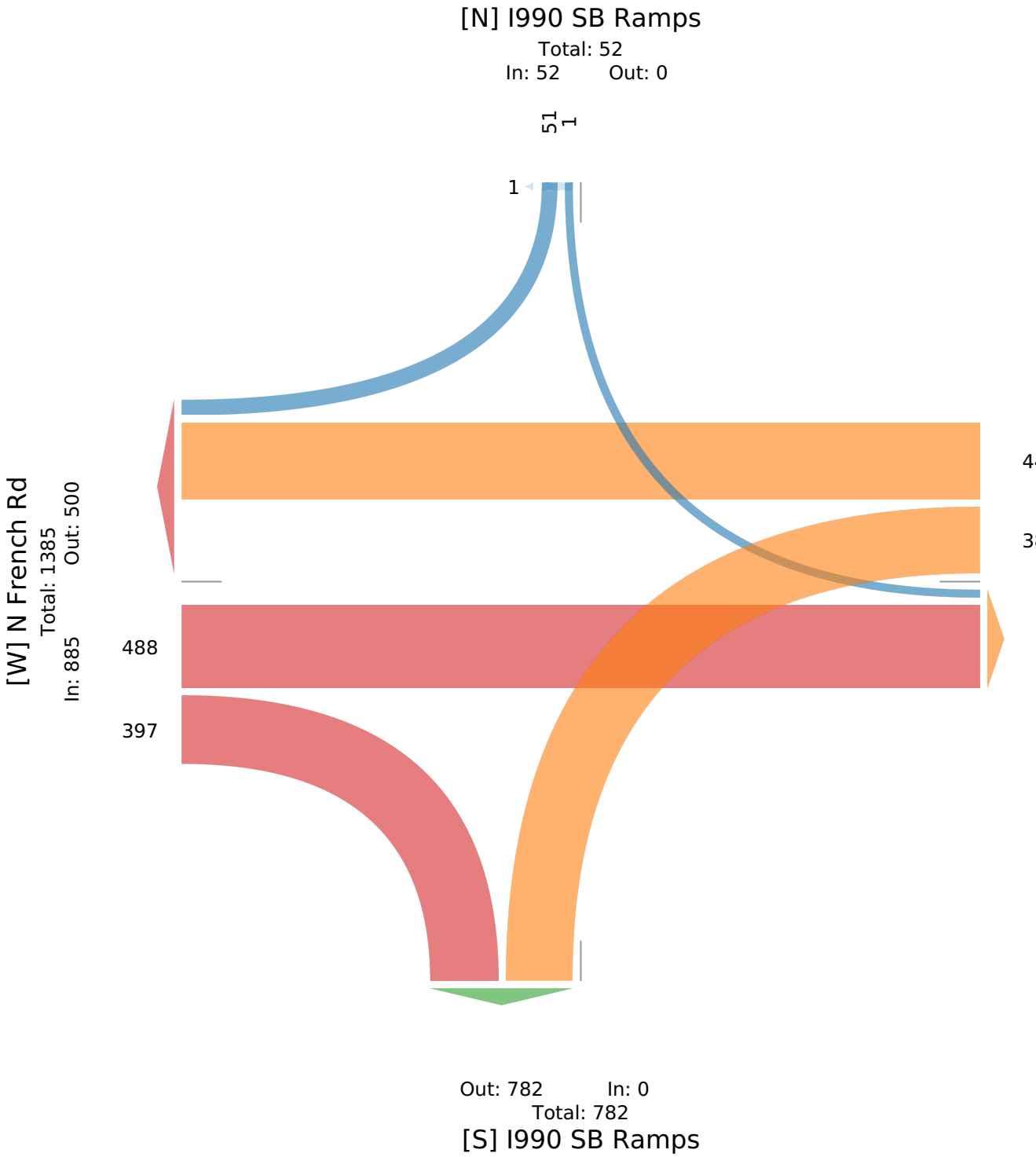
Leg Direction	I990 SB Ramps Northbound						N French Rd Eastbound							
Time	R	T	L	U	**App**	Ped*	R	T	L	U	RR	**App**	Ped*	**Int**
2022-07-26 7:45AM	0	0	0	0	**0**	0	31	115	0	0	64	**210**	0	**438**
8:00AM	0	0	0	0	**0**	0	49	111	0	0	42	**202**	0	**414**
8:15AM	0	0	0	0	**0**	0	71	138	0	0	32	**241**	0	**473**
8:30AM	0	0	0	0	**0**	0	70	124	0	0	38	**232**	0	**446**
Total	0	0	0	0	**0**	0	221	488	0	0	176	**885**	0	**1771**
% Approach	0%	0%	0%	0%	**-**	-	25.0%	55.1%	0%	0%	19.9%	**-**	-	-
% Total	0%	0%	0%	0%	**0%**	-	12.5%	27.6%	0%	0%	9.9%	**50.0%**	-	-
PHF	-	-	-	-	**-**	-	0.778	0.884	-	-	0.688	**0.918**	-	0.936
Motorcycles	0	0	0	0	**0**	-	0	1	0	0	2	**3**	-	4
% Motorcycles	0%	0%	0%	0%	**-**	-	0%	0.2%	0%	0%	1.1%	**0.3%**	-	0.2%
Lights	0	0	0	0	**0**	-	198	470	0	0	167	**835**	-	1657
% Lights	0%	0%	0%	0%	**-**	-	89.6%	96.3%	0%	0%	94.9%	**94.4%**	-	93.6%
Heavy	0	0	0	0	**0**	-	23	17	0	0	7	**47**	-	110
% Heavy	0%	0%	0%	0%	**-**	-	10.4%	3.5%	0%	0%	4.0%	**5.3%**	-	6.2%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 SB Ramps / N French Rd - TMC
Tue Jul 26, 2022
AM Peak (7:45 AM - 8:45 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974742, Location: 43.034796, -78.760736

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 SB Ramps / N French Rd - TMC

Tue Jul 26, 2022
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974742, Location: 43.034796, -78.760736

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	I990 SB Ramps Southbound							N French Rd Westbound					
Time	R	T	L	U	RR	**App**	Ped*	R	T	L	U	**App**	Ped*
2022-07-26 4:30PM	5	0	1	0	7	**13**	0	0	217	152	0	**369**	0
4:45PM	0	0	3	0	9	**12**	0	0	195	81	0	**276**	0
5:00PM	0	0	0	0	11	**11**	0	0	226	186	0	**412**	0
5:15PM	3	0	0	0	8	**11**	0	0	202	110	0	**312**	0
Total	8	0	4	0	35	**47**	0	0	840	529	0	**1369**	0
% Approach	17.0%	0%	8.5%	0%	74.5%	**-**	-	0%	61.4%	38.6%	0%	**-**	-
% Total	0.4%	0%	0.2%	0%	1.6%	**2.2%**	-	0%	38.7%	24.4%	0%	**63.0%**	-
PHF	0.400	-	0.333	-	0.795	**0.904**	-	-	0.929	0.711	-	**0.831**	-
Motorcycles	0	0	0	0	0	**0**	-	0	3	2	0	**5**	-
% Motorcycles	0%	0%	0%	0%	0%	**0%**	-	0%	0.4%	0.4%	0%	**0.4%**	-
Lights	8	0	4	0	35	**47**	-	0	825	519	0	**1344**	-
% Lights	100%	0%	100%	0%	100%	**100%**	-	0%	98.2%	98.1%	0%	**98.2%**	-
Heavy	0	0	0	0	0	**0**	-	0	12	8	0	**20**	-
% Heavy	0%	0%	0%	0%	0%	**0%**	-	0%	1.4%	1.5%	0%	**1.5%**	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	0
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 SB Ramps / N French Rd - TMC

Tue Jul 26, 2022
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974742, Location: 43.034796, -78.760736

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

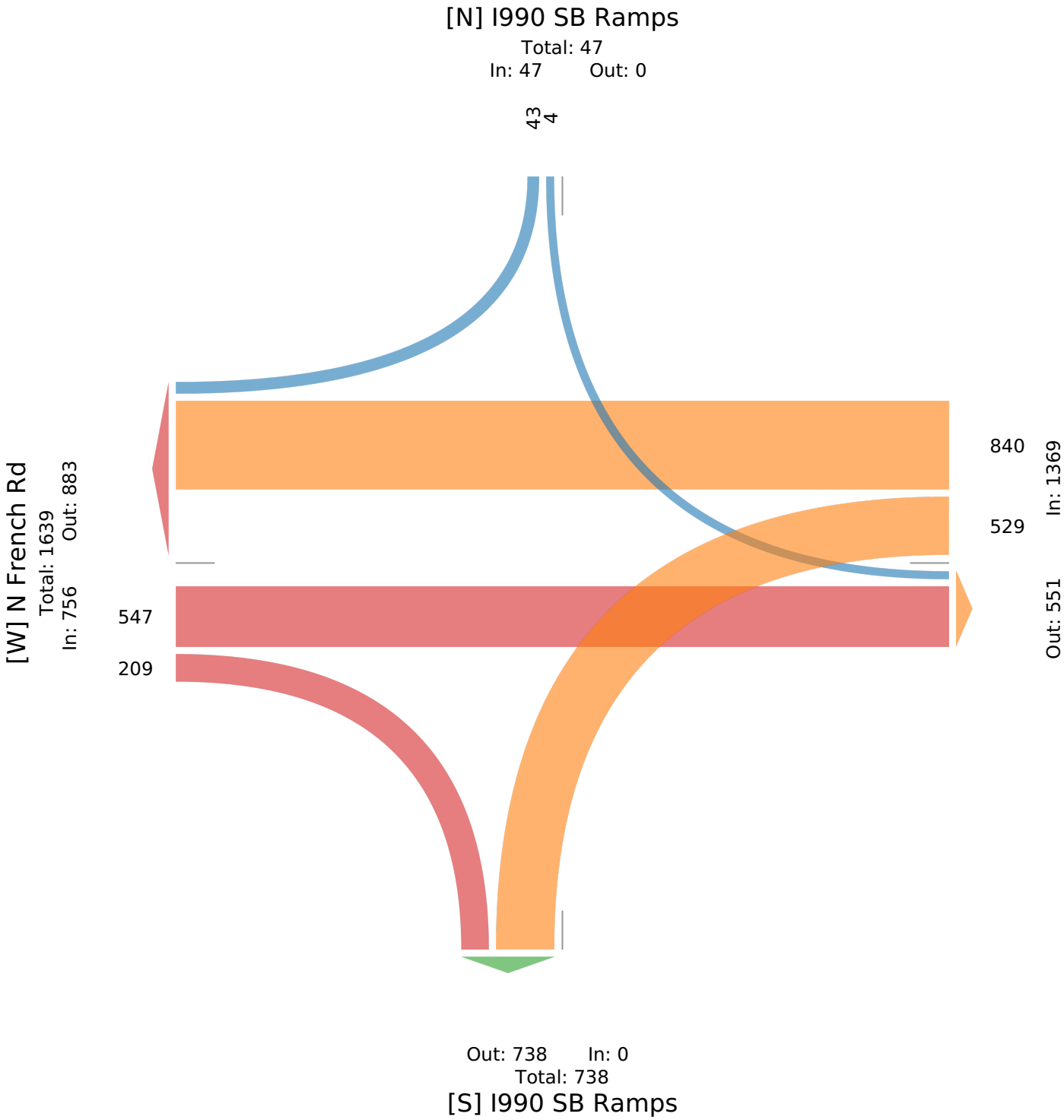
Leg Direction	I990 SB Ramps Northbound						N French Rd Eastbound							
Time	R	T	L	U	**App**	Ped*	R	T	L	U	RR	**App**	Ped*	**Int**
2022-07-26 4:30PM	0	0	0	0	**0**	0	25	133	0	0	21	**179**	0	**561**
4:45PM	0	0	0	0	**0**	0	25	132	0	0	19	**176**	0	**464**
5:00PM	0	0	0	0	**0**	0	25	137	0	0	26	**188**	0	**611**
5:15PM	0	0	0	0	**0**	0	29	145	0	0	39	**213**	0	**536**
Total	0	0	0	0	**0**	0	104	547	0	0	105	**756**	0	**2172**
% Approach	0%	0%	0%	0%	**-**	-	13.8%	72.4%	0%	0%	13.9%	**-**	-	-
% Total	0%	0%	0%	0%	**0%**	-	4.8%	25.2%	0%	0%	4.8%	**34.8%**	-	-
PHF	-	-	-	-	**-**	-	0.897	0.943	-	-	0.673	**0.887**	-	0.889
Motorcycles	0	0	0	0	**0**	-	0	2	0	0	1	**3**	-	8
% Motorcycles	0%	0%	0%	0%	**-**	-	0%	0.4%	0%	0%	1.0%	**0.4%**	-	0.4%
Lights	0	0	0	0	**0**	-	98	542	0	0	99	**739**	-	2130
% Lights	0%	0%	0%	0%	**-**	-	94.2%	99.1%	0%	0%	94.3%	**97.8%**	-	98.1%
Heavy	0	0	0	0	**0**	-	6	3	0	0	5	**14**	-	34
% Heavy	0%	0%	0%	0%	**-**	-	5.8%	0.5%	0%	0%	4.8%	**1.9%**	-	1.6%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

I990 SB Ramps / N French Rd - TMC
Tue Jul 26, 2022
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 974742, Location: 43.034796, -78.760736

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

PASSERO ASSOCIATES

242 W Main St, Suite 100
Rochester, New York 14614

File Name : Not Named 1
Site Code : 20233626
Start Date : 7/11/2023
Page No : 1

Groups Printed- Unshifted - Bank 1

	From North					N French Rd From East					Miller Rd From South					N French Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	113	1	0	114	0	0	4	0	4	0	181	0	0	181	299
07:15 AM	0	0	0	0	0	0	156	0	0	156	0	0	1	0	1	2	250	0	0	252	409
07:30 AM	0	0	0	0	0	0	164	0	0	164	3	0	4	0	7	3	313	0	0	316	487
07:45 AM	0	0	0	0	0	0	173	0	0	173	0	0	8	0	8	5	370	0	0	375	556
Total	0	0	0	0	0	0	606	1	0	607	3	0	17	0	20	10	1114	0	0	1124	1751
08:00 AM	0	0	0	0	0	0	170	1	0	171	0	0	1	0	1	4	282	0	0	286	458
08:15 AM	0	0	0	0	0	0	169	1	0	170	3	0	2	0	5	4	306	0	0	310	485
08:30 AM	0	0	0	0	0	0	172	1	0	173	0	0	6	0	6	3	316	0	0	319	498
08:45 AM	0	0	0	0	0	0	167	2	0	169	1	0	6	0	7	1	321	0	0	322	498
Total	0	0	0	0	0	0	678	5	0	683	4	0	15	0	19	12	1225	0	0	1237	1939
Grand Total	0	0	0	0	0	0	1284	6	0	1290	7	0	32	0	39	22	2339	0	0	2361	3690
Apprch %	0	0	0	0		0	99.5	0.5	0		17.9	0	82.1	0		0.9	99.1	0	0		
Total %	0	0	0	0	0	0	34.8	0.2	0	35	0.2	0	0.9	0	1.1	0.6	63.4	0	0	64	
Unshifted	0	0	0	0	0	0	1241										2302				
% Unshifted	0	0	0	0	0	0	96.7	100	0	96.7	100	0	93.8	0	94.9	95.5	98.4	0	0	98.4	97.8
Bank 1	0	0	0	0	0	0	43	0	0	43	0	0	2	0	2	1	37	0	0	38	83
% Bank 1	0	0	0	0	0	0	3.3	0	0	3.3	0	0	6.2	0	5.1	4.5	1.6	0	0	1.6	2.2

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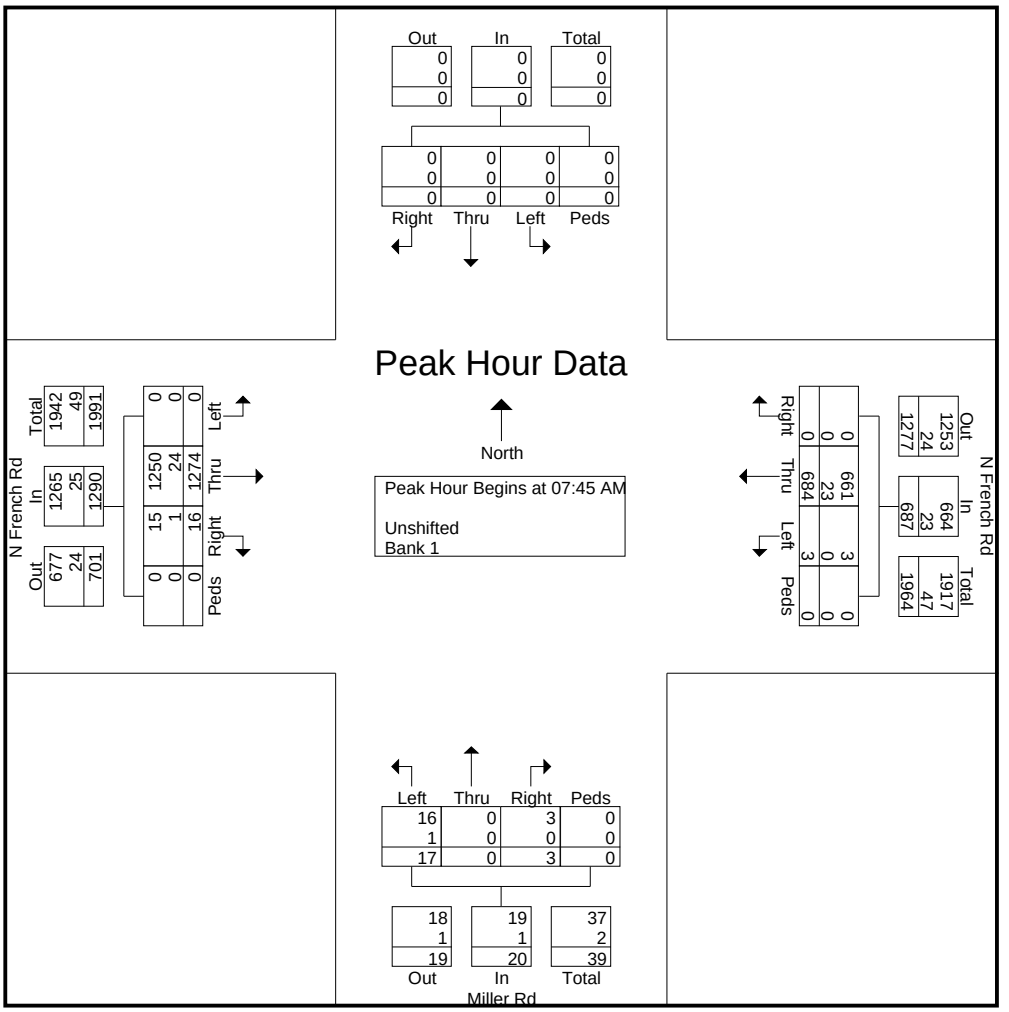
PASSERO ASSOCIATES

242 W Main St, Suite 100
Rochester, New York 14614

File Name : Not Named 1
Site Code : 20233626
Start Date : 7/11/2023
Page No : 2

Start Time	From North					N French Rd From East					Miller Rd From South					N French Rd From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	0	**173**	0	0	**173**	0	0	**8**	0	**8**	**5**	**370**	0	0	**375**	**556**
08:00 AM	0	0	0	0	0	0	170	**1**	0	171	0	0	1	0	1	4	282	0	0	286	458
08:15 AM	0	0	0	0	0	0	169	1	0	170	**3**	0	2	0	5	4	306	0	0	310	485
08:30 AM	0	0	0	0	0	0	172	1	0	173	0	0	6	0	6	3	316	0	0	319	498
Total Volume	0	0	0	0	0	0	684	3	0	687	3	0	17	0	20	16	1274	0	0	1290	1997
% App. Total	0	0	0	0		0	99.6	0.4	0		15	0	85	0		1.2	98.8	0	0		
PHF	.000	.000	.000	.000	.000	.000	.988	.750	.000	.993	.250	.000	.531	.000	.625	.800	.861	.000	.000	.860	.898
Unshifted	0	0	0	0	0	0	661	3	0	664	3	0	16	0	19	15	1250				
% Unshifted	0	0	0	0	0	0	96.6	100	0	96.7	100	0	94.1	0	95.0	93.8	98.1	0	0	98.1	97.5
Bank 1	0	0	0	0	0	0	23	0	0	23	0	0	1	0	1	1	24	0	0	25	49
% Bank 1	0	0	0	0	0	0	3.4	0	0	3.3	0	0	5.9	0	5.0	6.3	1.9	0	0	1.9	2.5



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PASSERO ASSOCIATES

242 W Main St, Suite 100
Rochester, New York 14614

File Name : N French Rd-Miller Rd PM Peak
Site Code : 20233626
Start Date : 7/11/2023
Page No : 1

Groups Printed- Unshifted - Bank 1

	From North					N French Rd From East					Miller Rd From South					N French Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	257	1	0	258	0	0	4	0	4	10	237	0	0	247	509
04:15 PM	0	0	0	0	0	0	233	0	0	233	1	0	3	0	4	7	212	0	0	219	456
04:30 PM	0	0	0	0	0	0	313	2	0	315	1	0	4	0	5	7	242	0	0	249	569
04:45 PM	0	0	0	0	0	0	280	1	0	281	0	0	4	0	4	9	289	0	0	298	583
Total	0	0	0	0	0	0	1083	4	0	1087	2	0	15	0	17	33	980	0	0	1013	2117
05:00 PM	0	0	0	0	0	0	350	4	0	354	1	0	4	0	5	6	243	0	0	249	608
05:15 PM	0	0	0	0	0	0	255	3	0	258	1	0	4	0	5	13	277	0	0	290	553
05:30 PM	0	0	0	0	0	0	321	6	0	327	2	0	1	0	3	13	237	0	0	250	580
05:45 PM	0	0	0	0	0	0	207	2	0	209	1	0	3	0	4	7	239	0	0	246	459
Total	0	0	0	0	0	0	1133	15	0	1148	5	0	12	0	17	39	996	0	0	1035	2200
Grand Total	0	0	0	0	0	0	2216	19	0	2235	7	0	27	0	34	72	1976	0	0	2048	4317
Apprch %	0	0	0	0		0	99.1	0.9	0		20.6	0	79.4	0		3.5	96.5	0	0		
Total %	0	0	0	0	0	0	51.3	0.4	0	51.8	0.2	0	0.6	0	0.8	1.7	45.8	0	0	47.4	
Unshifted	0	0	0	0	0	0	2204										1946				
% Unshifted	0	0	0	0	0	0	99.5	100	0	99.5	100	0	100	0	100	100	98.5	0	0	98.5	99
Bank 1	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	30	0	0	30	42
% Bank 1	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0	1.5	0	0	1.5	1

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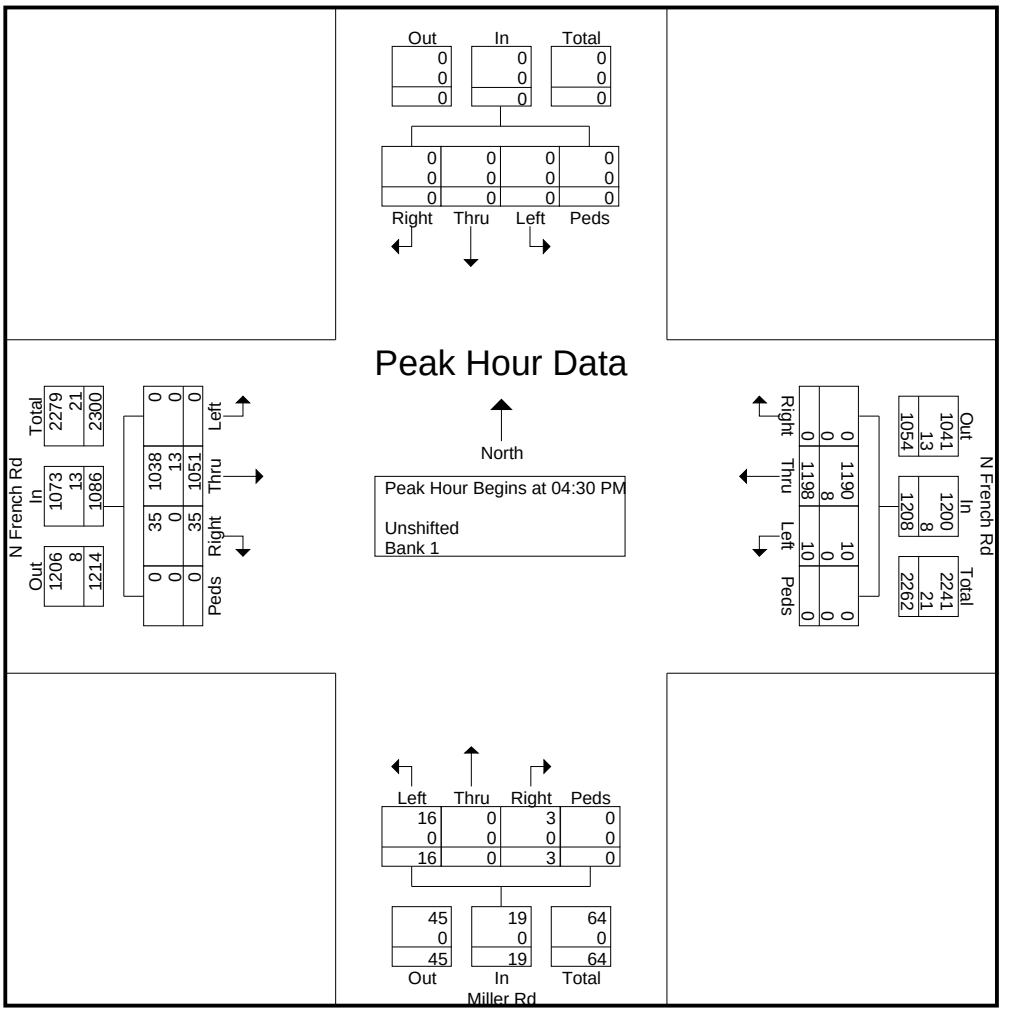
PASSERO ASSOCIATES

242 W Main St, Suite 100
Rochester, New York 14614

File Name : N French Rd-Miller Rd PM Peak
Site Code : 20233626
Start Date : 7/11/2023
Page No : 2

Start Time	From North					N French Rd From East					Miller Rd From South					N French Rd From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	313	2	0	315	**1**	0	**4**	0	**5**	7	242	0	0	249	569
04:45 PM	0	0	0	0	0	0	280	1	0	281	0	0	4	0	4	9	**289**	0	0	**298**	583
05:00 PM	0	0	0	0	0	0	**350**	**4**	0	**354**	1	0	4	0	5	6	243	0	0	249	**608**
05:15 PM	0	0	0	0	0	0	255	3	0	258	1	0	4	0	5	**13**	277	0	0	290	553
Total Volume	0	0	0	0	0	0	1198	10	0	1208	3	0	16	0	19	35	1051	0	0	1086	2313
% App. Total	0	0	0	0		0	99.2	0.8	0		15.8	0	84.2	0		3.2	96.8	0	0		
PHF	.000	.000	.000	.000	.000	.000	.856	.625	.000	.853	.750	.000	1.00	.000	.950	.673	.909	.000	.000	.911	.951
Unshifted	0	0	0	0	0	0	1190										1038				
% Unshifted	0	0	0	0	0	0	99.3	100	0	99.3	100	0	100	0	100	100	98.8	0	0	98.8	99.1
Bank 1	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	13	0	0	13	21
% Bank 1	0	0	0	0	0	0	0.7	0	0	0.7	0	0	0	0	0	0	1.2	0	0	1.2	0.9



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

N.French Rd/Crosspoint Pkwy - TMC

Wed Oct 6, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg / Direction	Crosspoint Pkwy Southbound						N.French Rd Westbound						N.French Rd Eastbound					
Time	R	L	U	RR	App	Ped*	R	T	U	RR	App	Ped*	T	L	U	App	Ped*	Int
2021-10-06 7:00AM	5	6	0	6	**17**	0	11	123	0	3	**137**	0	103	17	0	**120**	0	**274**
7:15AM	5	2	0	5	**12**	0	13	192	0	1	**206**	0	182	24	0	**206**	0	**424**
7:30AM	10	8	0	3	**21**	0	9	177	0	3	**189**	0	179	44	0	**223**	0	**433**
7:45AM	12	8	0	3	**23**	1	18	187	0	6	**211**	0	171	76	0	**247**	0	**481**
Hourly Total	32	24	0	17	**73**	1	51	679	0	13	**743**	0	635	161	0	**796**	0	**1612**
8:00AM	8	4	0	5	**17**	0	19	130	0	4	**153**	0	138	61	0	**199**	0	**369**
8:15AM	6	6	0	6	**18**	0	15	156	0	1	**172**	0	154	52	0	**206**	0	**396**
8:30AM	4	3	0	6	**13**	0	13	140	0	3	**156**	0	150	42	0	**192**	0	**361**
8:45AM	2	8	0	8	**18**	0	8	124	0	7	**139**	0	127	40	0	**167**	0	**324**
Hourly Total	20	21	0	25	**66**	0	55	550	0	15	**620**	0	569	195	0	**764**	0	**1450**
9:00AM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Hourly Total	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
4:00PM	13	8	0	23	**44**	0	9	143	0	2	**154**	0	212	14	0	**226**	0	**424**
4:15PM	10	7	0	24	**41**	0	6	151	0	0	**157**	0	195	21	0	**216**	0	**414**
4:30PM	33	23	0	34	**90**	0	3	157	1	0	**161**	0	200	23	0	**223**	0	**474**
4:45PM	8	10	0	26	**44**	0	6	136	0	1	**143**	0	218	16	0	**234**	0	**421**
Hourly Total	64	48	0	107	**219**	0	24	587	1	3	**615**	0	825	74	0	**899**	0	**1733**
5:00PM	38	19	0	15	**72**	0	9	164	0	6	**179**	0	221	9	0	**230**	0	**481**
5:15PM	14	15	0	17	**46**	0	7	149	0	3	**159**	0	219	16	0	**235**	0	**440**
5:30PM	24	22	0	33	**79**	0	8	166	0	3	**177**	0	205	28	0	**233**	0	**489**
5:45PM	9	15	0	22	**46**	0	5	139	0	4	**148**	0	194	16	0	**210**	0	**404**
Hourly Total	85	71	0	87	**243**	0	29	618	0	16	**663**	0	839	69	0	**908**	0	**1814**
Total	201	164	0	236	**601**	1	159	2434	1	47	**2641**	0	2868	499	0	**3367**	0	**6609**
% Approach	33.4%	27.3%	0%	39.3%	**-**	-	6.0%	92.2%	0%	1.8%	**-**	-	85.2%	14.8%	0%	**-**	-	-
% Total	3.0%	2.5%	0%	3.6%	**9.1%**	-	2.4%	36.8%	0%	0.7%	**40.0%**	-	43.4%	7.6%	0%	**50.9%**	-	-
Motorcycles	0	1	0	0	**1**	-	0	4	0	0	**4**	-	8	0	0	**8**	-	13
% Motorcycles	0%	0.6%	0%	0%	**0.2%**	-	0%	0.2%	0%	0%	**0.2%**	-	0.3%	0%	0%	**0.2%**	-	0.2%
Lights	197	156	0	230	**583**	-	151	2361	1	46	**2559**	-	2781	495	0	**3276**	-	6418
% Lights	98.0%	95.1%	0%	97.5%	**97.0%**	-	95.0%	97.0%	100%	97.9%	**96.9%**	-	97.0%	99.2%	0%	**97.3%**	-	97.1%
Heavy	4	7	0	6	**17**	-	8	69	0	1	**78**	-	79	4	0	**83**	-	178
% Heavy	2.0%	4.3%	0%	2.5%	**2.8%**	-	5.0%	2.8%	0%	2.1%	**3.0%**	-	2.8%	0.8%	0%	**2.5%**	-	2.7%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

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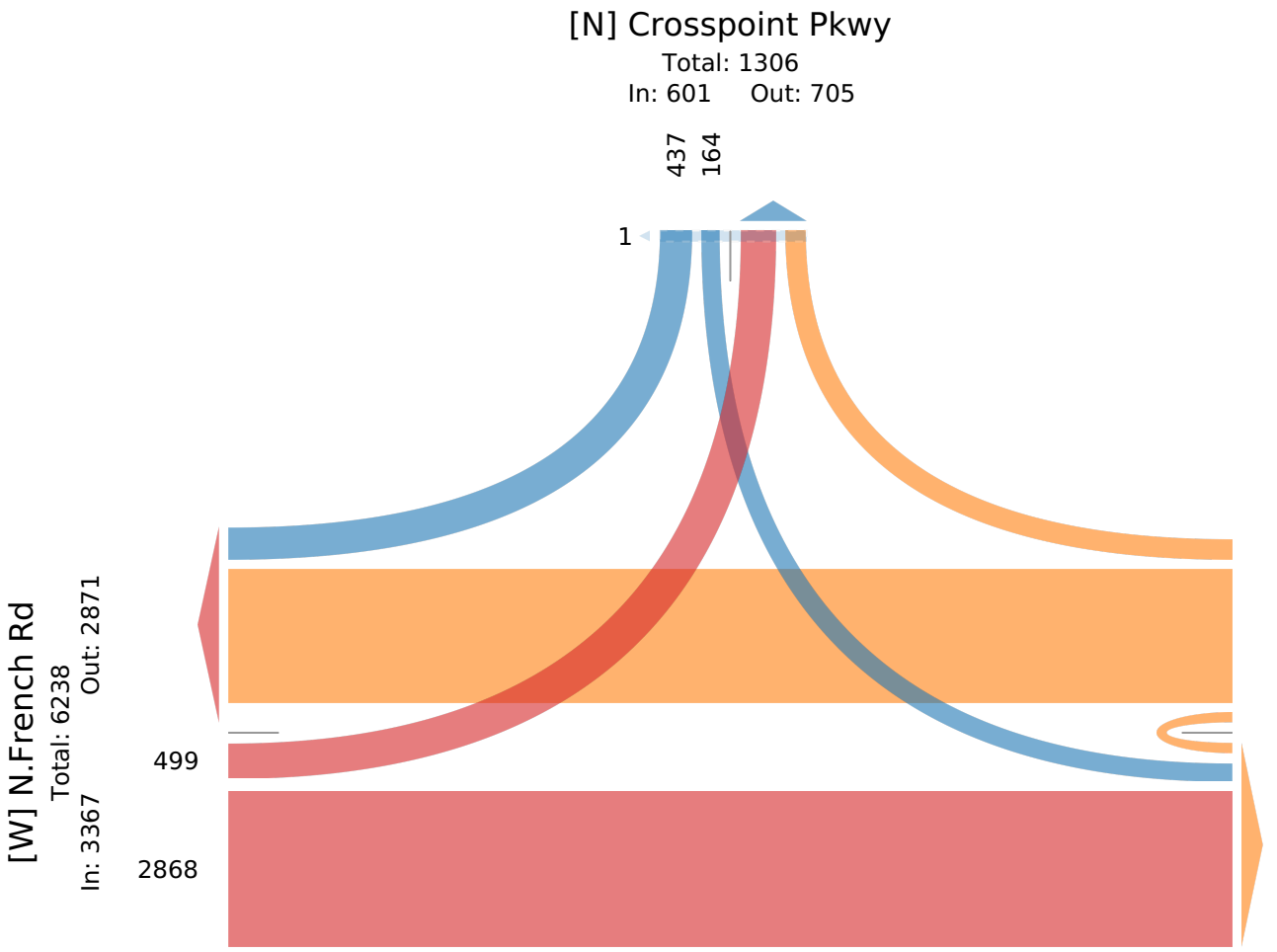
N.French Rd/Crosspoint Pkwy - TMC
Wed Oct 6, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



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N.French Rd/Crosspoint Pkwy - TMC

Wed Oct 6, 2021
AM Peak (7:15 AM - 8:15 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg / Direction	Crosspoint Pkwy Southbound						N.French Rd Westbound						N.French Rd Eastbound					
Time	R	L	U	RR	**App**	Ped*	R	T	U	RR	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-10-06 7:15AM	5	2	0	5	**12**	0	13	192	0	1	**206**	0	182	24	0	**206**	0	**424**
7:30AM	10	8	0	3	**21**	0	9	177	0	3	**189**	0	179	44	0	**223**	0	**433**
7:45AM	12	8	0	3	**23**	1	18	187	0	6	**211**	0	171	76	0	**247**	0	**481**
8:00AM	8	4	0	5	**17**	0	19	130	0	4	**153**	0	138	61	0	**199**	0	**369**
Total	35	22	0	16	**73**	1	59	686	0	14	**759**	0	670	205	0	**875**	0	**1707**
% Approach	47.9%	30.1%	0%	21.9%	**-**	-	7.8%	90.4%	0%	1.8%	**-**	-	76.6%	23.4%	0%	**-**	-	-
% Total	2.1%	1.3%	0%	0.9%	**4.3%**	-	3.5%	40.2%	0%	0.8%	**44.5%**	-	39.3%	12.0%	0%	**51.3%**	-	-
PHF	0.729	0.688	-	0.800	**0.793**	-	0.776	0.893	-	0.583	**0.899**	-	0.920	0.674	-	**0.886**	-	0.887
Motorcycles	0	0	0	0	**0**	-	0	2	0	0	**2**	-	1	0	0	**1**	-	3
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.1%	0%	0%	**0.1%**	-	0.2%
Lights	33	20	0	16	**69**	-	57	661	0	14	**732**	-	646	204	0	**850**	-	1651
% Lights	94.3%	90.9%	0%	100%	**94.5%**	-	96.6%	96.4%	0%	100%	**96.4%**	-	96.4%	99.5%	0%	**97.1%**	-	96.7%
Heavy	2	2	0	0	**4**	-	2	23	0	0	**25**	-	23	1	0	**24**	-	53
% Heavy	5.7%	9.1%	0%	0%	**5.5%**	-	3.4%	3.4%	0%	0%	**3.3%**	-	3.4%	0.5%	0%	**2.7%**	-	3.1%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

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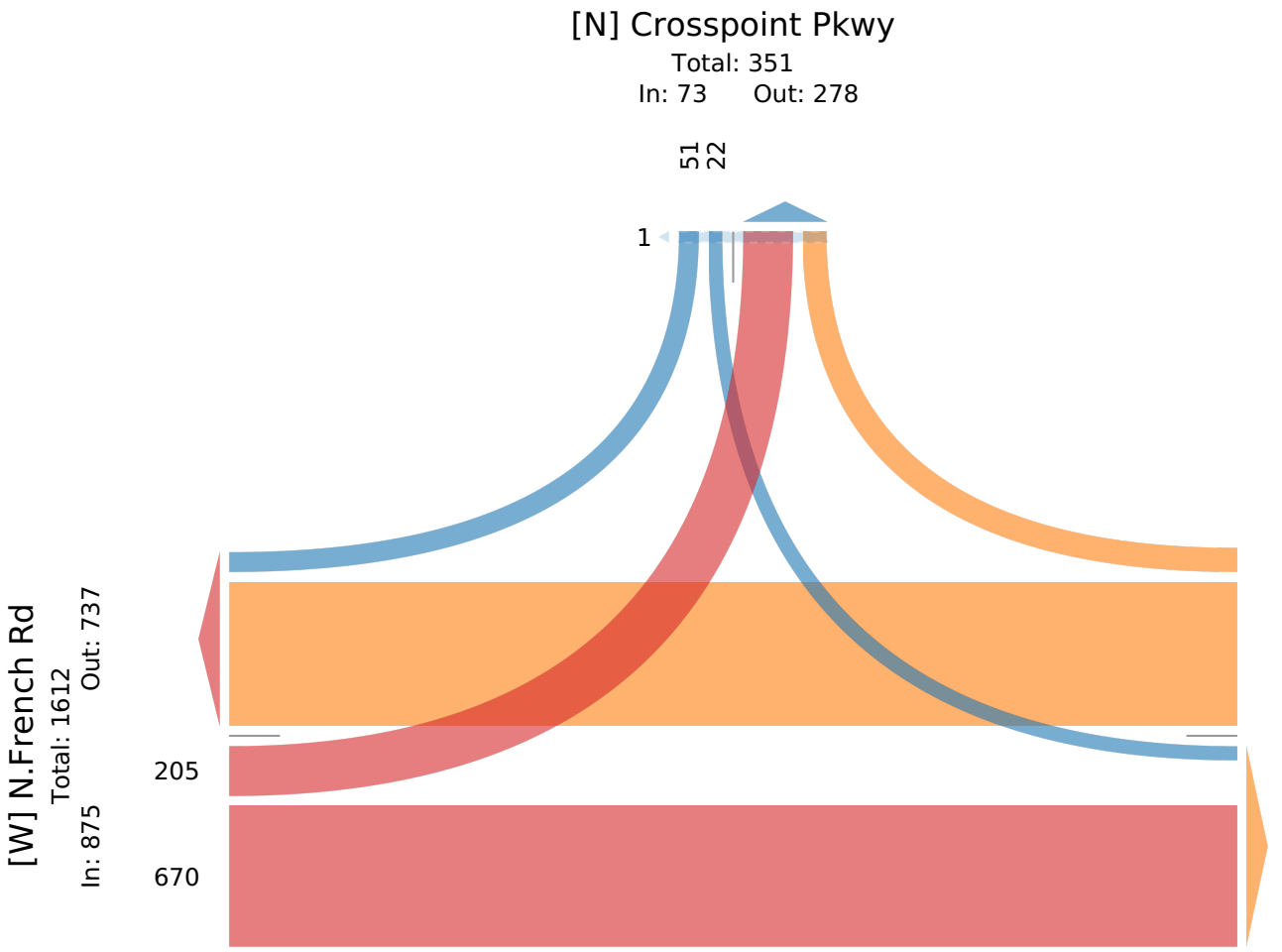
N.French Rd/Crosspoint Pkwy - TMC
Wed Oct 6, 2021
AM Peak (7:15 AM - 8:15 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



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N.French Rd/Crosspoint Pkwy - TMC

Wed Oct 6, 2021
Forced Peak (7:45 AM - 8:45 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg / Direction	Crosspoint Pkwy Southbound						N.French Rd Westbound						N.French Rd Eastbound					
Time	R	L	U	RR	**App**	Ped*	R	T	U	RR	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-10-06 7:45AM	12	8	0	3	**23**	1	18	187	0	6	**211**	0	171	76	0	**247**	0	**481**
8:00AM	8	4	0	5	**17**	0	19	130	0	4	**153**	0	138	61	0	**199**	0	**369**
8:15AM	6	6	0	6	**18**	0	15	156	0	1	**172**	0	154	52	0	**206**	0	**396**
8:30AM	4	3	0	6	**13**	0	13	140	0	3	**156**	0	150	42	0	**192**	0	**361**
Total	30	21	0	20	**71**	1	65	613	0	14	**692**	0	613	231	0	**844**	0	**1607**
% Approach	42.3%	29.6%	0%	28.2%	**-**	-	9.4%	88.6%	0%	2.0%	**-**	-	72.6%	27.4%	0%	**-**	-	-
% Total	1.9%	1.3%	0%	1.2%	**4.4%**	-	4.0%	38.1%	0%	0.9%	**43.1%**	-	38.1%	14.4%	0%	**52.5%**	-	-
PHF	0.625	0.656	-	0.833	**0.772**	-	0.855	0.820	-	0.583	**0.820**	-	0.896	0.760	-	**0.854**	-	0.835
Motorcycles	0	0	0	0	**0**	-	0	2	0	0	**2**	-	0	0	0	**0**	-	2
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.3%**	-	0%	0%	0%	**0%**	-	0.1%
Lights	28	20	0	19	**67**	-	62	585	0	13	**660**	-	585	229	0	**814**	-	1541
% Lights	93.3%	95.2%	0%	95.0%	**94.4%**	-	95.4%	95.4%	0%	92.9%	**95.4%**	-	95.4%	99.1%	0%	**96.4%**	-	95.9%
Heavy	2	1	0	1	**4**	-	3	26	0	1	**30**	-	28	2	0	**30**	-	64
% Heavy	6.7%	4.8%	0%	5.0%	**5.6%**	-	4.6%	4.2%	0%	7.1%	**4.3%**	-	4.6%	0.9%	0%	**3.6%**	-	4.0%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

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N.French Rd/Crosspoint Pkwy - TMC
Wed Oct 6, 2021
Forced Peak (7:45 AM - 8:45 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
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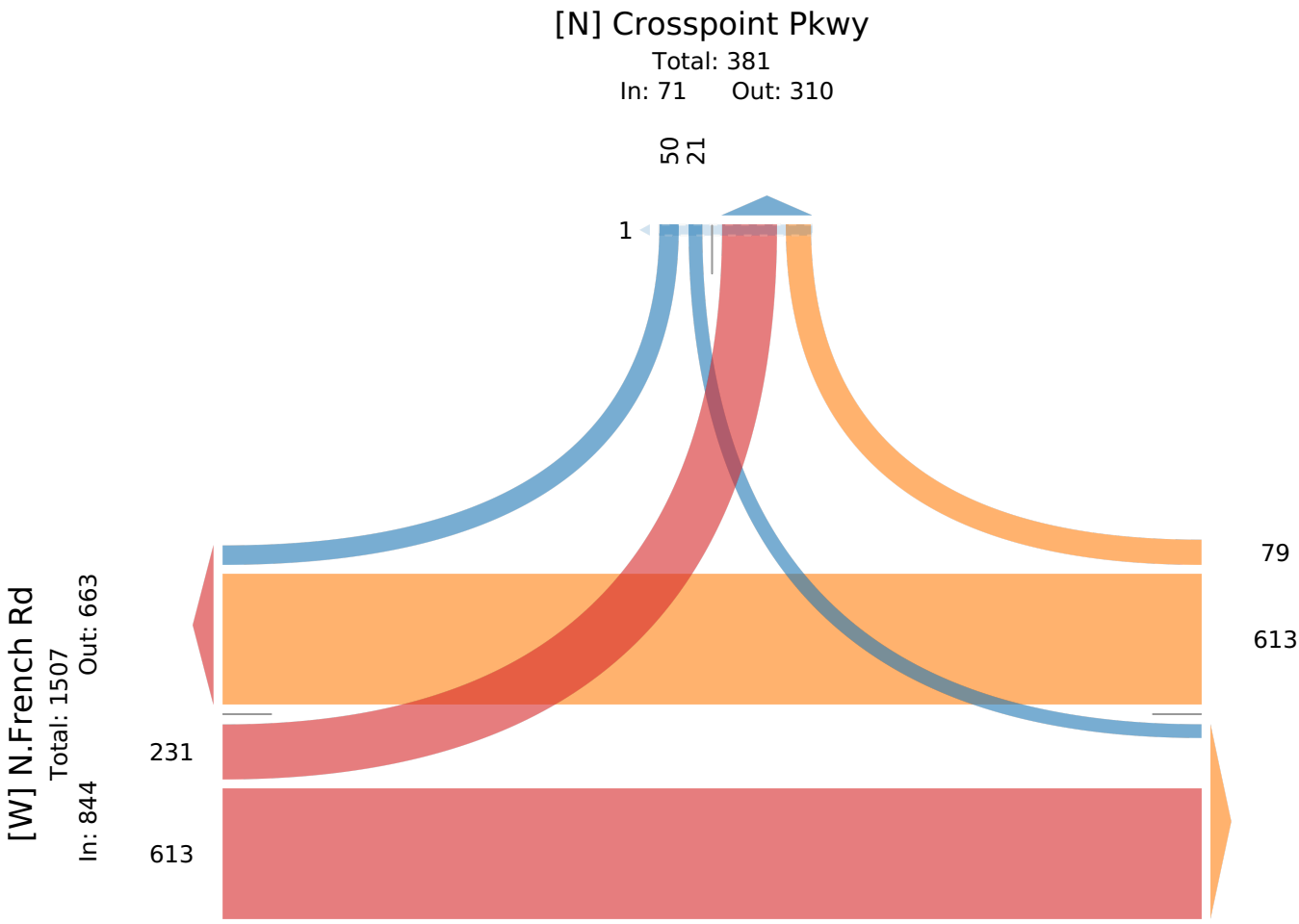

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N.French Rd/Crosspoint Pkwy - TMC

Wed Oct 6, 2021
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg / Direction	Crosspoint Pkwy Southbound						N.French Rd Westbound						N.French Rd Eastbound					
Time	R	L	U	RR	**App**	Ped*	R	T	U	RR	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-10-06 4:45PM	8	10	0	26	**44**	0	6	136	0	1	**143**	0	218	16	0	**234**	0	**421**
5:00PM	38	19	0	15	**72**	0	9	164	0	6	**179**	0	221	9	0	**230**	0	**481**
5:15PM	14	15	0	17	**46**	0	7	149	0	3	**159**	0	219	16	0	**235**	0	**440**
5:30PM	24	22	0	33	**79**	0	8	166	0	3	**177**	0	205	28	0	**233**	0	**489**
Total	84	66	0	91	**241**	0	30	615	0	13	**658**	0	863	69	0	**932**	0	**1831**
% Approach	34.9%	27.4%	0%	37.8%	**-**	-	4.6%	93.5%	0%	2.0%	**-**	-	92.6%	7.4%	0%	**-**	-	-
% Total	4.6%	3.6%	0%	5.0%	**13.2%**	-	1.6%	33.6%	0%	0.7%	**35.9%**	-	47.1%	3.8%	0%	**50.9%**	-	-
PHF	0.553	0.750	-	0.689	**0.763**	-	0.833	0.926	-	0.542	**0.919**	-	0.976	0.616	-	**0.991**	-	0.936
Motorcycles	0	1	0	0	**1**	-	0	1	0	0	**1**	-	5	0	0	**5**	-	7
% Motorcycles	0%	1.5%	0%	0%	**0.4%**	-	0%	0.2%	0%	0%	**0.2%**	-	0.6%	0%	0%	**0.5%**	-	0.4%
Lights	84	63	0	91	**238**	-	29	609	0	13	**651**	-	849	69	0	**918**	-	1807
% Lights	100%	95.5%	0%	100%	**98.8%**	-	96.7%	99.0%	0%	100%	**98.9%**	-	98.4%	100%	0%	**98.5%**	-	98.7%
Heavy	0	2	0	0	**2**	-	1	5	0	0	**6**	-	9	0	0	**9**	-	17
% Heavy	0%	3.0%	0%	0%	**0.8%**	-	3.3%	0.8%	0%	0%	**0.9%**	-	1.0%	0%	0%	**1.0%**	-	0.9%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

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N.French Rd/Crosspoint Pkwy - TMC
Wed Oct 6, 2021
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
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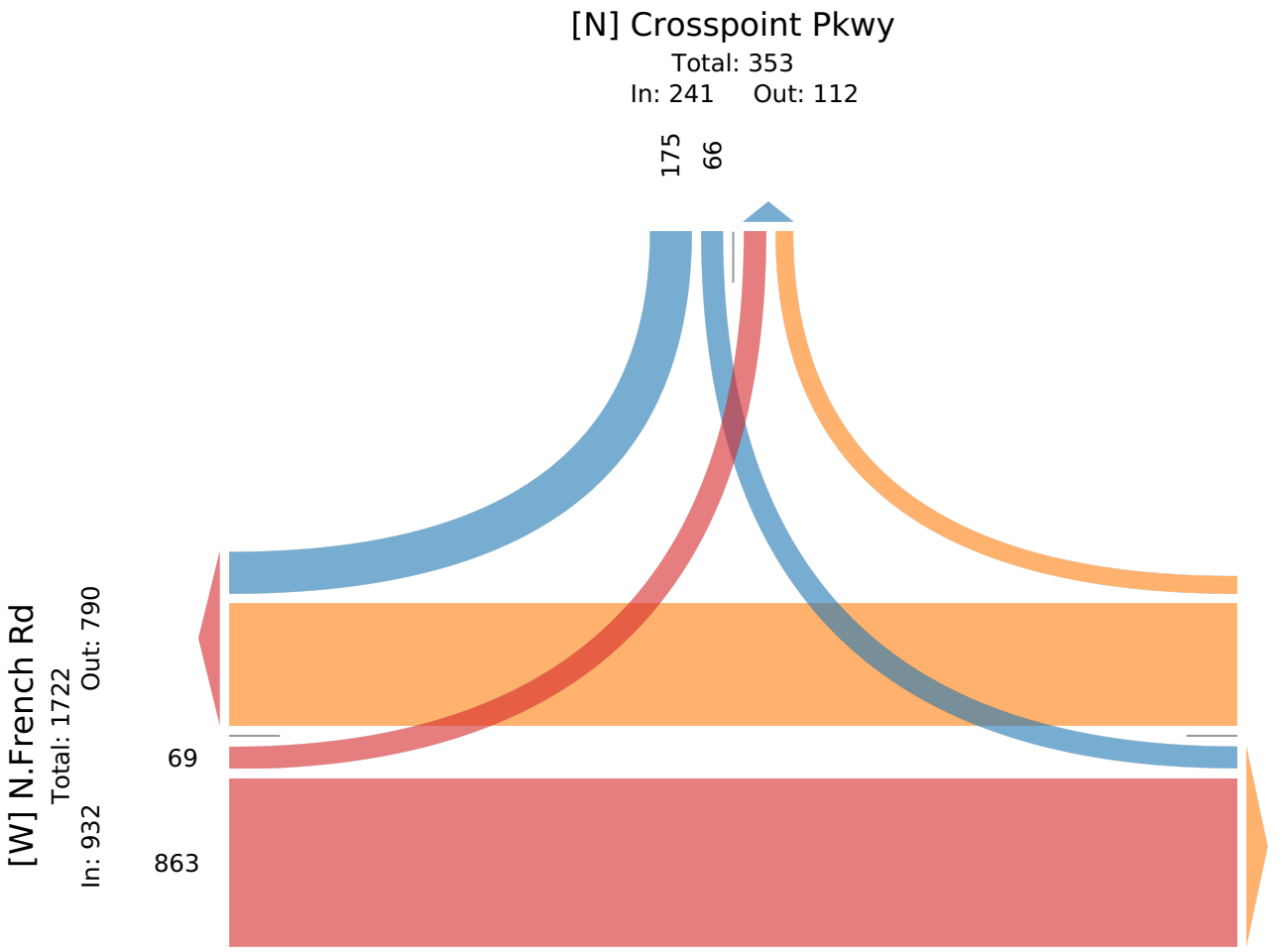

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N.French Rd/Crosspoint Pkwy - TMC

Wed Oct 6, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg / Direction	Crosspoint Pkwy Southbound						N.French Rd Westbound						N.French Rd Eastbound					
Time	R	L	U	RR	App	Ped*	R	T	U	RR	App	Ped*	T	L	U	App	Ped*	Int
2021-10-06 7:00AM	5	6	0	6	**17**	0	11	123	0	3	**137**	0	103	17	0	**120**	0	**274**
7:15AM	5	2	0	5	**12**	0	13	192	0	1	**206**	0	182	24	0	**206**	0	**424**
7:30AM	10	8	0	3	**21**	0	9	177	0	3	**189**	0	179	44	0	**223**	0	**433**
7:45AM	12	8	0	3	**23**	1	18	187	0	6	**211**	0	171	76	0	**247**	0	**481**
Hourly Total	32	24	0	17	**73**	1	51	679	0	13	**743**	0	635	161	0	**796**	0	**1612**
8:00AM	8	4	0	5	**17**	0	19	130	0	4	**153**	0	138	61	0	**199**	0	**369**
8:15AM	6	6	0	6	**18**	0	15	156	0	1	**172**	0	154	52	0	**206**	0	**396**
8:30AM	4	3	0	6	**13**	0	13	140	0	3	**156**	0	150	42	0	**192**	0	**361**
8:45AM	2	8	0	8	**18**	0	8	124	0	7	**139**	0	127	40	0	**167**	0	**324**
Hourly Total	20	21	0	25	**66**	0	55	550	0	15	**620**	0	569	195	0	**764**	0	**1450**
9:00AM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
Hourly Total	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	0	0	**0**	0	**0**
4:00PM	13	8	0	23	**44**	0	9	143	0	2	**154**	0	212	14	0	**226**	0	**424**
4:15PM	10	7	0	24	**41**	0	6	151	0	0	**157**	0	195	21	0	**216**	0	**414**
4:30PM	33	23	0	34	**90**	0	3	157	1	0	**161**	0	200	23	0	**223**	0	**474**
4:45PM	8	10	0	26	**44**	0	6	136	0	1	**143**	0	218	16	0	**234**	0	**421**
Hourly Total	64	48	0	107	**219**	0	24	587	1	3	**615**	0	825	74	0	**899**	0	**1733**
5:00PM	38	19	0	15	**72**	0	9	164	0	6	**179**	0	221	9	0	**230**	0	**481**
5:15PM	14	15	0	17	**46**	0	7	149	0	3	**159**	0	219	16	0	**235**	0	**440**
5:30PM	24	22	0	33	**79**	0	8	166	0	3	**177**	0	205	28	0	**233**	0	**489**
5:45PM	9	15	0	22	**46**	0	5	139	0	4	**148**	0	194	16	0	**210**	0	**404**
Hourly Total	85	71	0	87	**243**	0	29	618	0	16	**663**	0	839	69	0	**908**	0	**1814**
Total	201	164	0	236	**601**	1	159	2434	1	47	**2641**	0	2868	499	0	**3367**	0	**6609**
% Approach	33.4%	27.3%	0%	39.3%	**-**	-	6.0%	92.2%	0%	1.8%	**-**	-	85.2%	14.8%	0%	**-**	-	-
% Total	3.0%	2.5%	0%	3.6%	**9.1%**	-	2.4%	36.8%	0%	0.7%	**40.0%**	-	43.4%	7.6%	0%	**50.9%**	-	-
Motorcycles	0	1	0	0	**1**	-	0	4	0	0	**4**	-	8	0	0	**8**	-	13
% Motorcycles	0%	0.6%	0%	0%	**0.2%**	-	0%	0.2%	0%	0%	**0.2%**	-	0.3%	0%	0%	**0.2%**	-	0.2%
Lights	197	156	0	230	**583**	-	151	2361	1	46	**2559**	-	2781	495	0	**3276**	-	6418
% Lights	98.0%	95.1%	0%	97.5%	**97.0%**	-	95.0%	97.0%	100%	97.9%	**96.9%**	-	97.0%	99.2%	0%	**97.3%**	-	97.1%
Heavy	4	7	0	6	**17**	-	8	69	0	1	**78**	-	79	4	0	**83**	-	178
% Heavy	2.0%	4.3%	0%	2.5%	**2.8%**	-	5.0%	2.8%	0%	2.1%	**3.0%**	-	2.8%	0.8%	0%	**2.5%**	-	2.7%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

N.French Rd/Crosspoint Pkwy - TMC
Wed Oct 6, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
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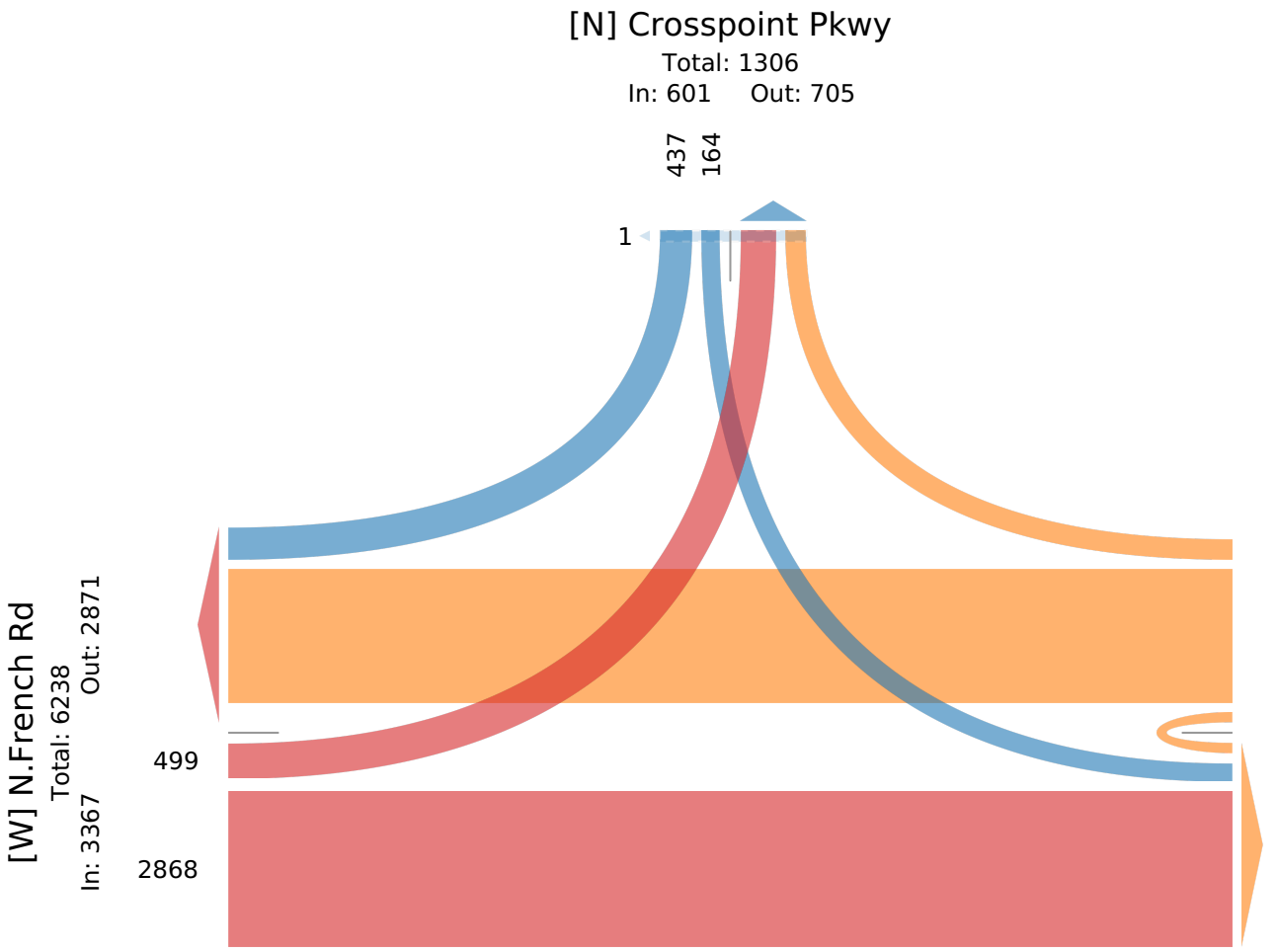

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N.French Rd/Crosspoint Pkwy - TMC

Wed Oct 6, 2021
AM Peak (7:15 AM - 8:15 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Crosspoint Pkwy Southbound						N.French Rd Westbound						N.French Rd Eastbound					
Time	R	L	U	RR	**App**	Ped*	R	T	U	RR	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-10-06 7:15AM	5	2	0	5	**12**	0	13	192	0	1	**206**	0	182	24	0	**206**	0	**424**
7:30AM	10	8	0	3	**21**	0	9	177	0	3	**189**	0	179	44	0	**223**	0	**433**
7:45AM	12	8	0	3	**23**	1	18	187	0	6	**211**	0	171	76	0	**247**	0	**481**
8:00AM	8	4	0	5	**17**	0	19	130	0	4	**153**	0	138	61	0	**199**	0	**369**
Total	35	22	0	16	**73**	1	59	686	0	14	**759**	0	670	205	0	**875**	0	**1707**
% Approach	47.9%	30.1%	0%	21.9%	**-**	-	7.8%	90.4%	0%	1.8%	**-**	-	76.6%	23.4%	0%	**-**	-	-
% Total	2.1%	1.3%	0%	0.9%	**4.3%**	-	3.5%	40.2%	0%	0.8%	**44.5%**	-	39.3%	12.0%	0%	**51.3%**	-	-
PHF	0.729	0.688	-	0.800	**0.793**	-	0.776	0.893	-	0.583	**0.899**	-	0.920	0.674	-	**0.886**	-	0.887
Motorcycles	0	0	0	0	**0**	-	0	2	0	0	**2**	-	1	0	0	**1**	-	3
% Motorcycles	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.1%	0%	0%	**0.1%**	-	0.2%
Lights	33	20	0	16	**69**	-	57	661	0	14	**732**	-	646	204	0	**850**	-	1651
% Lights	94.3%	90.9%	0%	100%	**94.5%**	-	96.6%	96.4%	0%	100%	**96.4%**	-	96.4%	99.5%	0%	**97.1%**	-	96.7%
Heavy	2	2	0	0	**4**	-	2	23	0	0	**25**	-	23	1	0	**24**	-	53
% Heavy	5.7%	9.1%	0%	0%	**5.5%**	-	3.4%	3.4%	0%	0%	**3.3%**	-	3.4%	0.5%	0%	**2.7%**	-	3.1%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

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N.French Rd/Crosspoint Pkwy - TMC
Wed Oct 6, 2021
AM Peak (7:15 AM - 8:15 AM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
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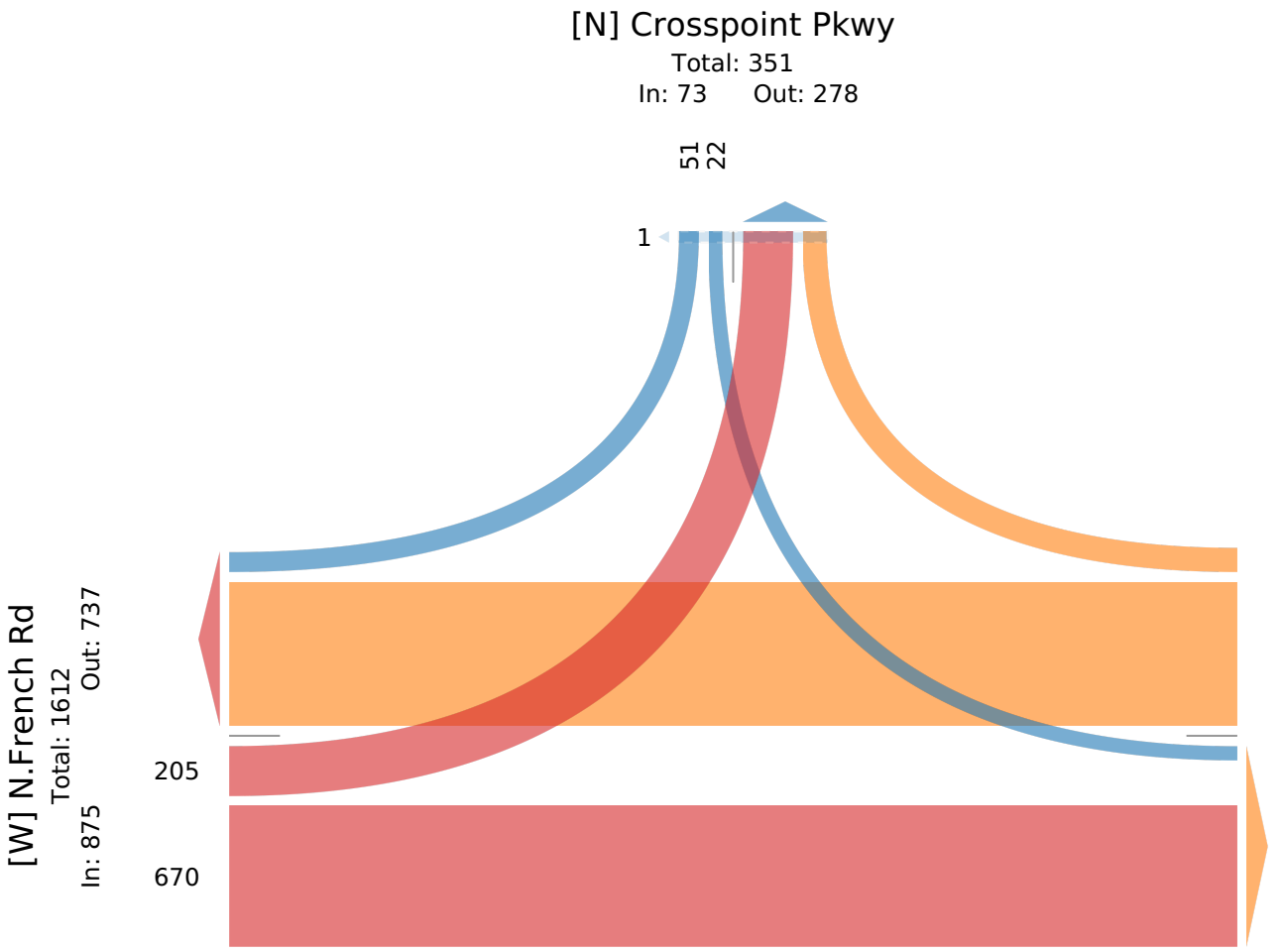

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N.French Rd/Crosspoint Pkwy - TMC

Wed Oct 6, 2021
Forced Peak (4:30 PM - 5:30 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg Direction	Crosspoint Pkwy Southbound						N.French Rd Westbound						N.French Rd Eastbound					
Time	R	L	U	RR	**App**	Ped*	R	T	U	RR	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-10-06 4:30PM	33	23	0	34	**90**	0	3	157	1	0	**161**	0	200	23	0	**223**	0	**474**
4:45PM	8	10	0	26	**44**	0	6	136	0	1	**143**	0	218	16	0	**234**	0	**421**
5:00PM	38	19	0	15	**72**	0	9	164	0	6	**179**	0	221	9	0	**230**	0	**481**
5:15PM	14	15	0	17	**46**	0	7	149	0	3	**159**	0	219	16	0	**235**	0	**440**
Total	93	67	0	92	**252**	0	25	606	1	10	**642**	0	858	64	0	**922**	0	**1816**
% Approach	36.9%	26.6%	0%	36.5%	**-**	-	3.9%	94.4%	0.2%	1.6%	**-**	-	93.1%	6.9%	0%	**-**	-	-
% Total	5.1%	3.7%	0%	5.1%	**13.9%**	-	1.4%	33.4%	0.1%	0.6%	**35.4%**	-	47.2%	3.5%	0%	**50.8%**	-	-
PHF	0.612	0.728	-	0.676	**0.700**	-	0.694	0.924	0.250	0.417	**0.897**	-	0.971	0.696	-	**0.981**	-	0.944
Motorcycles	0	1	0	0	**1**	-	0	1	0	0	**1**	-	4	0	0	**4**	-	6
% Motorcycles	0%	1.5%	0%	0%	**0.4%**	-	0%	0.2%	0%	0%	**0.2%**	-	0.5%	0%	0%	**0.4%**	-	0.3%
Lights	92	64	0	90	**246**	-	24	598	1	10	**633**	-	839	64	0	**903**	-	1782
% Lights	98.9%	95.5%	0%	97.8%	**97.6%**	-	96.0%	98.7%	100%	100%	**98.6%**	-	97.8%	100%	0%	**97.9%**	-	98.1%
Heavy	1	2	0	2	**5**	-	1	7	0	0	**8**	-	15	0	0	**15**	-	28
% Heavy	1.1%	3.0%	0%	2.2%	**2.0%**	-	4.0%	1.2%	0%	0%	**1.2%**	-	1.7%	0%	0%	**1.6%**	-	1.5%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

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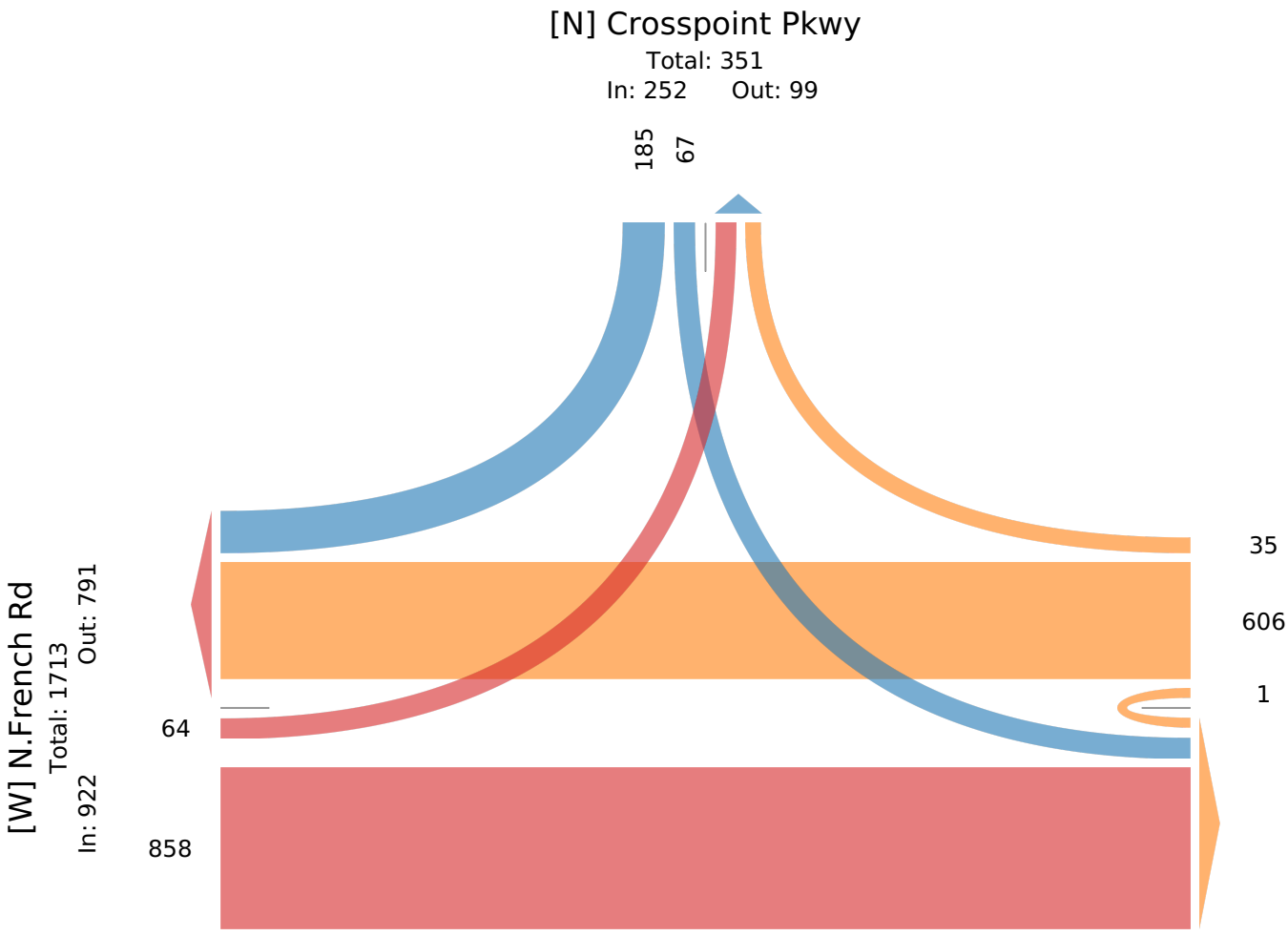
N.French Rd/Crosspoint Pkwy - TMC
Wed Oct 6, 2021
Forced Peak (4:30 PM - 5:30 PM)
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US



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N.French Rd/Crosspoint Pkwy - TMC

Wed Oct 6, 2021
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
1016 Hoosick Rd, Troy, NY, 12180, US

Leg / Direction	Crosspoint Pkwy Southbound						N.French Rd Westbound						N.French Rd Eastbound					
Time	R	L	U	RR	**App**	Ped*	R	T	U	RR	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2021-10-06 4:45PM	8	10	0	26	**44**	0	6	136	0	1	**143**	0	218	16	0	**234**	0	**421**
5:00PM	38	19	0	15	**72**	0	9	164	0	6	**179**	0	221	9	0	**230**	0	**481**
5:15PM	14	15	0	17	**46**	0	7	149	0	3	**159**	0	219	16	0	**235**	0	**440**
5:30PM	24	22	0	33	**79**	0	8	166	0	3	**177**	0	205	28	0	**233**	0	**489**
Total	84	66	0	91	**241**	0	30	615	0	13	**658**	0	863	69	0	**932**	0	**1831**
% Approach	34.9%	27.4%	0%	37.8%	**-**	-	4.6%	93.5%	0%	2.0%	**-**	-	92.6%	7.4%	0%	**-**	-	-
% Total	4.6%	3.6%	0%	5.0%	**13.2%**	-	1.6%	33.6%	0%	0.7%	**35.9%**	-	47.1%	3.8%	0%	**50.9%**	-	-
PHF	0.553	0.750	-	0.689	**0.763**	-	0.833	0.926	-	0.542	**0.919**	-	0.976	0.616	-	**0.991**	-	0.936
Motorcycles	0	1	0	0	**1**	-	0	1	0	0	**1**	-	5	0	0	**5**	-	7
% Motorcycles	0%	1.5%	0%	0%	**0.4%**	-	0%	0.2%	0%	0%	**0.2%**	-	0.6%	0%	0%	**0.5%**	-	0.4%
Lights	84	63	0	91	**238**	-	29	609	0	13	**651**	-	849	69	0	**918**	-	1807
% Lights	100%	95.5%	0%	100%	**98.8%**	-	96.7%	99.0%	0%	100%	**98.9%**	-	98.4%	100%	0%	**98.5%**	-	98.7%
Heavy	0	2	0	0	**2**	-	1	5	0	0	**6**	-	9	0	0	**9**	-	17
% Heavy	0%	3.0%	0%	0%	**0.8%**	-	3.3%	0.8%	0%	0%	**0.9%**	-	1.0%	0%	0%	**1.0%**	-	0.9%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, RR: Right on red, T: Thru, U: U-Turn

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N.French Rd/Crosspoint Pkwy - TMC
Wed Oct 6, 2021
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Motorcycles, Lights, Heavy, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 884255, Location: 43.03478, -78.750784

Provided by: Tri-State Traffic Data: New York Division
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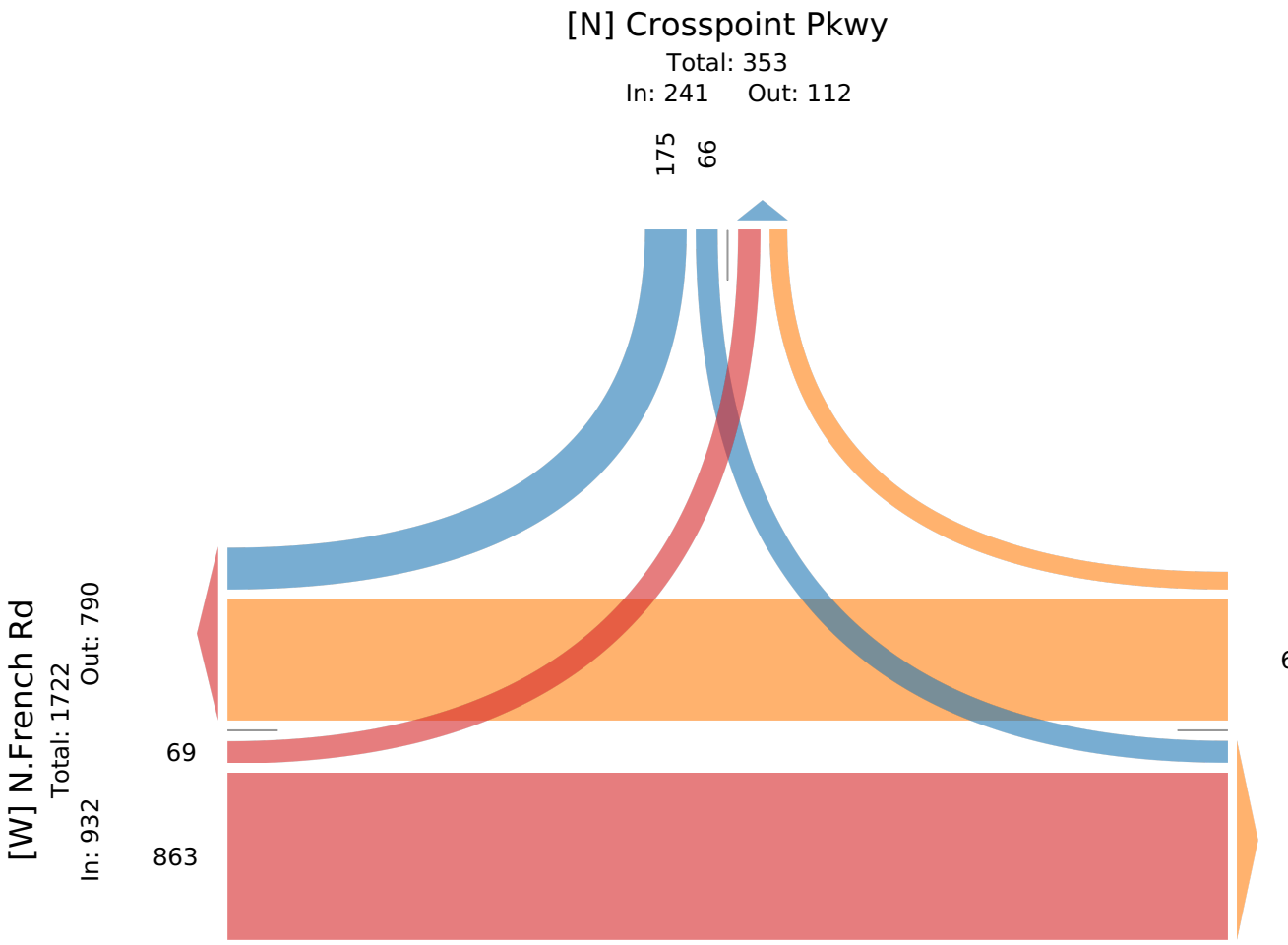


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

APPENDIX B: MISCELLANEOUS CALCULATIONS

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

PASSERO
engineering architecture

North French Road Mixed Use, Town of Amherst, NY

Documentation of Ambient Traffic Volume Growth

Roadway	Segment starts at	Segment end at	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2023	Annual Growth
N French Rd (CR-299)	I-990	Millersport Hwy			20,611								23,654		1.74%
Miller Rd	Millersport Hwy	N French Rd						617						673	0.97%
														AVERAGE	1.35%

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection Crash Rate Calculations
North French Rd Mixed Use

Intersection #1:	N Forest Rd at I-990 SB Ramps
Date of Count:	Tuesday, July 26, 2022
Number of Crashes:	7
Number of Injuries:	1
Number of Fatalities:	0
Entering Vehicles (PM):	2172
ADT:	22863
Start Date:	January 1, 2018
End Date:	December 31, 2022
Number of Years:	5
Intersection Type:	3 Legged
Area Type:	Urban
Control Type:	Sign 1-3 Lanes

$$\text{crash rate} = \frac{\text{Number of Crashes x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{crash rate} = \frac{7 \times 1{,}000{,}000}{22863 \times 365 \times 5}$$

	Crash Rate		Fatality Rate	Injury Rate
Study Intersection	**0.17**	**cr/mve**	**0%**	**14%**
Statewide Average*	**0.19**	**cr/mve**		

ADT = Average Daily Total vehicles entering intersection
cr/mve = crashes per million entering vehicles
* Most recent available 2019 Average Crash Rates for State Highways by Facility Type

Type	Direction: Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn						0
Rear-end			2			2
Overtaking						0
Right Angle			1			1
Right Turn						0
Head On						0
Side-swipe				3		3
Fixed Object		1				1
Backing						0
Other						0
Bike/Ped						0
Animal						0
Totals	0	1	3	3	0	7

PDO	6
Injury	1
Injury + PDO	
Fatal	
NR	
Total	7

Intersection Crash Rate Calculations
North French Rd Mixed Use

Intersection #2:	N Forest Rd at I-990 NB Ramps
Date of Count:	Tuesday, July 26, 2022
Number of Crashes:	14
Number of Injuries:	5
Number of Fatalities:	0
Entering Vehicles (AM):	2396
ADT:	25221
Start Date:	January 1, 2018
End Date:	December 31, 2022
Number of Years:	5
Intersection Type:	3 Legged
Area Type:	Urban
Control Type:	Signal 1-4 Lanes

$$\text{crash rate} = \frac{\text{Number of Crashes x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{crash rate} = \frac{14 \times 1{,}000{,}000}{25221 \times 365 \times 5}$$

	Crash Rate		Fatality Rate	Injury Rate
Study Intersection	**0.30**	**cr/mve**	**0%**	**36%**
Statewide Average*	**0.32**	**cr/mve**		

ADT = Average Daily Total vehicles entering intersection
cr/mve = crashes per million entering vehicles
* Most recent available 2019 Average Crash Rates for State Highways by Facility Type

Type	Direction: Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn	1					1
Rear-end	5		1	3		9
Overtaking						0
Right Angle	2					2
Right Turn	1					1
Head On						0
Side-swipe						0
Fixed Object						0
Backing						0
Other	1					1
Bike/Ped						0
Animal						0
Totals	10	0	1	3	0	14

PDO	9
Injury	5
Injury + PDO	
Fatal	
NR	
Total	14

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection Crash Rate Calculations
North French Rd Mixed Use

Intersection #5:	N Forest Rd at Miller Rd
Date of Count:	Tuesday, July 11, 2023
Number of Crashes:	5
Number of Injuries:	1
Number of Fatalities:	0
Entering Vehicles (PM):	2313
ADT:	24347
Start Date:	January 1, 2018
End Date:	December 31, 2022
Number of Years:	5
Intersection Type:	4 Legged
Area Type:	Urban
Control Type:	Sign 1-3 Lanes

crash rate = Number of Crashes x 1 Million / ADT x 365 Days per Year x Number of Years

crash rate = 5 x 1,000,000 / 24347 x 365 x 5

	Crash Rate		Fatality Rate	Injury Rate
Study Intersection	**0.11**	**cr/mve**	**0%**	**20%**
Statewide Average*	**0.31**	**cr/mve**		

ADT = Average Daily Total vehicles entering intersection
cr/mve = crashes per million entering vehicles
* Most recent available 2019 Average Crash Rates for State Highways by Facility Type

	Direction					
Type	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn	2					2
Rear-end			1			1
Overtaking						0
Right Angle	1		1			2
Right Turn						0
Head On						0
Side-swipe						0
Fixed Object						0
Backing						0
Other						0
Bike/Ped						0
Animal						0
Totals	3	0	2	0	0	5

PDO	4
Injury	1
Injury + PDO	
Fatal	
NR	
Total	5

Intersection Crash Rate Calculations
North French Rd Mixed Use

Intersection #6:	N Forest Rd at Crosspoint Pkwy
Date of Count:	Wednesday, October 6, 2021
Number of Crashes:	9
Number of Injuries:	3
Number of Fatalities:	0
Entering Vehicles (PM):	1831
ADT:	19274
Start Date:	January 1, 2018
End Date:	December 31, 2022
Number of Years:	5
Intersection Type:	3 Legged
Area Type:	Urban
Control Type:	Sign 1-3 Lanes

crash rate = Number of Crashes x 1 Million / ADT x 365 Days per Year x Number of Years

crash rate = 9 x 1,000,000 / 19274 x 365 x 5

	Crash Rate		Fatality Rate	Injury Rate
Study Intersection	**0.26**	**cr/mve**	**0%**	**33%**
Statewide Average*	**0.19**	**cr/mve**		

ADT = Average Daily Total vehicles entering intersection
cr/mve = crashes per million entering vehicles
* Most recent available 2019 Average Crash Rates for State Highways by Facility Type

	Direction					
Type	Northbound	Southbound	Eastbound	Westbound	Unknown	Totals
Left turn						0
Rear-end		1	1	3		5
Overtaking						0
Right Angle				1		1
Right Turn				1		1
Head On						0
Side-swipe			1	1		2
Fixed Object						0
Backing						0
Other						0
Bike/Ped						0
Animal						0
Totals	0	1	2	6	0	9

PDO	6
Injury	3
Injury + PDO	
Fatal	
NR	
Total	9

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

PROJECT: N French Road Mixed Use Development
LOCATION: Town of Amherst, New York
PEAK HOUR: AM Peak Full Access

Figure Number: 3A 3B 4 5A 6A 7A

Num of yrs: 4

LOCATION NUMBER	INTERSECTION DESCRIPTION	Existing Volumes	2023 Existing Volumes	2023 Adjusted Volumes	2027 Bkgd Vol 1.5%	50 Crosspoint	3325 Millersport	2027 Bkgd Volumes	Mixed Use Development Enter Dist. %	Exit Dist. %	Trips IN 55	Trips OUT 130	Total Site Trips	Full Build Volumes
1	N French Road/ I-990 SB Ramps		1											
	SR	51	52	52	55			55						55
	ST													
	SL	1	1	1	1			1						1
	WR													
	WT	449	456	462	490	18	10	518		33%		43	43	561
	WL	385	391	397	421	15	8	444		30%		39	39	483
	NR													
	NT													
	NL													
	ER	397	403	403	428			428						428
	ET	488	495	666	707	5	2	714	33%		18		18	732
	EL													
2	N French Road/ I-990 NB Ramps													
	SR													
	ST													
	SL													
	WR													
	WT	665	675	701	744	33	18	795		63%		82	82	877
	WL													
	NR	521	529	673	714	6	3	723	30%		17		17	740
	NT	1	1	1	1			1						1
	NL	156	158	158	168			168						168
	ER													
	ET	478	485	617	655	5	2	662	33%		18		18	680
	EL	49	50	50	53			53						53
3	N French Road/ Proposed Westerly Driveway													
	SR									45%		59	59	59
	ST													
	SL									5%		7	7	7
	WR								5%		3		3	3
	WT	701	701	701	744	33	18	795		18%		23	23	818
	WL													
	NR													
	NT													
	NL													
	ER													
	ET	1290	1290	1290	1369	11	5	1385	23%		13		13	1398
	EL								45%		25		25	25
4	N French Road/ Proposed EasterlyDriveway													
	SR									18%		23	23	23
	ST													
	SL									20%		26	26	26
	WR								25%		14		14	14
	WT	701	701	701	744	33	18	795	5%		3		3	798
	WL													
	NR													
	NT													
	NL													
	ER													
	ET	1290	1290	1290	1369	11	5	1385		5%		7	7	1392
	EL								18%		10		10	10
5	N French Road/ Miller Road													
	SR													
	ST													
	SL													
	WR													
	WT	684	684	684	726	33	18	777	30%		17		17	794
	WL	3	3	3	3			3						3
	NR	3	3	3	3			3	1%		1		1	4
	NT													
	NL	17	17	17	18			18						18
	ER	16	16	16	17			17						17
	ET	1274	1274	1274	1352	11	5	1368		25%		33	33	1401
	EL													
6	N French Road/ Corsspoint Parkway		2											
	SR	50	52	52	55	33		88						88
	ST													
	SL	21	22	22	23	23	1	47		10%		13	13	60
	WR	79	81	81	86	7	2	95	4%		1		1	96
	WT	613	632	635	674		18	692	30%		17		17	709
	WL													
	NR													
	NT													
	NL													
	ER													
	ET	613	632	928	985		5	990		25%		33	33	1023
	EL	231	238	349	370	11		381	1%		1		1	382
7	Crosspoint Pkwy/ Proposed Driveway													
	SR								2%		1		1	1
	ST		74	74	79	56	1	136						136
	SL													
	WR													
	WT													
	WL													
	NR													
	NT		319	319	339	18	2	359						359
	NL								5%		2		2	2
	ER									10%		13	13	13
	ET													
	EL									2%		3	3	3

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

PROJECT: N French Road Mixed Use Development
LOCATION: Town of Amherst, New York
PEAK HOUR: PM Peak Full Access

Figure Number: 3A 3B 4 5A 6A 7A

Num of yrs: 4

LOCATION NUMBER	INTERSECTION DESCRIPTION	Existing Volumes	2023 Existing Volumes	2023 Adjusted Volumes	2027 Bkgd Vol 1.5%	50 Crosspoint	3325 Millersport	2027 Bkgd Volumes	Mixed Use Development Enter Dist. %	Exit Dist. %	Trips IN 152	Trips OUT 108	Total Site Trips	Full Build Volumes
1	N French Road/ I-990 SB Ramps		1											
	SR	43	44	44	47			47						47
	ST													
	SL	4	4	4	4			4						4
	WR													
	WT	840	853	950	1008	13	7	1028		33%		36	36	1064
	WL	529	537	598	635	9	4	648		30%		32	32	680
	NR													
	NT													
	NL													
	ER	209	212	212	225			225						225
	ET	547	555	608	645	18	9	672	33%		50		50	722
	EL													
2	N French Road/ I-990 NB Ramps													
	SR													
	ST													
	SL													
	WR													
	WT	1000	1015	1214	1288	21	11	1320		63%		68	68	1388
	WL													
	NR	489	496	519	551	17	9	577	30%		46		46	623
	NT	1	1	1	1			1						1
	NL	329	334	334	354			354						354
	ER													
	ET	533	541	567	602	18	9	629	33%		50		50	679
	EL	44	45	45	48			48						48
3	N French Road/ Proposed Westerly Driveway													
	SR									45%		49	49	49
	ST													
	SL									5%		5	5	5
	WR								5%		8		8	8
	WT		1214	1214	1288	21	11	1320		18%		19	19	1339
	WL													
	NR													
	NT													
	NL													
	ER													
	ET		1086	1086	1153	35	18	1206	23%		35		35	1241
	EL								45%		68		68	68
4	N French Road/ Proposed Easterly Driveway													
	SR									18%		19	19	19
	ST													
	SL									20%		22	22	22
	WR								25%		38		38	38
	WT		1214	1214	1288	21	11	1320	5%		8		8	1328
	WL													
	NR													
	NT													
	NL													
	ER													
	ET		1086	1086	1153	35	18	1206		5%		5	5	1211
	EL								18%		27		27	27
5	N French Road/ Miller Road													
	SR													
	ST													
	SL													
	WR													
	WT	1198	1198	1198	1272	21	11	1304	30%		46		46	1350
	WL	10	10	10	11			11						11
	NR	3	3	3	3			3	1%		2		2	5
	NT													
	NL	16	16	16	17			17						17
	ER	35	35	35	37			37						37
	ET	1051	1051	1051	1115	35	18	1168		25%		27	27	1195
	EL													
6	N French Road/ Corsspoint Parkway		2											
	SR	175	180	267	283	21		304						304
	ST													
	SL	66	68	68	72	14	3	89		10%		11	11	100
	WR	43	44	44	47	24	2	73	4%		6		6	79
	WT	615	634	941	999		11	1010	30%		46		46	1056
	WL													
	NR													
	NT													
	NL													
	ER													
	ET	863	889	976	1036		18	1054		25%		27	27	1081
	EL	69	71	78	83	35		118	1%		2		2	120
7	Crosspoint Pkwy/ Proposed Driveway													
	SR								2%		3		3	3
	ST		248	248	263	35	3	301						301
	SL													
	WR													
	WT													
	WL													
	NR													
	NT		115	115	122	59	2	183						183
	NL								5%		8		8	8
	ER									10%		11	11	11
	ET													
	EL									2%		1	1	1

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

PROJECT: N French Road Mixed Use Development
LOCATION: Town of Amherst, New York
PEAK HOUR: AM Peak RIRO

Figure Number:			3A	3B				4	5B				6B	7B
					Num of yrs									
					4									
LOCATION NUMBER	INTERSECTION DESCRIPTION	Existing Volumes	2023 Existing Volumes	2023 Adjusted Volumes	2027 Bkgd Vol 1.5%	50 Crosspoint	3325 Millersport	2027 Bkgd Volumes	Mixed Use Development Enter Dist. %	Exit Dist. %	Trips IN 55	Trips OUT 130	Total Site Trips	Full Build Volumes
1	N French Road/ I-990 SB Ramps		1											
	SR	51	52	52	55			55						55
	ST													
	SL	1	1	1	1			1						1
	WR													
	WT	449	456	462	490	18	10	518		33%		43	43	561
	WL	385	391	397	421	15	8	444		30%		39	39	483
	NR													
	NT													
	NL													
	ER	397	403	403	428			428						428
	ET	488	495	666	707	5	2	714	33%		18		18	732
	EL													
2	N French Road/ I-990 NB Ramps													
	SR													
	ST													
	SL													
	WR													
	WT	665	675	701	744	33	18	795		63%		82	82	877
	WL													
	NR	521	529	673	714	6	3	723	30%		17		17	740
	NT	1	1	1	1			1						1
	NL	156	158	158	168			168						168
	ER													
	ET	478	485	617	655	5	2	662	33%		18		18	680
	EL	49	50	50	53			53						53
3	N French Road/ Proposed Westerly Driveway													
	SR									45%		59	59	59
	ST													
	SL													
	WR								5%		3		3	3
	WT	701	701	701	744	33	18	795		18%		23	23	818
	WL													
	NR													
	NT													
	NL													
	ER													
	ET	1290	1290	1290	1369	11	5	1385	63%		35		35	1420
	EL													
4	N French Road/ Proposed EasterlyDriveway													
	SR									18%		23	23	23
	ST													
	SL									25%		33	33	33
	WR								25%		14		14	14
	WT	701	701	701	744	33	18	795	5%		3		3	798
	WL													
	NR													
	NT													
	NL													
	ER													
	ET	1290	1290	1290	1369	11	5	1385						1385
	EL								63%		35		35	35
5	N French Road/ Miller Road													
	SR													
	ST													
	SL													
	WR													
	WT	684	684	684	726	33	18	777	30%		17		17	794
	WL	3	3	3	3			3						3
	NR	3	3	3	3			3	1%		1		1	4
	NT													
	NL	17	17	17	18			18						18
	ER	16	16	16	17			17						17
	ET	1274	1274	1274	1352	11	5	1368		25%		33	33	1401
	EL													
6	N French Road/ Corsspoint Parkway		2											
	SR	50	52	52	55	33		88						88
	ST													
	SL	21	22	22	23	23	1	47		10%		13	13	60
	WR	79	81	81	86	7	2	95	4%		2		2	97
	WT	613	632	635	674		18	692	30%		17		17	709
	WL													
	NR													
	NT													
	NL													
	ER													
	ET	613	632	928	985		5	990		25%		33	33	1023
	EL	231	238	349	370	11		381	1%		1		1	382
7	Crosspoint Pkwy/ Proposed Driveway													
	SR								2%		1		1	1
	ST	71	74	74	79	56	1	136						136
	SL													
	WR													
	WT													
	WL													
	NR													
	NT	310	319	430	456	18	7	481						481
	NL								5%		3		3	3
	ER									10%		13	13	13
	ET													
	EL									2%		2	2	2

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

PROJECT: N French Road Mixed Use Development
LOCATION: Town of Amherst, New York
PEAK HOUR: PM Peak RIRO

Figure Number: 3A 3B 4 5B 6B 7B

Num of yrs: 4

LOCATION NUMBER	INTERSECTION DESCRIPTION	Existing Volumes	2023 Existing Volumes	2023 Adjusted Volumes	2027 Bkgd Vol 1.5%	50 Crosspoint	3325 Millersport	2027 Bkgd Volumes	Mixed Use Development Enter Dist. %	Exit Dist. %	Trips IN 152	Trips OUT 108	Total Site Trips	Full Build Volumes
1	N French Road/ I-990 SB Ramps		1											
	SR	43	44	44	47			47						47
	ST													
	SL	4	4	4	4			4						4
	WR													
	WT	840	853	950	1008	13	7	1028		33%		36	36	1064
	WL	529	537	598	635	9	4	648		30%		32	32	680
	NR													
	NT													
	NL													
	ER	209	212	212	225			225						225
	ET	547	555	608	645	18	9	672	33%		50		50	722
	EL													
2	N French Road/ I-990 NB Ramps													
	SR													
	ST													
	SL													
	WR													
	WT	1000	1015	1214	1288	21	11	1320		63%		68	68	1388
	WL													
	NR	489	496	519	551	17	9	577	30%		46		46	623
	NT	1	1	1	1			1						1
	NL	329	334	334	354			354						354
	ER													
	ET	533	541	567	602	18	9	629	33%		50		50	679
	EL	44	45	45	48			48						48
3	N French Road/ Proposed Westerly Driveway													
	SR									45%		49	49	49
	ST													
	SL													
	WR								5%		8		8	8
	WT		1214	1214	1288	21	11	1320		18%		19	19	1339
	WL													
	NR													
	NT													
	NL													
	ER													
	ET		1086	1086	1153	35	18	1206	63%		96		96	1302
	EL													
4	N French Road/ Proposed Easterly Driveway													
	SR									18%		19	19	19
	ST													
	SL									25%		27	27	27
	WR								25%		38		38	38
	WT		1214	1214	1288	21	11	1320	5%		8		8	1328
	WL													
	NR													
	NT													
	NL													
	ER													
	ET		1086	1086	1153	35	18	1206						1206
	EL								63%		96		96	96
5	N French Road/ Miller Road													
	SR													
	ST													
	SL													
	WR													
	WT	1198	1198	1198	1272	21	11	1304	30%		46		46	1350
	WL	10	10	10	11			11						11
	NR	3	3	3	3			3	1%		2		2	5
	NT													
	NL	16	16	16	17			17						17
	ER	35	35	35	37			37						37
	ET	1051	1051	1051	1115	35	18	1168		25%		27	27	1195
	EL													
6	N French Road/ Corsspoint Parkway		2											
	SR	175	180	267	283	21		304						304
	ST													
	SL	66	68	68	72	14	3	89		10%		11	11	100
	WR	43	44	44	47	24	2	73	4%		6		6	79
	WT	615	634	941	999		11	1010	30%		46		46	1056
	WL													
	NR													
	NT													
	NL													
	ER													
	ET	863	889	976	1036		18	1054		25%		27	27	1081
	EL	69	71	78	83	35		118	1%		2		2	120
7	Crosspoint Pkwy/ Proposed Driveway													
	SR								2%		3		3	3
	ST	241	248	335	356	35	3	394						394
	SL													
	WR													
	WT													
	WL													
	NR													
	NT	112	115	122	129	59	2	190						190
	NL								5%		8		8	8
	ER									10%		11	11	11
	ET													
	EL									2%		1	1	1

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

PROJECT: N French Road Mixed Use Development
LOCATION: Town of Amherst, New York
PEAK HOUR: AM Peak Gated

Figure Number: 3A 3B 4 5C 6C 7C

Num of yrs: 4

LOCATION NUMBER	INTERSECTION DESCRIPTION	Existing Volumes	2023 Existing Volumes	2023 Adjusted Volumes	2027 Bkgd Vol 1.5%	50 Crosspoint	3325 Millersport	2027 Bkgd Volumes	Mixed Use Development Enter Dist. %	Exit Dist. %	Trips IN 55	Trips OUT 130	Total Site Trips	Full Build Volumes
1	N French Road/ I-990 SB Ramps		1											
	SR	51	52	52	55			55						55
	ST													
	SL	1	1	1	1			1						1
	WR													
	WT	449	456	462	490	18	10	518		33%		43	43	561
	WL	385	391	397	421	15	8	444		30%		39	39	483
	NR													
	NT													
	NL													
	ER	397	403	403	428			428						428
	ET	488	495	666	707	5	2	714	33%		18		18	732
	EL													
2	N French Road/ I-990 NB Ramps													
	SR													
	ST													
	SL													
	WR													
	WT	665	675	701	744	33	18	795		63%		82	82	877
	WL													
	NR	521	529	673	714	6	3	723	30%		17		17	740
	NT	1	1	1	1			1						1
	NL	156	158	158	168			168						168
	ER	478	485	617	655	5	2	662	33%		18		18	680
	ET	49	50	50	53			53						53
	EL													
3	N French Road/ Proposed Easterly Driveway													
	SR													
	ST													
	SL													
	WR													
	WT	701	701	701	744	33	18	795					82	877
	WL													
	NR													
	NT													
	NL													
	ER													
	ET	1290	1290	1290	1369	11	5	1385					33	1418
	EL													
4	N French Road/ Proposed WesterlyDriveway													
	SR									63%		82	82	82
	ST													
	SL									25%		33	33	33
	WR								34%		19		19	19
	WT	701	701	701	744	33	18	795						795
	WL													
	NR													
	NT													
	NL													
	ER													
	ET	1290	1290	1290	1369	11	5	1385						1385
	EL								63%		35		35	35
5	N French Road/ Miller Road													
	SR													
	ST													
	SL													
	WR													
	WT	684	684	684	726	33	18	777	34%		19		19	796
	WL	3	3	3	3			3						3
	NR	3	3	3	3			3	1%		1		1	4
	NT													
	NL	17	17	17	18			18						18
	ER	16	16	16	17			17						17
	ET	1274	1274	1274	1352	11	5	1368		25%		33	33	1401
	EL													
6	N French Road/ Corsspoint Parkway		2											
	SR	50	52	52	55	33		88						88
	ST													
	SL	21	22	22	23	23	1	47		10%		13	13	60
	WR	79	81	81	86	7	2	95						95
	WT	613	632	635	674		18	692	34%		19		19	711
	WL													
	NR													
	NT													
	NL													
	ER													
	ET	613	632	928	985		5	990		25%		33	33	1023
	EL	231	238	349	370	11		381	1%		1		1	382
7	Crosspoint Pkwy/ Proposed Driveway													
	SR								2%		1		1	1
	ST	71	74	74	79	56	1	136						136
	SL													
	WR													
	WT													
	WL													
	NR													
	NT	310	319	430	456	18	2	476						476
	NL								1%		1		1	1
	ER									10%		13	13	13
	ET													
	EL									2%		3	3	3

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

PROJECT: N French Road Mixed Use Development
LOCATION: Town of Amherst, New York
PEAK HOUR: PM Peak Gated

Figure Number: 3A 3B 4 5C 6C 7C

Num of yrs: 4

LOCATION NUMBER	INTERSECTION DESCRIPTION	Existing Volumes	2023 Existing Volumes	2023 Adjusted Volumes	2027 Bkgd Vol 1.5%	50 Crosspoint	3325 Millersport	2027 Bkgd Volumes	Mixed Use Development Enter Dist. %	Exit Dist. %	Trips IN 152	Trips OUT 108	Total Site Trips	Full Build Volumes
1	N French Road/ I-990 SB Ramps		1											
	SR	43	44	44	47			47						47
	ST													
	SL	4	4	4	4			4						4
	WR													
	WT	840	853	950	1008	13	7	1028		33%		36	36	1064
	WL	529	537	598	635	9	4	648		30%		32	32	680
	NR													
	NT													
	NL													
	ER	209	212	212	225			225						225
	ET	547	555	608	645	18	9	672	33%		50		50	722
	EL													
2	N French Road/ I-990 NB Ramps													
	SR													
	ST													
	SL													
	WR													
	WT	1000	1015	1214	1288	21	11	1320		63%		68	68	1388
	WL													
	NR	489	496	519	551	17	9	577	30%		46		46	623
	NT	1	1	1	1			1						1
	NL	329	334	334	354			354						354
	ER													
	ET	533	541	567	602	18	9	629	33%		50		50	679
	EL	44	45	45	48			48						48
3	N French Road/ Proposed Westerly Driveway													
	SR													
	ST													
	SL													
	WR													
	WT		1214	1214	1288	21	11	1320					68	1388
	WL													
	NR													
	NT													
	NL													
	ER													
	ET		1086	1086	1153	35	18	1206					96	1302
	EL													
4	N French Road/ Proposed Easterly Driveway													
	SR									63%		68	68	68
	ST													
	SL									25%		27	27	27
	WR													
	WT		1214	1214	1288	21	11	1320	34%		52		52	52
	WL													1320
	NR													
	NT													
	NL													
	ER													
	ET		1086	1086	1153	35	18	1206						1206
	EL								63%		96		96	96
5	N French Road/ Miller Road													
	SR													
	ST													
	SL													
	WR													
	WT	1198	1198	1198	1272	21	11	1304	34%		52		52	1356
	WL	10	10	10	11			11						11
	NR	3	3	3	3			3	1%		2		2	5
	NT													
	NL	16	16	16	17			17						17
	ER	35	35	35	37			37						37
	ET	1051	1051	1051	1115	35	18	1168		25%		27	27	1195
	EL													
6	N French Road/ Corsspoint Parkway		2											
	SR	175	180	267	283	21		304						304
	ST													
	SL	66	68	68	72	14	3	89		10%		11	11	100
	WR	43	44	44	47	24	2	73						73
	WT	615	634	941	999		11	1010	34%		52		52	1062
	WL													
	NR													
	NT													
	NL													
	ER													
	ET	863	889	976	1036		18	1054		25%		27	27	1081
	EL	69	71	78	83	35		118	1%		2		2	120
7	Crosspoint Pkwy/ Proposed Driveway													
	SR													
	ST	241	248	335	356	35	3	394	2%		3		3	3
	SL													394
	WR													
	WT													
	WL													
	NR													
	NT	112	115	122	129	59	2	190						190
	NL								1%		2		2	2
	ER									10%		11	11	11
	ET													
	EL									2%		2	2	2

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

PROJECT DETAILS

Project Name:	North French Rd	Type of Project:	
Project No:		City:	
Country:		Built-up Area(Sq.ft):	
Analyst Name:	Amy Dake	Clients Name:	
Date:	3/21/2024	ZIP/Postal Code:	
State/Province:		No. of Scenarios:	2
Analysis Region:			

SCENARIO SUMMARY

Scenarios	Name	No. of Land Uses	Phases of Development	No. of Years to Project Traffic	User Group	Estimated New Vehicle Trips		
						Entry	Exit	Total
Scenario - 1	AM Peak	4	1	0		55	130	185
Scenario - 2	PM Peak	4	1	0		152	108	260

Scenario - 1

Scenario Name: AM Peak
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method Rate/Equation	Entry Split%	Exit Split%	Total
822 - Strip Retail Plaza (<40k)	General Urban/Suburban	1000 Sq. Ft. GLA	8	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	15	10	25
Data Source: Trip Generation Manual, 11th Ed					Ln(T) =0.66Ln(X) + 1.84	60%	40%	
215 - Single-Family Attached Housing	General Urban/Suburban	Dwelling Units	150	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LIN)	18	54	72
Data Source: Trip Generation Manual, 11th Ed					T = 0.52(X) - 5.70	25%	75%	
220 - Multifamily Housing (Low-Rise) - Not Close	General Urban/Suburban	Dwelling Units	70	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LIN)	11	34	45
Data Source: Trip Generation Manual, 11th Ed					T = 0.31(X) + 22.85	24%	76%	
210 - Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	55	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	11	32	43
Data Source: Trip Generation Manual, 11th Ed					Ln(T) =0.91Ln(X) + 0.12	25%	75%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
822 - Strip Retail Plaza (<40k)	100	100	1	1	60	40
215 - Single-Family Attached Housing	100	100	1	1	25	75
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100	100	1	1	24	76
210 - Single-Family Detached Housing	100	100	1	1	25	75

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
822 - Strip Retail Plaza (<40k)	15	10	0	0	15	10
	25		0		25	
215 - Single-Family Attached Housing	18	54	0	0	18	54
	72		0		72	
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	11	34	0	0	11	34
	45		0		45	
210 - Single-Family Detached Housing	11	32	0	0	11	32
	43		0		43	

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
822 - Strip Retail Plaza (<40k)	15	10	25
215 - Single-Family Attached Housing	18	54	72
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	11	34	45
210 - Single-Family Detached Housing	11	32	43

RESULTS

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	55	130	185
External Vehicle Trips	55	130	185
New Vehicle Trips	55	130	185

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Scenario - 2

Scenario Name: PM Peak
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method Rate/Equation	Entry Split%	Exit Split%	Total
822 - Strip Retail Plaza (<40k)	General Urban/Suburban	1000 Sq. Ft. GLA	8	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	33	33	66
Data Source: Trip Generation Manual, 11th Ed					Ln(T) =0.71Ln(X) + 2.72	50%	50%	
215 - Single-Family Attached Housing	General Urban/Suburban	Dwelling Units	150	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LIN)	51	35	86
Data Source: Trip Generation Manual, 11th Ed					T = 0.60(X) - 3.93	59%	41%	
220 - Multifamily Housing (Low-Rise) - Not Close	General Urban/Suburban	Dwelling Units	70	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LIN)	32	19	51
Data Source: Trip Generation Manual, 11th Ed					T = 0.43(X) + 20.55	63%	37%	
210 - Single-Family Detached Housing	General Urban/Suburban	Dwelling Units	55	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LOG)	36	21	57
Data Source: Trip Generation Manual, 11th Ed					Ln(T) =0.94Ln(X) + 0.27	63%	37%	

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

Land Use	Baseline Site Vehicle Mode Share		Baseline Site Vehicle Occupancy		Baseline Site Vehicle Directional Split	
	Entry (%)	Exit (%)	Entry	Exit	Entry (%)	Exit (%)
822 - Strip Retail Plaza (<40k)	100	100	1	1	50	50
215 - Single-Family Attached Housing	100	100	1	1	59	41
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	100	100	1	1	63	37
210 - Single-Family Detached Housing	100	100	1	1	63	37

ESTIMATED BASELINE SITE PERSON TRIPS:

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
822 - Strip Retail Plaza (<40k)	33	33	0	0	33	33
	66		0		66	
215 - Single-Family Attached Housing	51	35	0	0	51	35
	86		0		86	
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	32	19	0	0	32	19
	51		0		51	
210 - Single-Family Detached Housing	36	21	0	0	36	21
	57		0		57	

NEW VEHICLE TRIPS

Land Use	New Vehicle Trips		
	Entry	Exit	Total
822 - Strip Retail Plaza (<40k)	33	33	66
215 - Single-Family Attached Housing	51	35	86
220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit	32	19	51
210 - Single-Family Detached Housing	36	21	57

RESULTS

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	152	108	260
External Vehicle Trips	152	108	260
New Vehicle Trips	152	108	260

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Guideline for a major-road left-turn bay on a four lane undivided Road at an unsignalized intersection

N French Rd Proposed Easterly Driveway AM Peak Full Access

INPUT

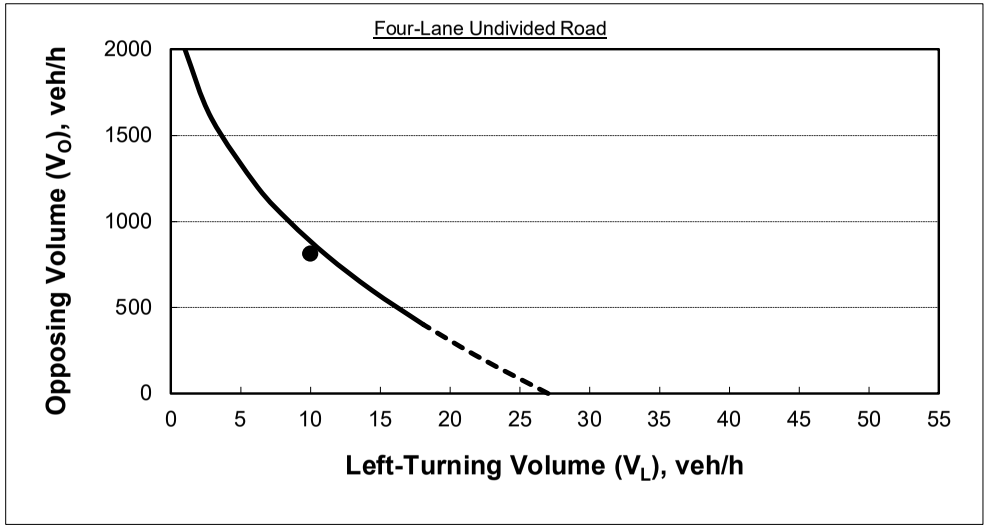
Variable	Value
Left-turning volume (V_L), veh/h:	10
Advancing volume (V_A), veh/h: (Left + Thru + Right)	1402
Opposing volume (V_O), veh/h: (Thru + Right)	812

OUTPUT

Variable	Message
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
LEFT-TURN TREATMENT NOT WARRANTED.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway/Gap, s:	6.0



Note: When V_O < 400 veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h (V_A > 400 veh/h).

Guideline for a major-road left-turn bay on a four lane undivided Road at an unsignalized intersection

N French Rd Proposed Easterly Driveway PM Peak Full Access

INPUT

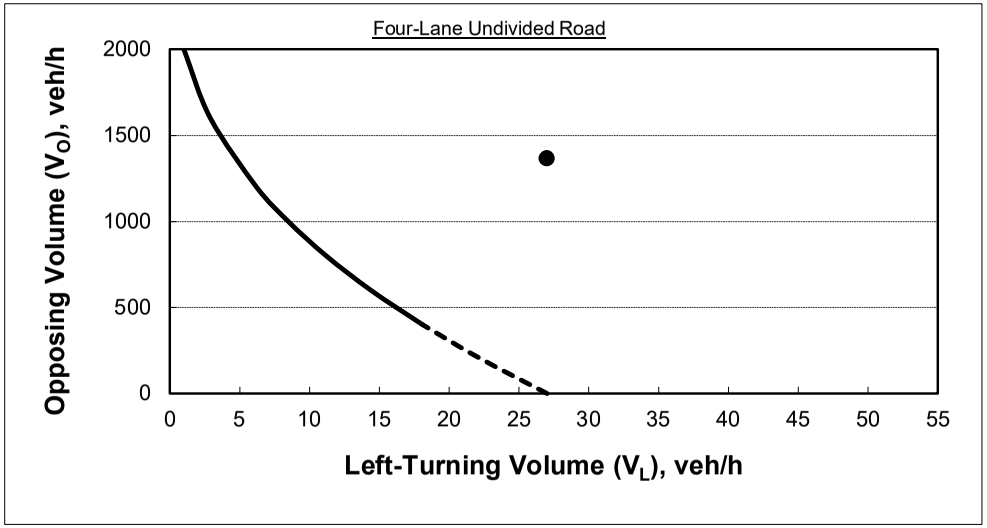
Variable	Value
Left-turning volume (V_L), veh/h:	27
Advancing volume (V_A), veh/h: (Left + Thru + Right)	1238
Opposing volume (V_O), veh/h: (Thru + Right)	1366

OUTPUT

Variable	Message
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
LEFT-TURN TREATMENT WARRANTED.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway/Gap, s:	6.0



Note: When V_O < 400 veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h (V_A > 400 veh/h).

Guideline for a major-road left-turn bay on a four lane undivided Road at an unsignalized intersection

N French Rd Proposed Easterly Driveway AM Peak Right in-Right out

INPUT

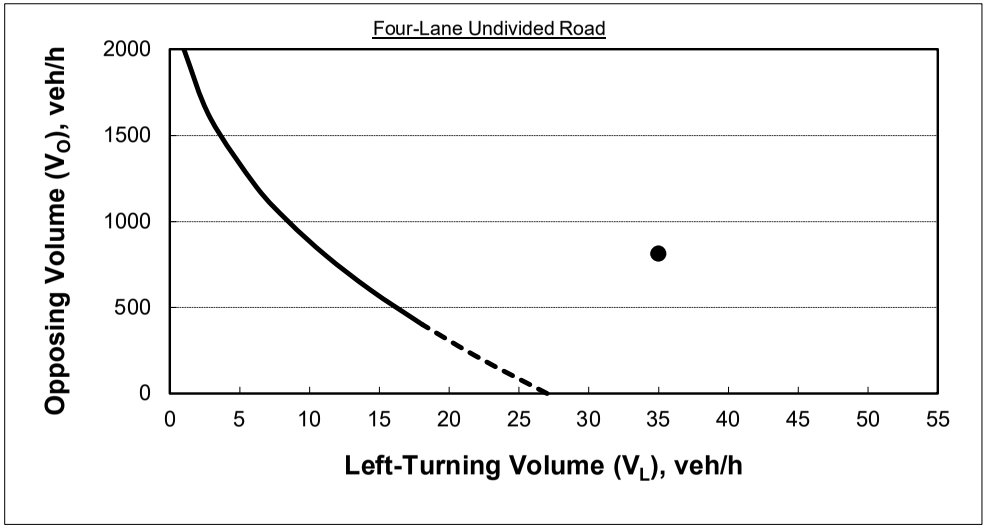
Variable	Value
Left-turning volume (V_L), veh/h:	35
Advancing volume (V_A), veh/h: (Left + Thru + Right)	1420
Opposing volume (V_O), veh/h: (Thru + Right)	812

OUTPUT

Variable	Message
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
LEFT-TURN TREATMENT WARRANTED.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway/Gap, s:	6.0



Note: When V_O < 400 veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h (V_A > 400 veh/h).

Guideline for a major-road left-turn bay on a four lane undivided Road at an unsignalized intersection

N French Rd Proposed Easterly Driveway PM Peak Right in-Right out

INPUT

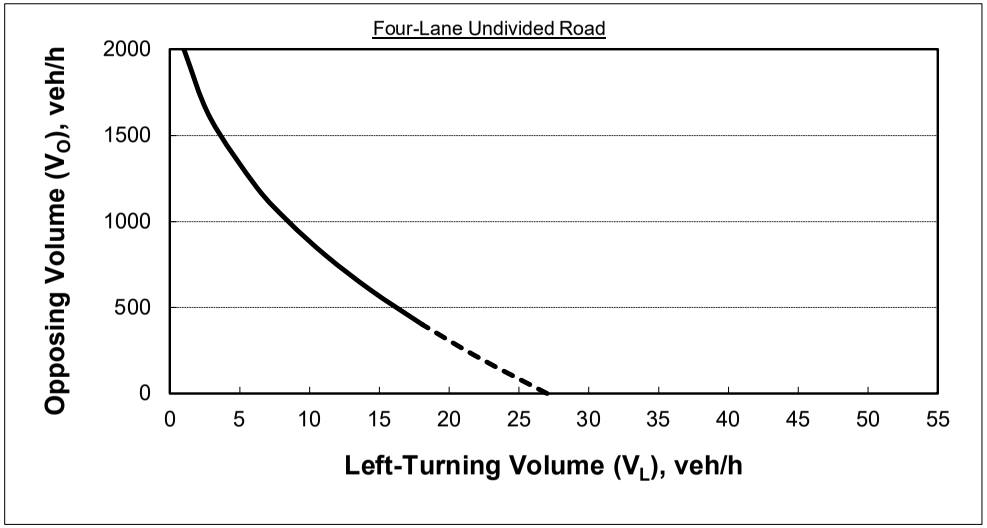
Variable	Value
Left-turning volume (V_L), veh/h:	96
Advancing volume (V_A), veh/h: (Left + Thru + Right)	1302
Opposing volume (V_O), veh/h: (Thru + Right)	1366

OUTPUT

Variable	Message
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
LEFT-TURN TREATMENT WARRANTED.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway/Gap, s:	6.0



Note: When V_O < 400 veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h (V_A > 400 veh/h).

Guideline for a major-road left-turn bay on a four lane undivided Road at an unsignalized intersection

N French Rd Proposed Easterly Driveway AM Peak Gated Access

INPUT

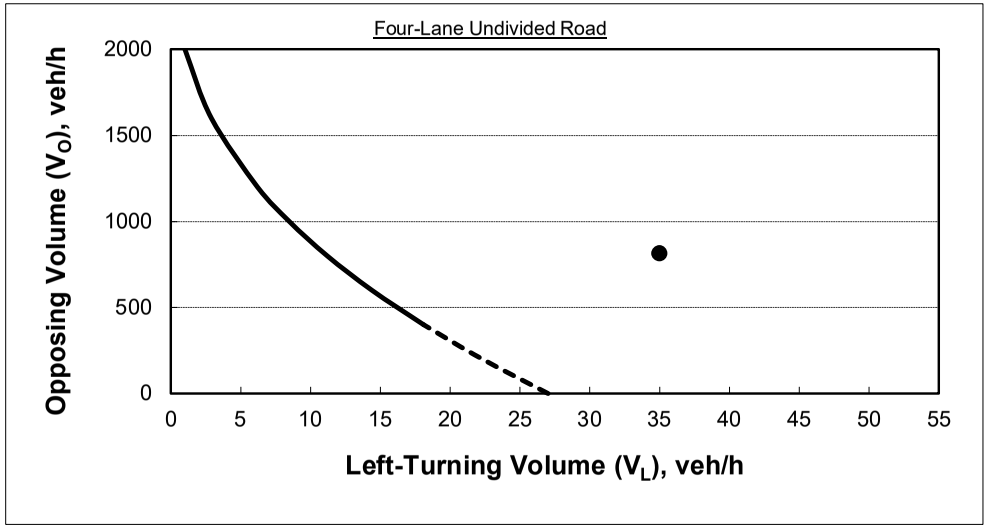
Variable	Value
Left-turning volume (V_L), veh/h:	35
Advancing volume (V_A), veh/h: (Left + Thru + Right)	1420
Opposing volume (V_O), veh/h: (Thru + Right)	814

OUTPUT

Variable	Message
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
LEFT-TURN TREATMENT WARRANTED.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway/Gap, s:	6.0



Note: When V_O < 400 veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h (V_A > 400 veh/h).

Guideline for a major-road left-turn bay on a four lane undivided Road at an unsignalized intersection

N French Rd Proposed Easterly Driveway PM Peak Gated Access

INPUT

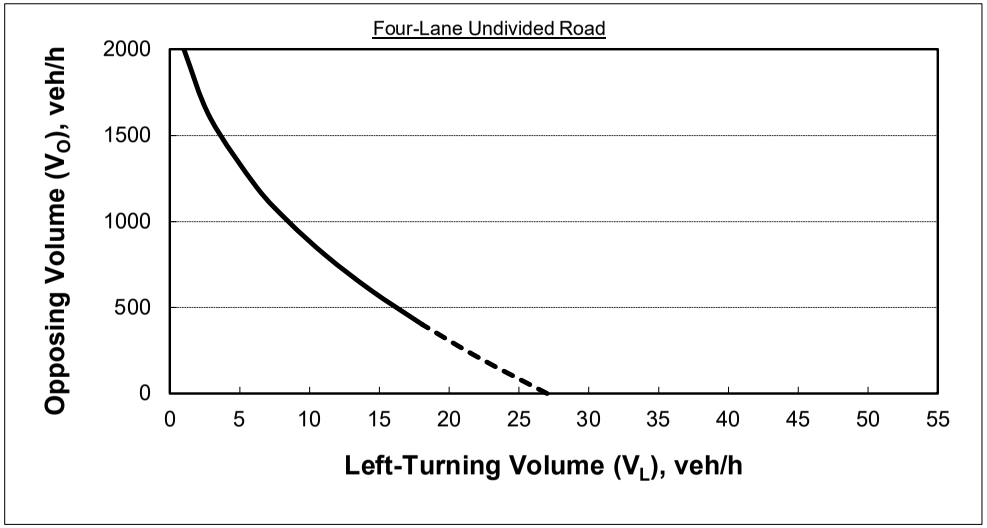
Variable	Value
Left-turning volume (V_L), veh/h:	96
Advancing volume (V_A), veh/h: (Left + Thru + Right)	1302
Opposing volume (V_O), veh/h: (Thru + Right)	1372

OUTPUT

Variable	Message
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
LEFT-TURN TREATMENT WARRANTED.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway/Gap, s:	6.0



Note: When V_O < 400 veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h (V_A > 400 veh/h).

Guideline for a major-road left-turn bay on a four lane undivided Road at an unsignalized intersection

N French Rd Proposed Westerly Driveway AM Peak Full Access

INPUT

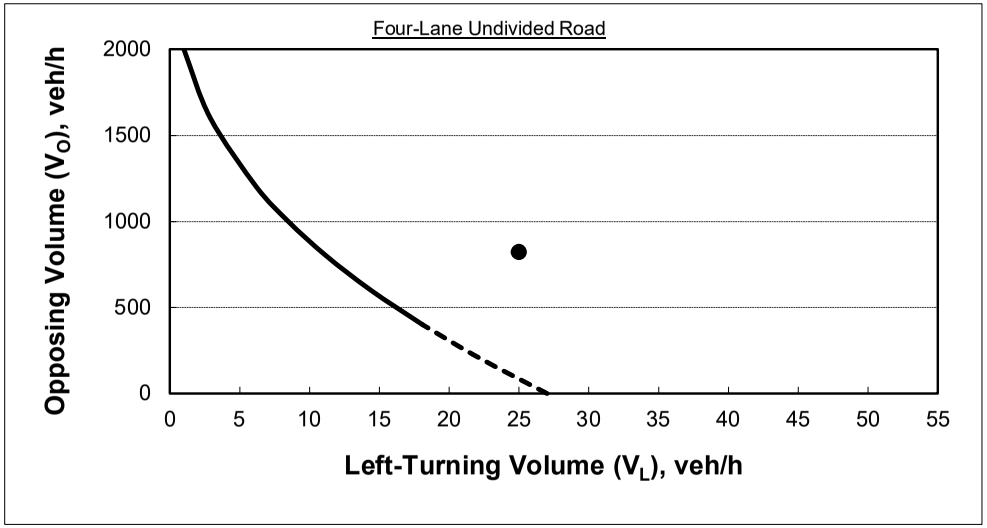
Variable	Value
Left-turning volume (V_L), veh/h:	25
Advancing volume (V_A), veh/h: (Left + Thru + Right)	1423
Opposing volume (V_O), veh/h: (Thru + Right)	821

OUTPUT

Variable	Message
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
LEFT-TURN TREATMENT WARRANTED.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway/Gap, s:	6.0



Note: When V_O < 400 veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h (V_A > 400 veh/h).

Guideline for a major-road left-turn bay on a four lane undivided Road at an unsignalized intersection

N French Rd Proposed Westerly Driveway PM Peak Full Access

INPUT

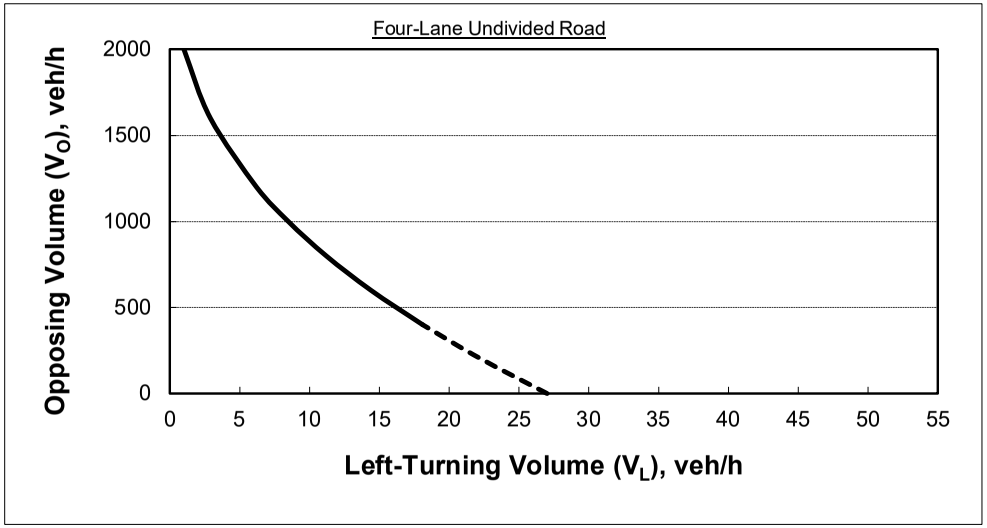
Variable	Value
Left-turning volume (V_L), veh/h:	68
Advancing volume (V_A), veh/h: (Left + Thru + Right)	1309
Opposing volume (V_O), veh/h: (Thru + Right)	1347

OUTPUT

Variable	Message
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
LEFT-TURN TREATMENT WARRANTED.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway/Gap, s:	6.0



Note: When V_O < 400 veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h (V_A > 400 veh/h).

APPENDIX C: LOS CALCULATIONS – EXISTING CONDITIONS

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2023 Existing AM
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	666	403	397	462	0	0	0	0	1	0	52
Future Volume (vph)	0	666	403	397	462	0	0	0	0	1	0	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.867	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Flt Permitted				0.950							0.999	
Satd. Flow (perm)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			291								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	8%	3%	11%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	0	709	429	422	491	0	0	0	0	1	0	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	709	429	422	491	0	0	0	0	0	56	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	37.0	48.0	15.0
Total Split (%)	24%	31%	10%
Maximum Green (s)	30.7	41.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2023 Existing AM
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		81.1	81.1	31.2	125.0						8.9	
Actuated g/C Ratio		0.56	0.56	0.21	0.86						0.06	
v/c Ratio		0.36	0.44	0.58	0.33						0.24	
Control Delay (s/veh)		10.8	4.7	47.9	4.5						2.4	
Queue Delay		0.0	0.0	0.0	0.1						0.0	
Total Delay (s/veh)		10.8	4.7	47.9	4.7						2.4	
LOS		B	A	D	A						A	
Approach Delay (s/veh)		8.5			24.7						2.5	
Approach LOS		A			C						A	
Queue Length 50th (ft)		131	42	203	179						0	
Queue Length 95th (ft)		160	87	263	179						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1978	977	807	1485						232	
Starvation Cap Reductn		0	0	0	368						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.36	0.44	0.52	0.44						0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 145.9			
Natural Cycle: 105			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay (s/veh): 15.4		Intersection LOS: B	
Intersection Capacity Utilization 56.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: I-990 SB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

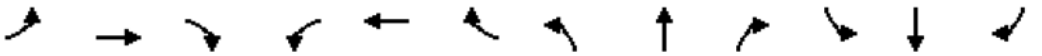
Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2023 Existing AM
03/28/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	617	0	0	701	0	158	1	673	0	0	0
Future Volume (vph)	50	617	0	0	701	0	158	1	673	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.996					0.950					
Satd. Flow (prot)	0	3457	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.818					0.950					
Satd. Flow (perm)	0	2839	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								296	296			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			1666			515			456	
Travel Time (s)		6.7			25.2			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	53	656	0	0	746	0	168	1	716	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	709	0	0	746	0	168	359	358	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							48.0	48.0	48.0			
Total Split (%)							31.0%	31.0%	31.0%			
Maximum Green (s)							41.8	41.8	41.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	37.0	15.0	15.0
Total Split (%)	26%	24%	10%	10%
Maximum Green (s)	34.3	30.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2023 Existing AM
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		94.8			73.9		39.1	39.1	39.1			
Actuated g/C Ratio		0.65			0.51		0.27	0.27	0.27			
v/c Ratio		0.38			0.29		0.40	0.58	0.58			
Control Delay (s/veh)		12.7			13.4		48.4	13.7	13.5			
Queue Delay		0.7			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		13.4			13.4		48.4	13.7	13.5			
LOS		B			B		D	B	B			
Approach Delay (s/veh)		13.4			13.4			20.3				
Approach LOS		B			B			C				
Queue Length 50th (ft)		141			106		139	50	50			
Queue Length 95th (ft)		164			127		216	165	164			
Internal Link Dist (ft)		360			1586			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1910			2667		446	636	636			
Starvation Cap Reductn		807			0		0	0	0			
Spillback Cap Reductn		0			0		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.64			0.28		0.38	0.56	0.56			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 145.9			
Natural Cycle: 105			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay (s/veh): 16.0		Intersection LOS: B	
Intersection Capacity Utilization 60.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: I-990 NB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1274	16	3	684	17	3
Future Volume (vph)	1274	16	3	684	17	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.998				0.982	
Flt Protected					0.959	
Satd. Flow (prot)	3530	0	0	3505	1701	0
Flt Permitted					0.959	
Satd. Flow (perm)	3530	0	0	3505	1701	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	1666			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	6%	0%	3%	6%	0%
Adj. Flow (vph)	1416	18	3	760	19	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1434	0	0	763	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1274	16	3	684	17	3
Future Vol, veh/h	1274	16	3	684	17	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	0	3	6	0
Mvmt Flow	1416	18	3	760	19	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1433	0	1811	717
Stage 1	-	-	-	-	1424	-
Stage 2	-	-	-	-	387	-
Critical Hdwy	-	-	4.1	-	6.92	6.9
Critical Hdwy Stg 1	-	-	-	-	5.92	-
Critical Hdwy Stg 2	-	-	-	-	5.92	-
Follow-up Hdwy	-	-	2.2	-	3.56	3.3
Pot Cap-1 Maneuver	-	-	480	-	67	377
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	644	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	480	-	66	377
Mov Cap-2 Maneuver	-	-	-	-	66	-
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	639	-

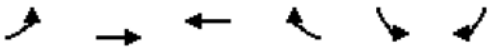
Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.16	71.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	76	-	-	16	-
HCM Lane V/C Ratio	0.294	-	-	0.007	-
HCM Control Delay (s/veh)	71.3	-	-	12.6	0.1
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	1.1	-	-	0	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
6: N French Rd & Crosspoint Pkwy

2023 Existing AM
03/28/2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	349	928	635	81	22	52
Future Volume (vph)	349	928	635	81	22	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3467	3438	3471	1538	1719	2682
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3467	3438	3471	1538	1719	2682
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				92		62
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		717	
Travel Time (s)		8.5	8.9		16.3	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	5%	4%	5%	5%	6%
Adj. Flow (vph)	415	1105	756	96	26	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	415	1105	756	96	26	62
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	12.8	39.0	19.3	19.3	6.9	6.9
Actuated g/C Ratio	0.24	0.73	0.36	0.36	0.13	0.13
v/c Ratio	0.49	0.43	0.60	0.15	0.11	0.15
Control Delay (s/veh)	21.2	4.8	17.2	4.5	25.6	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.2	4.8	17.2	4.5	25.6	9.2
LOS	C	A	B	A	C	A
Approach Delay (s/veh)		9.3	15.9		14.1	
Approach LOS		A	B		B	
Queue Length 50th (ft)	59	75	107	1	8	0
Queue Length 95th (ft)	104	105	156	23	27	14
Internal Link Dist (ft)		484	506		637	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	1047	3350	2569	1162	1160	1831
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.33	0.29	0.08	0.02	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 53.1			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay (s/veh): 11.7		Intersection LOS: B	
Intersection Capacity Utilization 46.6%		ICU Level of Service A	
Analysis Period (min) 15			

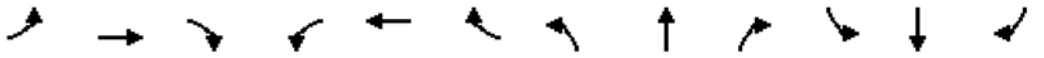
Splits and Phases: 6: N French Rd & Crosspoint Pkwy



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2023 Existing PM
03/28/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	608	212	598	950	0	0	0	0	4	0	44
Future Volume (vph)	0	608	212	598	950	0	0	0	0	4	0	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.875	
Flt Protected				0.950							0.996	
Satd. Flow (prot)	0	3574	1538	3433	1881	0	0	0	0	0	1656	0
Flt Permitted				0.950							0.996	
Satd. Flow (perm)	0	3574	1538	3433	1881	0	0	0	0	0	1656	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			236								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	1%	5%	2%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	683	238	672	1067	0	0	0	0	4	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	683	238	672	1067	0	0	0	0	0	53	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	37.0	48.0	15.0
Total Split (%)	24%	31%	10%
Maximum Green (s)	30.7	41.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2023 Existing PM
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		86.4	86.4	34.3	133.3						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.87						0.06	
v/c Ratio		0.34	0.24	0.87	0.65						0.22	
Control Delay (s/veh)		10.9	1.6	58.0	7.1						2.2	
Queue Delay		0.0	0.0	3.4	0.7						0.0	
Total Delay (s/veh)		10.9	1.6	61.5	7.9						2.2	
LOS		B	A	E	A						A	
Approach Delay (s/veh)		8.5			28.6						2.3	
Approach LOS		A			C						A	
Queue Length 50th (ft)		124	1	344	221						0	
Queue Length 95th (ft)		150	25	#436	279						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1999	964	764	1626						233	
Starvation Cap Reductn		0	0	44	250						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.34	0.25	0.93	0.78						0.23	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 154			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay (s/veh): 21.3		Intersection LOS: C	
Intersection Capacity Utilization 64.9%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: I-990 SB Ramps & N French Rd

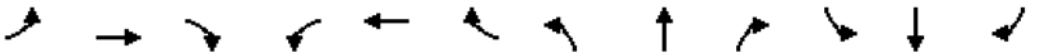


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	567	0	0	1214	0	334	1	519	0	0	0
Future Volume (vph)	45	567	0	0	1214	0	334	1	519	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.851	0.850			
Flt Protected		0.996					0.950					
Satd. Flow (prot)	0	3596	0	0	5136	0	1770	1521	1519	0	0	0
Flt Permitted		0.723					0.950					
Satd. Flow (perm)	0	2610	0	0	5136	0	1770	1521	1519	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								282	282			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			1666			515			456	
Travel Time (s)		6.7			25.2			11.7			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	0%	1%	0%	0%	0%
Adj. Flow (vph)	49	616	0	0	1320	0	363	1	564	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	665	0	0	1320	0	363	283	282	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							48.0	48.0	48.0			
Total Split (%)							31.0%	31.0%	31.0%			
Maximum Green (s)							41.8	41.8	41.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	37.0	15.0	15.0
Total Split (%)	26%	24%	10%	10%
Maximum Green (s)	34.3	30.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2023 Existing PM
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		100.3			79.6		41.8	41.8	41.8			
Actuated g/C Ratio		0.65			0.52		0.27	0.27	0.27			
v/c Ratio		0.39			0.49		0.75	0.45	0.45			
Control Delay (s/veh)		13.4			20.1		62.9	7.1	7.0			
Queue Delay		0.7			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		14.1			20.1		62.9	7.1	7.0			
LOS		B			C		E	A	A			
Approach Delay (s/veh)		14.2			20.1			29.0				
Approach LOS		B			C			C				
Queue Length 50th (ft)		132			215		340	1	0			
Queue Length 95th (ft)		155			244		467	78	78			
Internal Link Dist (ft)		360			1586			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1717			2689		480	618	617			
Starvation Cap Reductn		681			0		0	0	0			
Spillback Cap Reductn		0			110		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.64			0.51		0.76	0.46	0.46			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 154			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay (s/veh): 21.6		Intersection LOS: C	
Intersection Capacity Utilization 73.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: I-990 NB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1051	35	10	1198	16	3
Future Volume (vph)	1051	35	10	1198	16	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.995				0.980	
Flt Protected					0.959	
Satd. Flow (prot)	3558	0	0	3575	1786	0
Flt Permitted					0.959	
Satd. Flow (perm)	3558	0	0	3575	1786	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	1666			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Adj. Flow (vph)	1106	37	11	1261	17	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1143	0	0	1272	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.1%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1051	35	10	1198	16	3
Future Vol, veh/h	1051	35	10	1198	16	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	1106	37	11	1261	17	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1143	0	1776	572
Stage 1	-	-	-	-	1125	-
Stage 2	-	-	-	-	652	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	619	-	75	469
Stage 1	-	-	-	-	276	-
Stage 2	-	-	-	-	486	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	619	-	73	469
Mov Cap-2 Maneuver	-	-	-	-	73	-
Stage 1	-	-	-	-	276	-
Stage 2	-	-	-	-	473	-

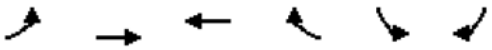
Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.37	60.17
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	85	-	-	30	-
HCM Lane V/C Ratio	0.236	-	-	0.017	-
HCM Control Delay (s/veh)	60.2	-	-	10.9	0.3
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
6: N French Rd & Crosspoint Pkwy

2023 Existing PM
03/28/2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	78	976	941	44	68	267
Future Volume (vph)	78	976	941	44	68	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3502	3574	3574	1583	1752	2842
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3502	3574	3574	1583	1752	2842
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				34		284
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		717	
Travel Time (s)		8.5	8.9		16.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	1%	2%	3%	0%
Adj. Flow (vph)	83	1038	1001	47	72	284
Shared Lane Traffic (%)						
Lane Group Flow (vph)	83	1038	1001	47	72	284
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	7.4	31.4	22.4	22.4	8.4	8.4
Actuated g/C Ratio	0.14	0.60	0.43	0.43	0.16	0.16
v/c Ratio	0.16	0.48	0.66	0.06	0.25	0.41
Control Delay (s/veh)	24.5	6.5	15.3	5.5	25.2	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.5	6.5	15.3	5.5	25.2	5.8
LOS	C	A	B	A	C	A
Approach Delay (s/veh)		7.9	14.9		9.7	
Approach LOS		A	B		A	
Queue Length 50th (ft)	12	76	132	2	21	0
Queue Length 95th (ft)	34	126	214	18	61	32
Internal Link Dist (ft)		484	506		637	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	1078	3467	2659	1186	1194	2028
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.30	0.38	0.04	0.06	0.14

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 52.7			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 11.1		Intersection LOS: B	
Intersection Capacity Utilization 48.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: N French Rd & Crosspoint Pkwy



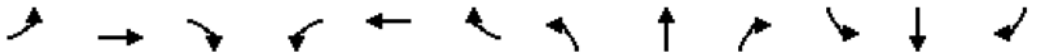
Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

APPENDIX D: LOS CALCULATIONS – BACKGROUND CONDITIONS

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Background AM
03/27/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	714	428	444	518	0	0	0	0	1	0	55
Future Volume (vph)	0	714	428	444	518	0	0	0	0	1	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.867	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Flt Permitted				0.950							0.999	
Satd. Flow (perm)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			273								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	8%	3%	11%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	0	760	455	472	551	0	0	0	0	1	0	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	760	455	472	551	0	0	0	0	0	60	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	37.0	48.0	15.0
Total Split (%)	24%	31%	10%
Maximum Green (s)	30.7	41.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Background AM
03/27/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		83.4	83.4	32.9	128.9						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.86						0.06	
v/c Ratio		0.39	0.47	0.63	0.37						0.26	
Control Delay (s/veh)		11.2	5.8	48.7	4.5						2.7	
Queue Delay		0.0	0.0	0.3	0.1						0.0	
Total Delay (s/veh)		11.2	5.8	49.0	4.7						2.7	
LOS		B	A	D	A						A	
Approach Delay (s/veh)		9.2			25.2						2.8	
Approach LOS		A			C						A	
Queue Length 50th (ft)		143	58	232	179						0	
Queue Length 95th (ft)		174	112	294	179						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1952	960	782	1485						229	
Starvation Cap Reductn		0	0	57	299						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.39	0.47	0.65	0.46						0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 149.7			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay (s/veh): 16.2		Intersection LOS: B	
Intersection Capacity Utilization 59.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: I-990 SB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

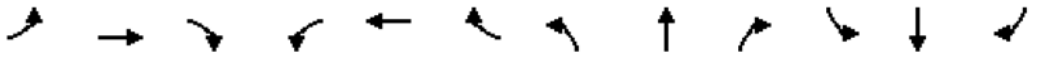
Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2027 Background AM
03/27/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	662	0	0	795	0	168	1	723	0	0	0
Future Volume (vph)	53	662	0	0	795	0	168	1	723	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.996					0.950					
Satd. Flow (prot)	0	3457	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.795					0.950					
Satd. Flow (perm)	0	2760	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								268	268			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			1666			515			456	
Travel Time (s)		6.7			25.2			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	56	704	0	0	846	0	179	1	769	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	760	0	0	846	0	179	386	384	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							48.0	48.0	48.0			
Total Split (%)							31.0%	31.0%	31.0%			
Maximum Green (s)							41.8	41.8	41.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	37.0	15.0	15.0
Total Split (%)	26%	24%	10%	10%
Maximum Green (s)	34.3	30.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2027 Background AM
03/27/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		97.3			76.5		40.4	40.4	40.4			
Actuated g/C Ratio		0.65			0.51		0.27	0.27	0.27			
v/c Ratio		0.42			0.32		0.42	0.64	0.64			
Control Delay (s/veh)		13.4			14.6		49.7	20.3	20.1			
Queue Delay		0.8			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		14.2			14.6		49.7	20.3	20.1			
LOS		B			B		D	C	C			
Approach Delay (s/veh)		14.3			14.6			25.8				
Approach LOS		B			B			C				
Queue Length 50th (ft)		151			123		151	109	107			
Queue Length 95th (ft)		174			145		230	240	235			
Internal Link Dist (ft)		360			1586			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1846			2669		432	606	606			
Starvation Cap Reductn		726			0		0	0	0			
Spillback Cap Reductn		0			0		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.68			0.32		0.41	0.64	0.63			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 149.7			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay (s/veh): 18.7		Intersection LOS: B	
Intersection Capacity Utilization 64.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: I-990 NB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1368	17	3	777	18	3
Future Volume (vph)	1368	17	3	777	18	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.998				0.982	
Flt Protected					0.958	
Satd. Flow (prot)	3530	0	0	3505	1699	0
Flt Permitted					0.958	
Satd. Flow (perm)	3530	0	0	3505	1699	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	1666			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	6%	0%	3%	6%	0%
Adj. Flow (vph)	1520	19	3	863	20	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1539	0	0	866	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.4%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1368	17	3	777	18	3
Future Vol, veh/h	1368	17	3	777	18	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	0	3	6	0
Mvmt Flow	1520	19	3	863	20	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1539	0	1968	769
Stage 1	-	-	-	-	1529	-
Stage 2	-	-	-	-	438	-
Critical Hdwy	-	-	4.1	-	6.92	6.9
Critical Hdwy Stg 1	-	-	-	-	5.92	-
Critical Hdwy Stg 2	-	-	-	-	5.92	-
Follow-up Hdwy	-	-	2.2	-	3.56	3.3
Pot Cap-1 Maneuver	-	-	438	-	52	348
Stage 1	-	-	-	-	159	-
Stage 2	-	-	-	-	606	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	438	-	52	348
Mov Cap-2 Maneuver	-	-	-	-	52	-
Stage 1	-	-	-	-	159	-
Stage 2	-	-	-	-	600	-

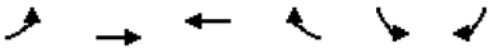
Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.18	101.58
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	59	-	-	14	-
HCM Lane V/C Ratio	0.396	-	-	0.008	-
HCM Control Delay (s/veh)	101.6	-	-	13.3	0.1
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	1.5	-	-	0	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
6: N French Rd & Crosspoint Pkwy

2027 Background AM
03/27/2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	381	990	692	95	47	88
Future Volume (vph)	381	990	692	95	47	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3467	3438	3471	1538	1719	2682
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3467	3438	3471	1538	1719	2682
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				99		105
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		717	
Travel Time (s)		8.5	8.9		16.3	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	5%	4%	5%	5%	6%
Adj. Flow (vph)	454	1179	824	113	56	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	454	1179	824	113	56	105
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	14.1	42.1	21.0	21.0	8.0	8.0
Actuated g/C Ratio	0.25	0.74	0.37	0.37	0.14	0.14
v/c Ratio	0.53	0.46	0.64	0.17	0.23	0.22
Control Delay (s/veh)	23.3	5.3	18.8	5.2	27.9	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	23.3	5.3	18.8	5.2	27.9	7.9
LOS	C	A	B	A	C	A
Approach Delay (s/veh)		10.4	17.2		14.9	
Approach LOS		B	B		B	
Queue Length 50th (ft)	73	90	133	3	19	0
Queue Length 95th (ft)	125	132	182	28	49	18
Internal Link Dist (ft)		484	506		637	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	979	3240	2425	1104	1085	1732
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.36	0.34	0.10	0.05	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 57.2			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay (s/veh): 13.0		Intersection LOS: B	
Intersection Capacity Utilization 49.1%		ICU Level of Service A	
Analysis Period (min) 15			

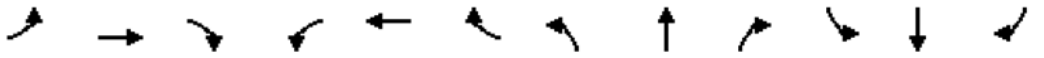
Splits and Phases: 6: N French Rd & Crosspoint Pkwy



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Background PM
03/27/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	663	222	638	1013	0	0	0	0	4	0	46
Future Volume (vph)	0	663	222	638	1013	0	0	0	0	4	0	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.875	
Flt Protected				0.950							0.996	
Satd. Flow (prot)	0	3574	1538	3433	1881	0	0	0	0	0	1656	0
Flt Permitted				0.950							0.996	
Satd. Flow (perm)	0	3574	1538	3433	1881	0	0	0	0	0	1656	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			233								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	1%	5%	2%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	745	249	717	1138	0	0	0	0	4	0	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	745	249	717	1138	0	0	0	0	0	56	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	37.0	48.0	15.0
Total Split (%)	24%	31%	10%
Maximum Green (s)	30.7	41.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Background PM
03/27/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		87.3	87.3	34.3	134.2						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.87						0.06	
v/c Ratio		0.36	0.25	0.94	0.69						0.24	
Control Delay (s/veh)		11.1	1.9	65.3	8.1						2.4	
Queue Delay		0.0	0.0	9.8	1.1						0.0	
Total Delay (s/veh)		11.1	1.9	75.1	9.3						2.4	
LOS		B	A	E	A						A	
Approach Delay (s/veh)		8.9			34.8						2.5	
Approach LOS		A			C						A	
Queue Length 50th (ft)		138	5	369	260						0	
Queue Length 95th (ft)		165	30	#478	345						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1987	958	759	1616						232	
Starvation Cap Reductn		0	0	43	249						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.37	0.26	1.00	0.83						0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 154.9			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay (s/veh): 25.3		Intersection LOS: C	
Intersection Capacity Utilization 68.2%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: I-990 SB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	620	0	0	1301	0	349	1	569	0	0	0
Future Volume (vph)	47	620	0	0	1301	0	349	1	569	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.996					0.950					
Satd. Flow (prot)	0	3596	0	0	5136	0	1770	1519	1519	0	0	0
Flt Permitted		0.707					0.950					
Satd. Flow (perm)	0	2552	0	0	5136	0	1770	1519	1519	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								285	285			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			1666			515			456	
Travel Time (s)		6.7			25.2			11.7			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	2%	0%	1%	0%	0%	0%
Adj. Flow (vph)	51	674	0	0	1414	0	379	1	618	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	725	0	0	1414	0	379	310	309	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							48.0	48.0	48.0			
Total Split (%)							31.0%	31.0%	31.0%			
Maximum Green (s)							41.8	41.8	41.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	37.0	15.0	15.0
Total Split (%)	26%	24%	10%	10%
Maximum Green (s)	34.3	30.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2027 Background PM
03/27/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		101.2			80.5		41.8	41.8	41.8			
Actuated g/C Ratio		0.65			0.52		0.27	0.27	0.27			
v/c Ratio		0.43			0.52		0.79	0.50	0.50			
Control Delay (s/veh)		14.0			21.0		65.9	9.5	9.4			
Queue Delay		0.8			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		14.9			21.1		65.9	9.5	9.4			
LOS		B			C		E	A	A			
Approach Delay (s/veh)		14.9			21.1			31.0				
Approach LOS		B			C			C				
Queue Length 50th (ft)		143			236		359	20	18			
Queue Length 95th (ft)		166			267		#494	110	109			
Internal Link Dist (ft)		360			1586			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1668			2671		477	617	617			
Starvation Cap Reductn		611			0		0	0	0			
Spillback Cap Reductn		0			192		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.69			0.57		0.79	0.50	0.50			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 154.9			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay (s/veh): 22.8		Intersection LOS: C	
Intersection Capacity Utilization 77.6%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: I-990 NB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1152	37	10	1285	17	3
Future Volume (vph)	1152	37	10	1285	17	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.995				0.981	
Flt Protected					0.959	
Satd. Flow (prot)	3557	0	0	3575	1787	0
Flt Permitted					0.959	
Satd. Flow (perm)	3557	0	0	3575	1787	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	1666			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Adj. Flow (vph)	1213	39	11	1353	18	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1252	0	0	1364	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.5%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.9

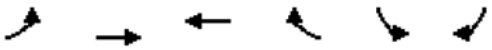
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1152	37	10	1285	17	3
Future Vol, veh/h	1152	37	10	1285	17	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	0	0	1	0	0
Mvmt Flow	1213	39	11	1353	18	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1252	0	1929	626
Stage 1	-	-	-	-	1232	-
Stage 2	-	-	-	-	697	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	563	-	60	432
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	460	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	563	-	58	432
Mov Cap-2 Maneuver	-	-	-	-	58	-
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	447	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.43	82.62
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	66	-	-	28	-
HCM Lane V/C Ratio	0.317	-	-	0.019	-
HCM Control Delay (s/veh)	82.6	-	-	11.5	0.3
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	1.2	-	-	0.1	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	117	1039	995	72	88	300
Future Volume (vph)	117	1039	995	72	88	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3502	3574	3574	1583	1752	2842
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3502	3574	3574	1583	1752	2842
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				52		319
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		717	
Travel Time (s)		8.5	8.9		16.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	1%	2%	3%	0%
Adj. Flow (vph)	124	1105	1059	77	94	319
Shared Lane Traffic (%)						
Lane Group Flow (vph)	124	1105	1059	77	94	319
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	8.3	34.7	25.1	25.1	9.5	9.5
Actuated g/C Ratio	0.14	0.61	0.44	0.44	0.17	0.17
v/c Ratio	0.24	0.51	0.67	0.10	0.32	0.43
Control Delay (s/veh)	27.3	6.9	16.3	5.7	28.0	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.3	6.9	16.3	5.7	28.0	5.7
LOS	C	A	B	A	C	A
Approach Delay (s/veh)		9.0	15.6		10.8	
Approach LOS		A	B		B	
Queue Length 50th (ft)	20	90	154	5	30	0
Queue Length 95th (ft)	52	155	254	28	81	35
Internal Link Dist (ft)		484	506		637	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	1005	3339	2500	1123	1123	1937
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.33	0.42	0.07	0.08	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 57.3			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 12.0		Intersection LOS: B	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: N French Rd & Crosspoint Pkwy



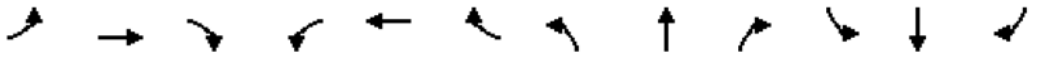
Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

APPENDIX E: LOS CALCULATIONS – FULL BUILD CONDITIONS FULL ACCESS

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build AM FA
03/28/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	732	428	483	561	0	0	0	0	1	0	55
Future Volume (vph)	0	732	428	483	561	0	0	0	0	1	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.867	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Flt Permitted				0.950							0.999	
Satd. Flow (perm)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			261								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	8%	3%	11%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	0	779	455	514	597	0	0	0	0	1	0	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	779	455	514	597	0	0	0	0	0	60	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	37.0	48.0	15.0
Total Split (%)	24%	31%	10%
Maximum Green (s)	30.7	41.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build AM FA
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		85.0	85.0	33.7	131.4						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.86						0.06	
v/c Ratio		0.40	0.47	0.68	0.40						0.26	
Control Delay (s/veh)		11.4	6.1	49.5	4.6						2.8	
Queue Delay		0.0	0.0	0.4	0.2						0.0	
Total Delay (s/veh)		11.4	6.1	50.0	4.9						2.8	
LOS		B	A	D	A						A	
Approach Delay (s/veh)		9.5			25.8						2.8	
Approach LOS		A			C						A	
Queue Length 50th (ft)		147	63	255	179						0	
Queue Length 95th (ft)		178	118	320	178						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1929	946	767	1467						228	
Starvation Cap Reductn		0	0	52	300						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.40	0.48	0.72	0.51						0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 152.1			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 16.9		Intersection LOS: B	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: I-990 SB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

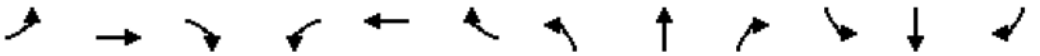
Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2027 Full-Build AM FA
03/28/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	680	0	0	877	0	168	1	740	0	0	0
Future Volume (vph)	53	680	0	0	877	0	168	1	740	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.996					0.950					
Satd. Flow (prot)	0	3457	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.781					0.950					
Satd. Flow (perm)	0	2711	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								258	258			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			480			515			456	
Travel Time (s)		6.7			7.3			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	56	723	0	0	933	0	179	1	787	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	779	0	0	933	0	179	395	393	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							48.0	48.0	48.0			
Total Split (%)							31.0%	31.0%	31.0%			
Maximum Green (s)							41.8	41.8	41.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	37.0	15.0	15.0
Total Split (%)	26%	24%	10%	10%
Maximum Green (s)	34.3	30.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2027 Full-Build AM FA
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		99.0			78.3		41.1	41.1	41.1			
Actuated g/C Ratio		0.65			0.51		0.27	0.27	0.27			
v/c Ratio		0.44			0.35		0.42	0.67	0.66			
Control Delay (s/veh)		13.8			15.6		50.1	22.9	22.7			
Queue Delay		0.9			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		14.8			15.6		50.1	22.9	22.7			
LOS		B			B		D	C	C			
Approach Delay (s/veh)		14.9			15.7			27.9				
Approach LOS		B			B			C				
Queue Length 50th (ft)		154			139		151	131	128			
Queue Length 95th (ft)		178			162		230	267	262			
Internal Link Dist (ft)		360			400			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1785			2630		424	592	592			
Starvation Cap Reductn		691			0		0	0	0			
Spillback Cap Reductn		0			0		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.71			0.35		0.42	0.67	0.66			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 152.1			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 19.9		Intersection LOS: B	
Intersection Capacity Utilization 67.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: I-990 NB Ramps & N French Rd

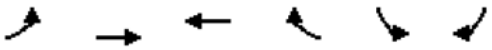


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	1398	818	3	7	59
Future Volume (vph)	25	1398	818	3	7	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.999		0.880	
Flt Protected		0.999			0.994	
Satd. Flow (prot)	0	3344	3310	0	1662	0
Flt Permitted		0.999			0.994	
Satd. Flow (perm)	0	3344	3310	0	1662	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		480	850		610	
Travel Time (s)		7.3	12.9		13.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	9%	0%	0%	0%
Adj. Flow (vph)	27	1520	889	3	8	64
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1547	892	0	72	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 67.1%		ICU Level of Service C	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	1

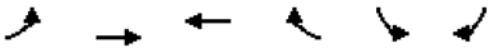
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	1398	818	3	7	59
Future Vol, veh/h	25	1398	818	3	7	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	9	0	0	0
Mvmt Flow	27	1520	889	3	8	64

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	892	0	-	0	1705	446
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	814	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	768	-	-	-	84	565
Stage 1	-	-	-	-	366	-
Stage 2	-	-	-	-	401	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	768	-	-	-	79	565
Mov Cap-2 Maneuver	-	-	-	-	79	-
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	401	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.75	0	18.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	63	-	-	-	342
HCM Lane V/C Ratio	0.035	-	-	-	0.21
HCM Control Delay (s/veh)	9.9	0.6	-	-	18.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	11	1392	798	14	26	23
Future Volume (vph)	11	1392	798	14	26	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.997			0.850
Flt Protected					0.950	
Satd. Flow (prot)	0	3345	3307	0	1805	1615
Flt Permitted					0.950	
Satd. Flow (perm)	0	3345	3307	0	1805	1615
Link Speed (mph)		45	45		30	
Link Distance (ft)		850	336		642	
Travel Time (s)		12.9	5.1		14.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	9%	0%	0%	0%
Adj. Flow (vph)	12	1513	867	15	28	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1525	882	0	28	25
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.2%		ICU Level of Service B	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	1392	798	14	26	23
Future Vol, veh/h	11	1392	798	14	26	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	9	0	0	0
Mvmt Flow	12	1513	867	15	28	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	883	0	-	0	1655	441
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	780	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	775	-	-	-	91	569
Stage 1	-	-	-	-	373	-
Stage 2	-	-	-	-	417	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	775	-	-	-	88	569
Mov Cap-2 Maneuver	-	-	-	-	88	-
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	417	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.33	0	39.34
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	28	-	-	-	88	569
HCM Lane V/C Ratio	0.015	-	-	-	0.32	0.044
HCM Control Delay (s/veh)	9.7	0.3	-	-	63.9	11.6
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0	-	-	-	1.2	0.1

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1401	17	3	794	18	4
Future Volume (vph)	1401	17	3	794	18	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.998				0.977	
Flt Protected					0.960	
Satd. Flow (prot)	3530	0	0	3505	1697	0
Flt Permitted					0.960	
Satd. Flow (perm)	3530	0	0	3505	1697	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	336			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	6%	0%	3%	6%	0%
Adj. Flow (vph)	1557	19	3	882	20	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1576	0	0	885	24	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.3%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	1.1

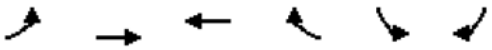
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1401	17	3	794	18	4
Future Vol, veh/h	1401	17	3	794	18	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	0	3	6	0
Mvmt Flow	1557	19	3	882	20	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1576	0	2014	788
Stage 1	-	-	-	-	1566	-
Stage 2	-	-	-	-	448	-
Critical Hdwy	-	-	4.1	-	6.92	6.9
Critical Hdwy Stg 1	-	-	-	-	5.92	-
Critical Hdwy Stg 2	-	-	-	-	5.92	-
Follow-up Hdwy	-	-	2.2	-	3.56	3.3
Pot Cap-1 Maneuver	-	-	424	-	49	338
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	599	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	424	-	48	338
Mov Cap-2 Maneuver	-	-	-	-	48	-
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	593	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.19	109.15
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	57	-	-	14	-
HCM Lane V/C Ratio	0.429	-	-	0.008	-
HCM Control Delay (s/veh)	109.1	-	-	13.6	0.1
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	1.6	-	-	0	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	382	1023	709	96	60	88
Future Volume (vph)	382	1023	709	96	60	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3467	3438	3471	1538	1719	2682
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3467	3438	3471	1538	1719	2682
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				97		105
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		610	
Travel Time (s)		8.5	8.9		13.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	5%	4%	5%	5%	6%
Adj. Flow (vph)	455	1218	844	114	71	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	455	1218	844	114	71	105
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	14.5	43.1	21.7	21.7	8.5	8.5
Actuated g/C Ratio	0.25	0.73	0.37	0.37	0.14	0.14
v/c Ratio	0.53	0.48	0.65	0.18	0.28	0.22
Control Delay (s/veh)	24.1	5.7	19.3	5.4	28.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.1	5.7	19.3	5.4	28.8	7.7
LOS	C	A	B	A	C	A
Approach Delay (s/veh)		10.7	17.7		16.3	
Approach LOS		B	B		B	
Queue Length 50th (ft)	76	99	140	4	25	0
Queue Length 95th (ft)	130	147	191	29	59	18
Internal Link Dist (ft)		484	506		530	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	948	3194	2383	1086	1051	1680
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.38	0.35	0.10	0.07	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 58.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 13.5		Intersection LOS: B	
Intersection Capacity Utilization 49.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: N French Rd & Crosspoint Pkwy



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	13	2	359	136	1
Future Volume (vph)	3	13	2	359	136	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.889				0.999	
Flt Protected	0.991					
Satd. Flow (prot)	1674	0	0	3407	3606	0
Flt Permitted	0.991					
Satd. Flow (perm)	1674	0	0	3407	3606	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			610	380	
Travel Time (s)	12.4			13.9	8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	0%	2%
Adj. Flow (vph)	3	14	2	390	148	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	0	392	149	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.3%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	13	2	359	136	1
Future Vol, veh/h	3	13	2	359	136	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	6	0	2
Mvmt Flow	3	14	2	390	148	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	348	74	149	0	-	0
Stage 1	148	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	628	978	1445	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	627	978	1445	-	-	-
Mov Cap-2 Maneuver	627	-	-	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	821	-	-	-	-	-

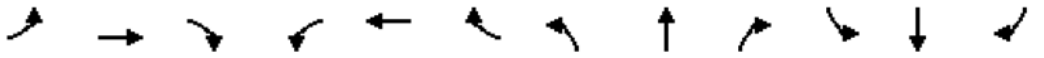
Approach	EB	NB	SB
HCM Control Delay, s/v	9.15	0.05	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	20	-	886	-	-
HCM Lane V/C Ratio	0.002	-	0.02	-	-
HCM Control Delay (s/veh)	7.5	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build PM FA
03/28/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	722	225	680	1064	0	0	0	0	4	0	47
Future Volume (vph)	0	722	225	680	1064	0	0	0	0	4	0	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.875	
Flt Protected				0.950							0.996	
Satd. Flow (prot)	0	3471	1495	3400	1712	0	0	0	0	0	1569	0
Flt Permitted				0.950							0.996	
Satd. Flow (perm)	0	3471	1495	3400	1712	0	0	0	0	0	1569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			233								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	8%	3%	11%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	0	768	239	723	1132	0	0	0	0	4	0	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	768	239	723	1132	0	0	0	0	0	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	37.0	48.0	15.0
Total Split (%)	24%	31%	10%
Maximum Green (s)	30.7	41.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build PM FA
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		87.4	87.4	34.3	134.3						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.87						0.06	
v/c Ratio		0.39	0.25	0.96	0.76						0.23	
Control Delay (s/veh)		11.4	1.7	66.3	11.0						2.4	
Queue Delay		0.0	0.0	12.2	3.1						0.0	
Total Delay (s/veh)		11.4	1.7	78.6	14.1						2.4	
LOS		B	A	E	B						A	
Approach Delay (s/veh)		9.1			39.3						2.5	
Approach LOS		A			D						A	
Queue Length 50th (ft)		145	2	352	353						0	
Queue Length 95th (ft)		176	28	m#478	m501						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1957	944	752	1483						227	
Starvation Cap Reductn		0	0	42	247						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.39	0.25	1.02	0.92						0.24	

Intersection Summary

Area Type: Other
Cycle Length: 155
Actuated Cycle Length: 155
Natural Cycle: 145
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay (s/veh): 28.2 Intersection LOS: C
Intersection Capacity Utilization 70.9% ICU Level of Service C
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: I-990 SB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	679	0	0	1388	0	354	1	623	0	0	0
Future Volume (vph)	48	679	0	0	1388	0	354	1	623	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.997					0.950					
Satd. Flow (prot)	0	3461	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.704					0.950					
Satd. Flow (perm)	0	2444	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								259	259			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			480			515			456	
Travel Time (s)		6.7			7.3			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	51	722	0	0	1477	0	377	1	663	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	773	0	0	1477	0	377	333	331	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							48.0	48.0	48.0			
Total Split (%)							31.0%	31.0%	31.0%			
Maximum Green (s)							41.8	41.8	41.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	37.0	15.0	15.0
Total Split (%)	26%	24%	10%	10%
Maximum Green (s)	34.3	30.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2027 Full-Build PM FA
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		101.3			80.6		41.8	41.8	41.8			
Actuated g/C Ratio		0.65			0.52		0.27	0.27	0.27			
v/c Ratio		0.48			0.56		0.90	0.56	0.56			
Control Delay (s/veh)		15.8			22.0		80.6	15.4	15.1			
Queue Delay		1.1			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		17.0			22.1		80.6	15.4	15.1			
LOS		B			C		F	B	B			
Approach Delay (s/veh)		17.0			22.2			38.9				
Approach LOS		B			C			D				
Queue Length 50th (ft)		153			253		372	61	58			
Queue Length 95th (ft)		188			285		#566	173	170			
Internal Link Dist (ft)		360			400			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1597			2618		416	586	586			
Starvation Cap Reductn		558			0		0	0	0			
Spillback Cap Reductn		0			171		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.74			0.60		0.91	0.57	0.56			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay (s/veh): 26.3		Intersection LOS: C	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: I-990 NB Ramps & N French Rd

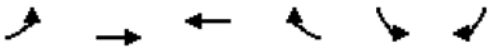


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	68	1241	1339	8	5	49
Future Volume (vph)	68	1241	1339	8	5	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.999		0.877	
Flt Protected		0.997			0.996	
Satd. Flow (prot)	0	3345	3502	0	1660	0
Flt Permitted		0.997			0.996	
Satd. Flow (perm)	0	3345	3502	0	1660	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		480	850		610	
Travel Time (s)		7.3	12.9		13.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	3%	0%	0%	0%
Adj. Flow (vph)	74	1349	1455	9	5	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1423	1464	0	58	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 86.9%		ICU Level of Service E	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	2.6

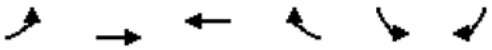
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	68	1241	1339	8	5	49
Future Vol, veh/h	68	1241	1339	8	5	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	3	0	0	0
Mvmt Flow	74	1349	1455	9	5	53

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1464	0	-	0	2282	732
Stage 1	-	-	-	-	1460	-
Stage 2	-	-	-	-	822	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	467	-	-	-	34	368
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	397	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	467	-	-	-	26	368
Mov Cap-2 Maneuver	-	-	-	-	26	-
Stage 1	-	-	-	-	137	-
Stage 2	-	-	-	-	397	-

Approach	EB	WB	SB
HCM Control Delay, s/v	3.79	0	38.48
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	187	-	-	-	165
HCM Lane V/C Ratio	0.158	-	-	-	0.356
HCM Control Delay (s/veh)	14.1	3.2	-	-	38.5
HCM Lane LOS	B	A	-	-	E
HCM 95th %tile Q(veh)	0.6	-	-	-	1.5

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	27	1211	1328	38	22	19
Future Volume (vph)	27	1211	1328	38	22	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.996			0.850
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	3345	3494	0	1805	1615
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	3345	3494	0	1805	1615
Link Speed (mph)		45	45		30	
Link Distance (ft)		850	336		642	
Travel Time (s)		12.9	5.1		14.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	3%	0%	0%	0%
Adj. Flow (vph)	29	1316	1443	41	24	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1345	1484	0	24	21
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 62.8%		ICU Level of Service B	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	1211	1328	38	22	19
Future Vol, veh/h	27	1211	1328	38	22	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	3	0	0	0
Mvmt Flow	29	1316	1443	41	24	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1485	0	-	0	2181	742
Stage 1	-	-	-	-	1464	-
Stage 2	-	-	-	-	717	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	459	-	-	-	40	362
Stage 1	-	-	-	-	182	-
Stage 2	-	-	-	-	450	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	459	-	-	-	36	362
Mov Cap-2 Maneuver	-	-	-	-	36	-
Stage 1	-	-	-	-	164	-
Stage 2	-	-	-	-	450	-

Approach	EB	WB	SB
HCM Control Delay, s/v	1.55	0	123.14
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	79	-	-	-	36	362
HCM Lane V/C Ratio	0.064	-	-	-	0.66	0.057
HCM Control Delay (s/veh)	13.4	1.3	-	-	216.1	15.5
HCM Lane LOS	B	A	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	2.3	0.2

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1195	37	11	1350	17	5
Future Volume (vph)	1195	37	11	1350	17	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.996				0.968	
Flt Protected					0.963	
Satd. Flow (prot)	3521	0	0	3506	1694	0
Flt Permitted					0.963	
Satd. Flow (perm)	3521	0	0	3506	1694	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	336			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	6%	0%	3%	6%	0%
Adj. Flow (vph)	1328	41	12	1500	19	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1369	0	0	1512	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.0%		ICU Level of Service B	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	1.4

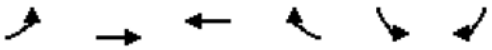
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1195	37	11	1350	17	5
Future Vol, veh/h	1195	37	11	1350	17	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	0	3	6	0
Mvmt Flow	1328	41	12	1500	19	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1369	0	2123	684
Stage 1	-	-	-	-	1348	-
Stage 2	-	-	-	-	774	-
Critical Hdwy	-	-	4.1	-	6.92	6.9
Critical Hdwy Stg 1	-	-	-	-	5.92	-
Critical Hdwy Stg 2	-	-	-	-	5.92	-
Follow-up Hdwy	-	-	2.2	-	3.56	3.3
Pot Cap-1 Maneuver	-	-	508	-	41	396
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	405	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	508	-	39	396
Mov Cap-2 Maneuver	-	-	-	-	39	-
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	388	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.59	135.39
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	49	-	-	29	-
HCM Lane V/C Ratio	0.496	-	-	0.024	-
HCM Control Delay (s/veh)	135.4	-	-	12.3	0.5
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	1.8	-	-	0.1	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	120	1081	1056	79	100	304
Future Volume (vph)	120	1081	1056	79	100	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3467	3438	3471	1538	1719	2682
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3467	3438	3471	1538	1719	2682
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				54		362
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		610	
Travel Time (s)		8.5	8.9		13.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	5%	4%	5%	5%	6%
Adj. Flow (vph)	143	1287	1257	94	119	362
Shared Lane Traffic (%)						
Lane Group Flow (vph)	143	1287	1257	94	119	362
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	8.6	48.9	35.6	35.6	10.6	10.6
Actuated g/C Ratio	0.12	0.68	0.50	0.50	0.15	0.15
v/c Ratio	0.34	0.55	0.73	0.11	0.46	0.51
Control Delay (s/veh)	33.1	7.2	18.0	6.1	35.5	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.1	7.2	18.0	6.1	35.5	6.3
LOS	C	A	B	A	D	A
Approach Delay (s/veh)		9.8	17.3		13.6	
Approach LOS		A	B		B	
Queue Length 50th (ft)	31	125	215	9	51	0
Queue Length 95th (ft)	57	191	314	32	95	28
Internal Link Dist (ft)		484	506		530	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	747	2836	1886	860	827	1479
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.45	0.67	0.11	0.14	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 71.9			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 13.5		Intersection LOS: B	
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: N French Rd & Crosspoint Pkwy



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	11	8	183	301	3
Future Volume (vph)	1	11	8	183	301	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.875				0.999	
Flt Protected	0.996			0.998		
Satd. Flow (prot)	1656	0	0	3407	3252	0
Flt Permitted	0.996			0.998		
Satd. Flow (perm)	1656	0	0	3407	3252	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			610	380	
Travel Time (s)	12.4			13.9	8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	11%	0%
Adj. Flow (vph)	1	12	9	199	327	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	0	0	208	330	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.9%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	11	8	183	301	3
Future Vol, veh/h	1	11	8	183	301	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	6	11	0
Mvmt Flow	1	12	9	199	327	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	446	165	330	0	-	0
Stage 1	329	-	-	-	-	-
Stage 2	117	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	546	857	1240	-	-	-
Stage 1	708	-	-	-	-	-
Stage 2	901	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	542	857	1240	-	-	-
Mov Cap-2 Maneuver	542	-	-	-	-	-
Stage 1	702	-	-	-	-	-
Stage 2	901	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.48	0.38	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	151	-	817	-	-
HCM Lane V/C Ratio	0.007	-	0.016	-	-
HCM Control Delay (s/veh)	7.9	0.1	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

APPENDIX F: LOS CALCULATIONS – FULL BUILD CONDITIONS RIGHT IN-RIGHT OUT

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build AM RIRO
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	732	428	483	561	0	0	0	0	1	0	55
Future Volume (vph)	0	732	428	483	561	0	0	0	0	1	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.867	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Flt Permitted				0.950							0.999	
Satd. Flow (perm)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			261								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	8%	3%	11%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	0	779	455	514	597	0	0	0	0	1	0	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	779	455	514	597	0	0	0	0	0	60	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	37.0	48.0	15.0
Total Split (%)	24%	31%	10%
Maximum Green (s)	30.7	41.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build AM RIRO
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		85.0	85.0	33.7	131.4						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.86						0.06	
v/c Ratio		0.40	0.47	0.68	0.40						0.26	
Control Delay (s/veh)		11.4	6.1	49.5	4.6						2.8	
Queue Delay		0.0	0.0	0.4	0.2						0.0	
Total Delay (s/veh)		11.4	6.1	50.0	4.9						2.8	
LOS		B	A	D	A						A	
Approach Delay (s/veh)		9.5			25.8						2.8	
Approach LOS		A			C						A	
Queue Length 50th (ft)		147	63	255	179						0	
Queue Length 95th (ft)		178	118	320	178						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1929	946	767	1467						228	
Starvation Cap Reductn		0	0	52	300						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.40	0.48	0.72	0.51						0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 152.1			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 16.9		Intersection LOS: B	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: I-990 SB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	680	0	0	877	0	168	1	740	0	0	0
Future Volume (vph)	53	680	0	0	877	0	168	1	740	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.996					0.950					
Satd. Flow (prot)	0	3457	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.781					0.950					
Satd. Flow (perm)	0	2711	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								258	258			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			480			515			456	
Travel Time (s)		6.7			7.3			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	56	723	0	0	933	0	179	1	787	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	779	0	0	933	0	179	395	393	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							48.0	48.0	48.0			
Total Split (%)							31.0%	31.0%	31.0%			
Maximum Green (s)							41.8	41.8	41.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	37.0	15.0	15.0
Total Split (%)	26%	24%	10%	10%
Maximum Green (s)	34.3	30.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		99.0			78.3		41.1	41.1	41.1			
Actuated g/C Ratio		0.65			0.51		0.27	0.27	0.27			
v/c Ratio		0.44			0.35		0.42	0.67	0.66			
Control Delay (s/veh)		13.8			15.6		50.1	22.9	22.7			
Queue Delay		0.9			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		14.8			15.6		50.1	22.9	22.7			
LOS		B			B		D	C	C			
Approach Delay (s/veh)		14.9			15.7			27.9				
Approach LOS		B			B			C				
Queue Length 50th (ft)		154			139		151	131	128			
Queue Length 95th (ft)		178			162		230	267	262			
Internal Link Dist (ft)		360			400			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1785			2630		424	592	592			
Starvation Cap Reductn		691			0		0	0	0			
Spillback Cap Reductn		0			0		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.71			0.35		0.42	0.67	0.66			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 152.1			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 19.9		Intersection LOS: B	
Intersection Capacity Utilization 67.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: I-990 NB Ramps & N French Rd

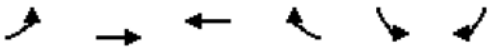


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	1420	818	3	0	59
Future Volume (vph)	0	1420	818	3	0	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.999			0.865
Flt Protected						
Satd. Flow (prot)	0	3343	3502	0	0	1644
Flt Permitted						
Satd. Flow (perm)	0	3343	3502	0	0	1644
Link Speed (mph)		45	45		30	
Link Distance (ft)		480	850		610	
Travel Time (s)		7.3	12.9		13.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	3%	0%	0%	0%
Adj. Flow (vph)	0	1543	889	3	0	64
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1543	892	0	0	64
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.6%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.3

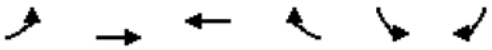
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1420	818	3	0	59
Future Vol, veh/h	0	1420	818	3	0	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	3	0	0	0
Mvmt Flow	0	1543	889	3	0	64

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	446
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	565
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	565
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	12.18
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	565
HCM Lane V/C Ratio	-	-	-	0.113
HCM Control Delay (s/veh)	-	-	-	12.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	35	1385	798	14	33	23
Future Volume (vph)	35	1385	798	14	33	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.997			0.850
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	3345	3496	0	1805	1615
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	3345	3496	0	1805	1615
Link Speed (mph)		45	45		30	
Link Distance (ft)		850	336		642	
Travel Time (s)		12.9	5.1		14.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	3%	0%	0%	0%
Adj. Flow (vph)	38	1505	867	15	36	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1543	882	0	36	25
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 73.4%		ICU Level of Service D	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	1385	798	14	33	23
Future Vol, veh/h	35	1385	798	14	33	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	3	0	0	0
Mvmt Flow	38	1505	867	15	36	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	883	0	-	0	1704	441
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	829	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	775	-	-	-	84	569
Stage 1	-	-	-	-	373	-
Stage 2	-	-	-	-	394	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	775	-	-	-	77	569
Mov Cap-2 Maneuver	-	-	-	-	77	-
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	394	-

Approach	EB	WB	SB
HCM Control Delay, s/v	1.02	0	56.04
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	89	-	-	-	77	569
HCM Lane V/C Ratio	0.049	-	-	-	0.465	0.044
HCM Control Delay (s/veh)	9.9	0.8	-	-	87	11.6
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1.9	0.1

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1401	17	3	794	18	4
Future Volume (vph)	1401	17	3	794	18	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.998				0.977	
Flt Protected					0.960	
Satd. Flow (prot)	3530	0	0	3505	1697	0
Flt Permitted					0.960	
Satd. Flow (perm)	3530	0	0	3505	1697	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	336			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	6%	0%	3%	6%	0%
Adj. Flow (vph)	1557	19	3	882	20	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1576	0	0	885	24	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.3%		ICU Level of Service A	
Analysis Period (min) 15			

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Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1401	17	3	794	18	4
Future Vol, veh/h	1401	17	3	794	18	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	0	3	6	0
Mvmt Flow	1557	19	3	882	20	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1576	0	2014	788
Stage 1	-	-	-	-	1566	-
Stage 2	-	-	-	-	448	-
Critical Hdwy	-	-	4.1	-	6.92	6.9
Critical Hdwy Stg 1	-	-	-	-	5.92	-
Critical Hdwy Stg 2	-	-	-	-	5.92	-
Follow-up Hdwy	-	-	2.2	-	3.56	3.3
Pot Cap-1 Maneuver	-	-	424	-	49	338
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	599	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	424	-	48	338
Mov Cap-2 Maneuver	-	-	-	-	48	-
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	593	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.19	109.15
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	57	-	-	14	-
HCM Lane V/C Ratio	0.429	-	-	0.008	-
HCM Control Delay (s/veh)	109.1	-	-	13.6	0.1
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	1.6	-	-	0	-

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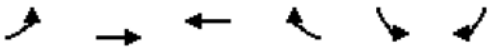

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	382	1023	709	97	60	88
Future Volume (vph)	382	1023	709	97	60	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3467	3438	3471	1538	1719	2682
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3467	3438	3471	1538	1719	2682
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				98		105
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		610	
Travel Time (s)		8.5	8.9		13.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	5%	4%	5%	5%	6%
Adj. Flow (vph)	455	1218	844	115	71	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	455	1218	844	115	71	105
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	14.5	43.1	21.7	21.7	8.5	8.5
Actuated g/C Ratio	0.25	0.73	0.37	0.37	0.14	0.14
v/c Ratio	0.53	0.48	0.65	0.18	0.28	0.22
Control Delay (s/veh)	24.1	5.7	19.3	5.4	28.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.1	5.7	19.3	5.4	28.8	7.7
LOS	C	A	B	A	C	A
Approach Delay (s/veh)		10.7	17.7		16.3	
Approach LOS		B	B		B	
Queue Length 50th (ft)	76	99	140	4	25	0
Queue Length 95th (ft)	130	147	191	29	59	18
Internal Link Dist (ft)		484	506		530	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	948	3194	2383	1086	1051	1680
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.38	0.35	0.11	0.07	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 58.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 13.5		Intersection LOS: B	
Intersection Capacity Utilization 49.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: N French Rd & Crosspoint Pkwy



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	13	3	481	136	1
Future Volume (vph)	2	13	3	481	136	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.882				0.999	
Flt Protected	0.994					
Satd. Flow (prot)	1633	0	0	3539	3536	0
Flt Permitted	0.994					
Satd. Flow (perm)	1633	0	0	3539	3536	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			610	380	
Travel Time (s)	12.4			13.9	8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	14	3	523	148	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	0	0	526	149	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.4%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	13	3	481	136	1
Future Vol, veh/h	2	13	3	481	136	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	14	3	523	148	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	416	74	149	0	-	0
Stage 1	148	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	564	972	1430	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	563	972	1430	-	-	-
Mov Cap-2 Maneuver	563	-	-	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	753	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.14	0.07	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	22	-	886	-	-
HCM Lane V/C Ratio	0.002	-	0.018	-	-
HCM Control Delay (s/veh)	7.5	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

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Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build PM RIRO
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	722	225	680	1064	0	0	0	0	4	0	47
Future Volume (vph)	0	722	225	680	1064	0	0	0	0	4	0	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.875	
Flt Protected				0.950							0.996	
Satd. Flow (prot)	0	3471	1495	3400	1712	0	0	0	0	0	1569	0
Flt Permitted				0.950							0.996	
Satd. Flow (perm)	0	3471	1495	3400	1712	0	0	0	0	0	1569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			233								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	8%	3%	11%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	0	768	239	723	1132	0	0	0	0	4	0	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	768	239	723	1132	0	0	0	0	0	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	37.0	48.0	15.0
Total Split (%)	24%	31%	10%
Maximum Green (s)	30.7	41.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build PM RIRO
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		87.4	87.4	34.3	134.3						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.87						0.06	
v/c Ratio		0.39	0.25	0.96	0.76						0.23	
Control Delay (s/veh)		11.4	1.7	66.3	11.0						2.4	
Queue Delay		0.0	0.0	12.2	3.1						0.0	
Total Delay (s/veh)		11.4	1.7	78.6	14.1						2.4	
LOS		B	A	E	B						A	
Approach Delay (s/veh)		9.1			39.3						2.5	
Approach LOS		A			D						A	
Queue Length 50th (ft)		145	2	352	353						0	
Queue Length 95th (ft)		176	28	m#478	m501						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1957	944	752	1483						227	
Starvation Cap Reductn		0	0	42	247						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.39	0.25	1.02	0.92						0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay (s/veh): 28.2		Intersection LOS: C	
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: I-990 SB Ramps & N French Rd

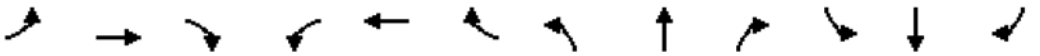


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	679	0	0	1388	0	354	1	623	0	0	0
Future Volume (vph)	48	679	0	0	1388	0	354	1	623	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.997					0.950					
Satd. Flow (prot)	0	3461	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.704					0.950					
Satd. Flow (perm)	0	2444	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								259	259			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			480			515			456	
Travel Time (s)		6.7			7.3			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	51	722	0	0	1477	0	377	1	663	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	773	0	0	1477	0	377	333	331	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							48.0	48.0	48.0			
Total Split (%)							31.0%	31.0%	31.0%			
Maximum Green (s)							41.8	41.8	41.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	37.0	15.0	15.0
Total Split (%)	26%	24%	10%	10%
Maximum Green (s)	34.3	30.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2027 Full-Build PM RIRO
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		101.3			80.6		41.8	41.8	41.8			
Actuated g/C Ratio		0.65			0.52		0.27	0.27	0.27			
v/c Ratio		0.48			0.56		0.90	0.56	0.56			
Control Delay (s/veh)		15.8			22.0		80.6	15.4	15.1			
Queue Delay		1.1			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		17.0			22.1		80.6	15.4	15.1			
LOS		B			C		F	B	B			
Approach Delay (s/veh)		17.0			22.2			38.9				
Approach LOS		B			C			D				
Queue Length 50th (ft)		153			253		372	61	58			
Queue Length 95th (ft)		188			285		#566	173	170			
Internal Link Dist (ft)		360			400			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1597			2618		416	586	586			
Starvation Cap Reductn		558			0		0	0	0			
Spillback Cap Reductn		0			171		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.74			0.60		0.91	0.57	0.56			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay (s/veh): 26.3		Intersection LOS: C	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: I-990 NB Ramps & N French Rd

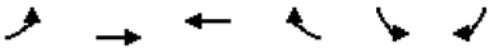


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	1302	1339	8	0	49
Future Volume (vph)	0	1302	1339	8	0	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.999			0.865
Flt Protected						
Satd. Flow (prot)	0	3343	3310	0	0	1644
Flt Permitted						
Satd. Flow (perm)	0	3343	3310	0	0	1644
Link Speed (mph)		45	45		30	
Link Distance (ft)		480	850		610	
Travel Time (s)		7.3	12.9		13.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	9%	0%	0%	0%
Adj. Flow (vph)	0	1415	1455	9	0	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1415	1464	0	0	53
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.3%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.3

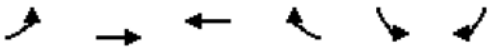
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1302	1339	8	0	49
Future Vol, veh/h	0	1302	1339	8	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	9	0	0	0
Mvmt Flow	0	1415	1455	9	0	53

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	732
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	368
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	368
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	16.43
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	368
HCM Lane V/C Ratio	-	-	-	0.145
HCM Control Delay (s/veh)	-	-	-	16.4
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.5

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	96	1206	1328	38	27	19
Future Volume (vph)	96	1206	1328	38	27	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.996			0.850
Flt Protected		0.996			0.950	
Satd. Flow (prot)	0	3347	3306	0	1805	1615
Flt Permitted		0.996			0.950	
Satd. Flow (perm)	0	3347	3306	0	1805	1615
Link Speed (mph)		45	45		30	
Link Distance (ft)		850	336		642	
Travel Time (s)		12.9	5.1		14.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	9%	0%	0%	0%
Adj. Flow (vph)	104	1311	1443	41	29	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1415	1484	0	29	21
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 87.4%		ICU Level of Service E	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	96	1206	1328	38	27	19
Future Vol, veh/h	96	1206	1328	38	27	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	9	0	0	0
Mvmt Flow	104	1311	1443	41	29	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1485	0	-	0	2328	742
Stage 1	-	-	-	-	1464	-
Stage 2	-	-	-	-	864	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	459	-	-	-	32	362
Stage 1	-	-	-	-	182	-
Stage 2	-	-	-	-	378	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	459	-	-	-	~ 21	362
Mov Cap-2 Maneuver	-	-	-	-	~ 21	-
Stage 1	-	-	-	-	117	-
Stage 2	-	-	-	-	378	-

Approach	EB	WB	SB
HCM Control Delay, s/v	5.44	0	$ 373.91
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	265	-	-	-	21	362
HCM Lane V/C Ratio	0.227	-	-	-	1.429	0.057
HCM Control Delay (s/veh)	15.1	4.7	-	-	$ 626.1	15.5
HCM Lane LOS	C	A	-	-	F	C
HCM 95th %tile Q(veh)	0.9	-	-	-	3.9	0.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1195	37	11	1350	17	5
Future Volume (vph)	1195	37	11	1350	17	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.996				0.968	
Flt Protected					0.963	
Satd. Flow (prot)	3521	0	0	3506	1694	0
Flt Permitted					0.963	
Satd. Flow (perm)	3521	0	0	3506	1694	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	336			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	6%	0%	3%	6%	0%
Adj. Flow (vph)	1328	41	12	1500	19	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1369	0	0	1512	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.0%		ICU Level of Service B	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	1.4

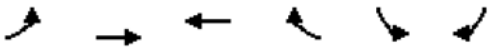
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1195	37	11	1350	17	5
Future Vol, veh/h	1195	37	11	1350	17	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	0	3	6	0
Mvmt Flow	1328	41	12	1500	19	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1369	0	2123	684
Stage 1	-	-	-	-	1348	-
Stage 2	-	-	-	-	774	-
Critical Hdwy	-	-	4.1	-	6.92	6.9
Critical Hdwy Stg 1	-	-	-	-	5.92	-
Critical Hdwy Stg 2	-	-	-	-	5.92	-
Follow-up Hdwy	-	-	2.2	-	3.56	3.3
Pot Cap-1 Maneuver	-	-	508	-	41	396
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	405	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	508	-	39	396
Mov Cap-2 Maneuver	-	-	-	-	39	-
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	388	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.59	135.39
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	49	-	-	29	-
HCM Lane V/C Ratio	0.496	-	-	0.024	-
HCM Control Delay (s/veh)	135.4	-	-	12.3	0.5
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	1.8	-	-	0.1	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	120	1081	1056	79	100	304
Future Volume (vph)	120	1081	1056	79	100	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3467	3438	3471	1538	1719	2682
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3467	3438	3471	1538	1719	2682
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				54		362
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		610	
Travel Time (s)		8.5	8.9		13.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	5%	4%	5%	5%	6%
Adj. Flow (vph)	143	1287	1257	94	119	362
Shared Lane Traffic (%)						
Lane Group Flow (vph)	143	1287	1257	94	119	362
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	8.6	48.9	35.6	35.6	10.6	10.6
Actuated g/C Ratio	0.12	0.68	0.50	0.50	0.15	0.15
v/c Ratio	0.34	0.55	0.73	0.11	0.46	0.51
Control Delay (s/veh)	33.1	7.2	18.0	6.1	35.5	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.1	7.2	18.0	6.1	35.5	6.3
LOS	C	A	B	A	D	A
Approach Delay (s/veh)		9.8	17.3		13.6	
Approach LOS		A	B		B	
Queue Length 50th (ft)	31	125	215	9	51	0
Queue Length 95th (ft)	57	191	314	32	95	28
Internal Link Dist (ft)		484	506		530	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	747	2836	1886	860	827	1479
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.45	0.67	0.11	0.14	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 71.9			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 13.5		Intersection LOS: B	
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: N French Rd & Crosspoint Pkwy



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	13	8	190	394	3
Future Volume (vph)	2	13	8	190	394	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.882				0.999	
Flt Protected	0.994			0.998		
Satd. Flow (prot)	1666	0	0	3407	3251	0
Flt Permitted	0.994			0.998		
Satd. Flow (perm)	1666	0	0	3407	3251	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			610	380	
Travel Time (s)	12.4			13.9	8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	11%	0%
Adj. Flow (vph)	2	14	9	207	428	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	0	0	216	431	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.1%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	13	8	190	394	3
Future Vol, veh/h	2	13	8	190	394	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	6	11	0
Mvmt Flow	2	14	9	207	428	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	551	216	432	0	-	0
Stage 1	430	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	470	795	1139	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	466	795	1139	-	-	-
Mov Cap-2 Maneuver	466	-	-	-	-	-
Stage 1	624	-	-	-	-	-
Stage 2	898	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.07	0.39	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	145	-	727	-	-
HCM Lane V/C Ratio	0.008	-	0.022	-	-
HCM Control Delay (s/veh)	8.2	0.1	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

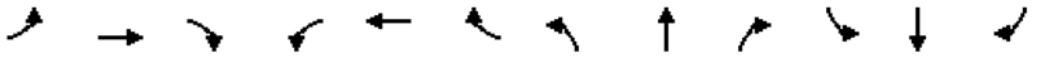
Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

APPENDIX G: LOS CALCULATIONS – FULL BUILD CONDITIONS GATED ACCESS

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build AM Gated Access
03/28/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	732	428	483	561	0	0	0	0	1	0	55
Future Volume (vph)	0	732	428	483	561	0	0	0	0	1	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.867	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Flt Permitted				0.950							0.999	
Satd. Flow (perm)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			261								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	8%	3%	11%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	0	779	455	514	597	0	0	0	0	1	0	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	779	455	514	597	0	0	0	0	0	60	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	37.0	48.0	15.0
Total Split (%)	24%	31%	10%
Maximum Green (s)	30.7	41.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build AM Gated Access
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		85.0	85.0	33.7	131.4						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.86						0.06	
v/c Ratio		0.40	0.47	0.68	0.40						0.26	
Control Delay (s/veh)		11.4	6.1	49.5	4.6						2.8	
Queue Delay		0.0	0.0	0.4	0.2						0.0	
Total Delay (s/veh)		11.4	6.1	50.0	4.9						2.8	
LOS		B	A	D	A						A	
Approach Delay (s/veh)		9.5			25.8						2.8	
Approach LOS		A			C						A	
Queue Length 50th (ft)		147	63	255	179						0	
Queue Length 95th (ft)		178	118	320	178						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1929	946	767	1467						228	
Starvation Cap Reductn		0	0	52	300						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.40	0.48	0.72	0.51						0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 152.1			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 16.9		Intersection LOS: B	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: I-990 SB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

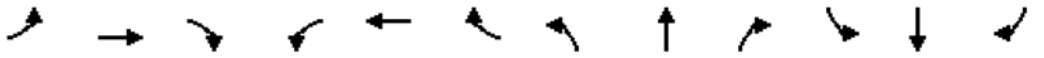
Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2027 Full-Build AM Gated Access
03/28/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	680	0	0	877	0	168	1	740	0	0	0
Future Volume (vph)	53	680	0	0	877	0	168	1	740	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.996					0.950					
Satd. Flow (prot)	0	3457	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.781					0.950					
Satd. Flow (perm)	0	2711	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								258	258			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			480			515			456	
Travel Time (s)		6.7			7.3			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	56	723	0	0	933	0	179	1	787	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	779	0	0	933	0	179	395	393	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							48.0	48.0	48.0			
Total Split (%)							31.0%	31.0%	31.0%			
Maximum Green (s)							41.8	41.8	41.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	37.0	15.0	15.0
Total Split (%)	26%	24%	10%	10%
Maximum Green (s)	34.3	30.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2027 Full-Build AM Gated Access
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		99.0			78.3		41.1	41.1	41.1			
Actuated g/C Ratio		0.65			0.51		0.27	0.27	0.27			
v/c Ratio		0.44			0.35		0.42	0.67	0.66			
Control Delay (s/veh)		13.8			15.6		50.1	22.9	22.7			
Queue Delay		0.9			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		14.8			15.6		50.1	22.9	22.7			
LOS		B			B		D	C	C			
Approach Delay (s/veh)		14.9			15.7			27.9				
Approach LOS		B			B			C				
Queue Length 50th (ft)		154			139		151	131	128			
Queue Length 95th (ft)		178			162		230	267	262			
Internal Link Dist (ft)		360			400			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1785			2630		424	592	592			
Starvation Cap Reductn		691			0		0	0	0			
Spillback Cap Reductn		0			0		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.71			0.35		0.42	0.67	0.66			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 152.1			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 19.9		Intersection LOS: B	
Intersection Capacity Utilization 67.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: I-990 NB Ramps & N French Rd

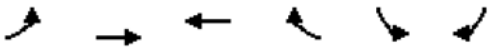


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	35	1385	795	19	33	82
Future Volume (vph)	35	1385	795	19	33	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.996			0.850
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	3345	3305	0	1805	1615
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	3345	3305	0	1805	1615
Link Speed (mph)		45	45		30	
Link Distance (ft)		850	336		642	
Travel Time (s)		12.9	5.1		14.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	9%	0%	0%	0%
Adj. Flow (vph)	38	1505	864	21	36	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1543	885	0	36	89
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 73.4%		ICU Level of Service D	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	1385	795	19	33	82
Future Vol, veh/h	35	1385	795	19	33	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	9	0	0	0
Mvmt Flow	38	1505	864	21	36	89

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	885	0	-	0	1703	442
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	829	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	773	-	-	-	84	568
Stage 1	-	-	-	-	373	-
Stage 2	-	-	-	-	394	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	773	-	-	-	77	568
Mov Cap-2 Maneuver	-	-	-	-	77	-
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	394	-

Approach	EB	WB	SB
HCM Control Delay, s/v	1.02	0	33.86
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	89	-	-	-	77	568
HCM Lane V/C Ratio	0.049	-	-	-	0.465	0.157
HCM Control Delay (s/veh)	9.9	0.8	-	-	86.9	12.5
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1.9	0.6

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1401	17	3	796	18	4
Future Volume (vph)	1401	17	3	796	18	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.998				0.977	
Flt Protected					0.960	
Satd. Flow (prot)	3530	0	0	3505	1697	0
Flt Permitted					0.960	
Satd. Flow (perm)	3530	0	0	3505	1697	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	336			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	6%	0%	3%	6%	0%
Adj. Flow (vph)	1557	19	3	884	20	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1576	0	0	887	24	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.3%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	1.1

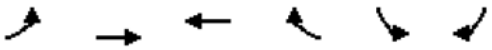
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1401	17	3	796	18	4
Future Vol, veh/h	1401	17	3	796	18	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	0	3	6	0
Mvmt Flow	1557	19	3	884	20	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1576	0	2015	788
Stage 1	-	-	-	-	1566	-
Stage 2	-	-	-	-	449	-
Critical Hdwy	-	-	4.1	-	6.92	6.9
Critical Hdwy Stg 1	-	-	-	-	5.92	-
Critical Hdwy Stg 2	-	-	-	-	5.92	-
Follow-up Hdwy	-	-	2.2	-	3.56	3.3
Pot Cap-1 Maneuver	-	-	424	-	49	338
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	599	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	424	-	48	338
Mov Cap-2 Maneuver	-	-	-	-	48	-
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	592	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.19	109.42
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	57	-	-	14	-
HCM Lane V/C Ratio	0.43	-	-	0.008	-
HCM Control Delay (s/veh)	109.4	-	-	13.6	0.1
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	1.6	-	-	0	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	382	1023	711	95	60	88
Future Volume (vph)	382	1023	711	95	60	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3467	3438	3471	1538	1719	2682
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3467	3438	3471	1538	1719	2682
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				96		105
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		610	
Travel Time (s)		8.5	8.9		13.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	5%	4%	5%	5%	6%
Adj. Flow (vph)	455	1218	846	113	71	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	455	1218	846	113	71	105
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	14.5	43.1	21.7	21.7	8.5	8.5
Actuated g/C Ratio	0.25	0.73	0.37	0.37	0.14	0.14
v/c Ratio	0.53	0.48	0.65	0.17	0.28	0.22
Control Delay (s/veh)	24.1	5.7	19.3	5.4	28.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.1	5.7	19.3	5.4	28.8	7.7
LOS	C	A	B	A	C	A
Approach Delay (s/veh)		10.7	17.8		16.3	
Approach LOS		B	B		B	
Queue Length 50th (ft)	76	99	141	4	25	0
Queue Length 95th (ft)	130	147	192	29	59	18
Internal Link Dist (ft)		484	506		530	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	948	3193	2382	1085	1050	1680
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.38	0.36	0.10	0.07	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 58.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 13.5		Intersection LOS: B	
Intersection Capacity Utilization 49.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: N French Rd & Crosspoint Pkwy



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	13	1	476	136	1
Future Volume (vph)	3	13	1	476	136	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.889				0.999	
Flt Protected	0.991					
Satd. Flow (prot)	1674	0	0	3406	3251	0
Flt Permitted	0.991					
Satd. Flow (perm)	1674	0	0	3406	3251	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			610	380	
Travel Time (s)	12.4			13.9	8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	11%	0%
Adj. Flow (vph)	3	14	1	517	148	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	0	518	149	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.9%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	13	1	476	136	1
Future Vol, veh/h	3	13	1	476	136	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	6	11	0
Mvmt Flow	3	14	1	517	148	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	409	74	149	0	-	0
Stage 1	148	-	-	-	-	-
Stage 2	261	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	576	978	1445	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	575	978	1445	-	-	-
Mov Cap-2 Maneuver	575	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	765	-	-	-	-	-

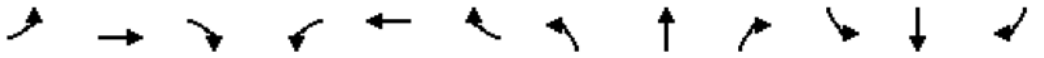
Approach	EB	NB	SB
HCM Control Delay, s/v	9.25	0.02	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	8	-	865	-	-
HCM Lane V/C Ratio	0.001	-	0.02	-	-
HCM Control Delay (s/veh)	7.5	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build PM Gated Access
03/28/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	722	225	680	1064	0	0	0	0	4	0	47
Future Volume (vph)	0	722	225	680	1064	0	0	0	0	4	0	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.875	
Flt Protected				0.950							0.996	
Satd. Flow (prot)	0	3471	1495	3400	1712	0	0	0	0	0	1569	0
Flt Permitted				0.950							0.996	
Satd. Flow (perm)	0	3471	1495	3400	1712	0	0	0	0	0	1569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			233								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	8%	3%	11%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	0	768	239	723	1132	0	0	0	0	4	0	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	768	239	723	1132	0	0	0	0	0	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	37.0	48.0	15.0
Total Split (%)	24%	31%	10%
Maximum Green (s)	30.7	41.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build PM Gated Access
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		87.4	87.4	34.3	134.3						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.87						0.06	
v/c Ratio		0.39	0.25	0.96	0.76						0.23	
Control Delay (s/veh)		11.4	1.7	66.3	11.0						2.4	
Queue Delay		0.0	0.0	12.2	3.1						0.0	
Total Delay (s/veh)		11.4	1.7	78.6	14.1						2.4	
LOS		B	A	E	B						A	
Approach Delay (s/veh)		9.1			39.3						2.5	
Approach LOS		A			D						A	
Queue Length 50th (ft)		145	2	352	353						0	
Queue Length 95th (ft)		176	28	m#478	m501						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1957	944	752	1483						227	
Starvation Cap Reductn		0	0	42	247						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.39	0.25	1.02	0.92						0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay (s/veh): 28.2		Intersection LOS: C	
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: I-990 SB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	679	0	0	1388	0	354	1	623	0	0	0
Future Volume (vph)	48	679	0	0	1388	0	354	1	623	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.997					0.950					
Satd. Flow (prot)	0	3461	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.704					0.950					
Satd. Flow (perm)	0	2444	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								259	259			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			480			515			456	
Travel Time (s)		6.7			7.3			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	51	722	0	0	1477	0	377	1	663	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	773	0	0	1477	0	377	333	331	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							48.0	48.0	48.0			
Total Split (%)							31.0%	31.0%	31.0%			
Maximum Green (s)							41.8	41.8	41.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	37.0	15.0	15.0
Total Split (%)	26%	24%	10%	10%
Maximum Green (s)	34.3	30.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2027 Full-Build PM Gated Access
03/28/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		101.3			80.6		41.8	41.8	41.8			
Actuated g/C Ratio		0.65			0.52		0.27	0.27	0.27			
v/c Ratio		0.48			0.56		0.90	0.56	0.56			
Control Delay (s/veh)		15.8			22.0		80.6	15.4	15.1			
Queue Delay		1.1			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		17.0			22.1		80.6	15.4	15.1			
LOS		B			C		F	B	B			
Approach Delay (s/veh)		17.0			22.2			38.9				
Approach LOS		B			C			D				
Queue Length 50th (ft)		153			253		372	61	58			
Queue Length 95th (ft)		188			285		#566	173	170			
Internal Link Dist (ft)		360			400			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1597			2618		416	586	586			
Starvation Cap Reductn		558			0		0	0	0			
Spillback Cap Reductn		0			171		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.74			0.60		0.91	0.57	0.56			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay (s/veh): 26.3		Intersection LOS: C	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: I-990 NB Ramps & N French Rd

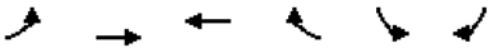


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	96	1206	1320	52	27	68
Future Volume (vph)	96	1206	1320	52	27	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.994			0.850
Flt Protected		0.996			0.950	
Satd. Flow (prot)	0	3347	3302	0	1805	1615
Flt Permitted		0.996			0.950	
Satd. Flow (perm)	0	3347	3302	0	1805	1615
Link Speed (mph)		45	45		30	
Link Distance (ft)		850	336		642	
Travel Time (s)		12.9	5.1		14.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	9%	0%	0%	0%
Adj. Flow (vph)	104	1311	1435	57	29	74
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1415	1492	0	29	74
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 87.6%		ICU Level of Service E	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	96	1206	1320	52	27	68
Future Vol, veh/h	96	1206	1320	52	27	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	9	0	0	0
Mvmt Flow	104	1311	1435	57	29	74

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1491	0	-	0	2327	746
Stage 1	-	-	-	-	1463	-
Stage 2	-	-	-	-	864	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	456	-	-	-	32	361
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	378	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	456	-	-	-	~ 21	361
Mov Cap-2 Maneuver	-	-	-	-	~ 21	-
Stage 1	-	-	-	-	117	-
Stage 2	-	-	-	-	378	-

Approach	EB	WB	SB
HCM Control Delay, s/v	5.49	0	190.88
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	265	-	-	-	21	361
HCM Lane V/C Ratio	0.229	-	-	-	1.431	0.205
HCM Control Delay (s/veh)	15.2	4.7	-	-	$ 627.5	17.5
HCM Lane LOS	C	A	-	-	F	C
HCM 95th %tile Q(veh)	0.9	-	-	-	3.9	0.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1195	37	11	1356	17	5
Future Volume (vph)	1195	37	11	1356	17	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.996				0.968	
Flt Protected					0.963	
Satd. Flow (prot)	3521	0	0	3506	1694	0
Flt Permitted					0.963	
Satd. Flow (perm)	3521	0	0	3506	1694	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	336			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	6%	0%	3%	6%	0%
Adj. Flow (vph)	1328	41	12	1507	19	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1369	0	0	1519	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.2%		ICU Level of Service B	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1195	37	11	1356	17	5
Future Vol, veh/h	1195	37	11	1356	17	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	0	3	6	0
Mvmt Flow	1328	41	12	1507	19	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1369	0	2126	684
Stage 1	-	-	-	-	1348	-
Stage 2	-	-	-	-	778	-
Critical Hdwy	-	-	4.1	-	6.92	6.9
Critical Hdwy Stg 1	-	-	-	-	5.92	-
Critical Hdwy Stg 2	-	-	-	-	5.92	-
Follow-up Hdwy	-	-	2.2	-	3.56	3.3
Pot Cap-1 Maneuver	-	-	508	-	41	396
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	403	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	508	-	39	396
Mov Cap-2 Maneuver	-	-	-	-	39	-
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	387	-

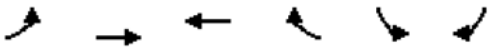
Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.59	136.48
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	49	-	-	29	-
HCM Lane V/C Ratio	0.499	-	-	0.024	-
HCM Control Delay (s/veh)	136.5	-	-	12.3	0.5
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	1.9	-	-	0.1	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
6: N French Rd & Crosspoint Pkwy

2027 Full-Build PM Gated Access
03/28/2024



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	120	1081	1062	73	100	304
Future Volume (vph)	120	1081	1062	73	100	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3467	3438	3471	1538	1719	2682
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3467	3438	3471	1538	1719	2682
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				50		362
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		610	
Travel Time (s)		8.5	8.9		13.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	5%	4%	5%	5%	6%
Adj. Flow (vph)	143	1287	1264	87	119	362
Shared Lane Traffic (%)						
Lane Group Flow (vph)	143	1287	1264	87	119	362
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	8.6	49.4	36.1	36.1	10.7	10.7
Actuated g/C Ratio	0.12	0.68	0.50	0.50	0.15	0.15
v/c Ratio	0.34	0.54	0.73	0.10	0.47	0.51
Control Delay (s/veh)	33.3	7.1	18.0	6.1	35.7	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.3	7.1	18.0	6.1	35.7	6.3
LOS	C	A	B	A	D	A
Approach Delay (s/veh)		9.8	17.3		13.6	
Approach LOS		A	B		B	
Queue Length 50th (ft)	31	125	217	8	51	0
Queue Length 95th (ft)	57	191	316	31	95	28
Internal Link Dist (ft)		484	506		530	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	740	2813	1870	851	820	1470
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.46	0.68	0.10	0.15	0.25

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 72.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 13.5		Intersection LOS: B	
Intersection Capacity Utilization 54.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: N French Rd & Crosspoint Pkwy



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	11	2	190	394	3
Future Volume (vph)	2	11	2	190	394	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.884				0.999	
Flt Protected	0.993					
Satd. Flow (prot)	1668	0	0	3408	3251	0
Flt Permitted	0.993					
Satd. Flow (perm)	1668	0	0	3408	3251	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			610	380	
Travel Time (s)	12.4			13.9	8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	11%	0%
Adj. Flow (vph)	2	12	2	207	428	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	209	431	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.0%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	11	2	190	394	3
Future Vol, veh/h	2	11	2	190	394	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	6	11	0
Mvmt Flow	2	12	2	207	428	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	538	216	432	0	-	0
Stage 1	430	-	-	-	-	-
Stage 2	108	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	478	795	1139	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	477	795	1139	-	-	-
Mov Cap-2 Maneuver	477	-	-	-	-	-
Stage 1	628	-	-	-	-	-
Stage 2	911	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.09	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	38	-	721	-	-
HCM Lane V/C Ratio	0.002	-	0.02	-	-
HCM Control Delay (s/veh)	8.2	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

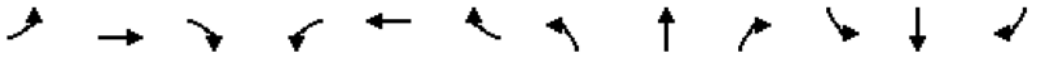
Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

APPENDIX H: LOS CALCULATIONS – FULL BUILD CONDITIONS FULL ACCESS WITH MITIGATION

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build AM FA MIT
04/01/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	732	428	483	561	0	0	0	0	1	0	55
Future Volume (vph)	0	732	428	483	561	0	0	0	0	1	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.867	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Flt Permitted				0.950							0.999	
Satd. Flow (perm)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			261								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	8%	3%	11%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	0	779	455	514	597	0	0	0	0	1	0	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	779	455	514	597	0	0	0	0	0	60	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	37.0	48.0	15.0
Total Split (%)	24%	31%	10%
Maximum Green (s)	30.7	41.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		85.0	85.0	33.7	131.4						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.86						0.06	
v/c Ratio		0.40	0.47	0.68	0.40						0.26	
Control Delay (s/veh)		11.4	6.1	49.5	4.6						2.8	
Queue Delay		0.0	0.0	0.4	0.2						0.0	
Total Delay (s/veh)		11.4	6.1	50.0	4.9						2.8	
LOS		B	A	D	A						A	
Approach Delay (s/veh)		9.5			25.8						2.8	
Approach LOS		A			C						A	
Queue Length 50th (ft)		147	63	255	179						0	
Queue Length 95th (ft)		178	118	320	178						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1929	946	767	1467						228	
Starvation Cap Reductn		0	0	52	300						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.40	0.48	0.72	0.51						0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 152.1			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 16.9		Intersection LOS: B	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: I-990 SB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	680	0	0	877	0	168	1	740	0	0	0
Future Volume (vph)	53	680	0	0	877	0	168	1	740	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.996					0.950					
Satd. Flow (prot)	0	3457	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.781					0.950					
Satd. Flow (perm)	0	2711	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								258	258			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			480			515			456	
Travel Time (s)		6.7			7.3			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	56	723	0	0	933	0	179	1	787	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	779	0	0	933	0	179	395	393	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							48.0	48.0	48.0			
Total Split (%)							31.0%	31.0%	31.0%			
Maximum Green (s)							41.8	41.8	41.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	37.0	15.0	15.0
Total Split (%)	26%	24%	10%	10%
Maximum Green (s)	34.3	30.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		99.0			78.3		41.1	41.1	41.1			
Actuated g/C Ratio		0.65			0.51		0.27	0.27	0.27			
v/c Ratio		0.44			0.35		0.42	0.67	0.66			
Control Delay (s/veh)		13.8			15.6		50.1	22.9	22.7			
Queue Delay		0.9			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		14.8			15.6		50.1	22.9	22.7			
LOS		B			B		D	C	C			
Approach Delay (s/veh)		14.9			15.7			27.9				
Approach LOS		B			B			C				
Queue Length 50th (ft)		154			139		151	131	128			
Queue Length 95th (ft)		178			162		230	267	262			
Internal Link Dist (ft)		360			400			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1785			2630		424	592	592			
Starvation Cap Reductn		691			0		0	0	0			
Spillback Cap Reductn		0			0		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.71			0.35		0.42	0.67	0.66			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 152.1			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 19.9		Intersection LOS: B	
Intersection Capacity Utilization 67.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: I-990 NB Ramps & N French Rd

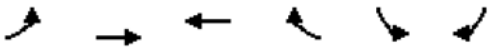


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	1398	818	3	7	59
Future Volume (vph)	25	1398	818	3	7	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.999		0.880	
Flt Protected	0.950				0.994	
Satd. Flow (prot)	1805	3343	3310	0	1662	0
Flt Permitted	0.950				0.994	
Satd. Flow (perm)	1805	3343	3310	0	1662	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		480	850		610	
Travel Time (s)		7.3	12.9		13.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	9%	0%	0%	0%
Adj. Flow (vph)	27	1520	889	3	8	64
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	1520	892	0	72	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.6

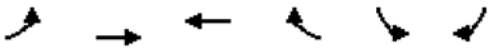
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	1398	818	3	7	59
Future Vol, veh/h	25	1398	818	3	7	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	9	0	0	0
Mvmt Flow	27	1520	889	3	8	64

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	892	0	-	0	1705	446
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	814	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	768	-	-	-	84	565
Stage 1	-	-	-	-	366	-
Stage 2	-	-	-	-	401	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	768	-	-	-	81	565
Mov Cap-2 Maneuver	-	-	-	-	81	-
Stage 1	-	-	-	-	353	-
Stage 2	-	-	-	-	401	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.17	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	768	-	-	-	346
HCM Lane V/C Ratio	0.035	-	-	-	0.207
HCM Control Delay (s/veh)	9.9	-	-	-	18.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	11	1392	798	14	26	23
Future Volume (vph)	11	1392	798	14	26	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	3343	3307	0	1805	1615
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	3343	3307	0	1805	1615
Link Speed (mph)		45	45		30	
Link Distance (ft)		850	336		642	
Travel Time (s)		12.9	5.1		14.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	9%	0%	0%	0%
Adj. Flow (vph)	12	1513	867	15	28	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	1513	882	0	28	25
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.5%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	1392	798	14	26	23
Future Vol, veh/h	11	1392	798	14	26	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	9	0	0	0
Mvmt Flow	12	1513	867	15	28	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	883	0	-	0	1655	441
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	780	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	775	-	-	-	91	569
Stage 1	-	-	-	-	373	-
Stage 2	-	-	-	-	417	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	775	-	-	-	89	569
Mov Cap-2 Maneuver	-	-	-	-	219	-
Stage 1	-	-	-	-	367	-
Stage 2	-	-	-	-	417	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.08	0	18.12
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	775	-	-	-	219	569
HCM Lane V/C Ratio	0.015	-	-	-	0.129	0.044
HCM Control Delay (s/veh)	9.7	-	-	-	23.9	11.6
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.1

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1401	17	3	794	18	4
Future Volume (vph)	1401	17	3	794	18	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.998				0.977	
Flt Protected					0.960	
Satd. Flow (prot)	3530	0	0	3505	1697	0
Flt Permitted					0.960	
Satd. Flow (perm)	3530	0	0	3505	1697	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	336			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	6%	0%	3%	6%	0%
Adj. Flow (vph)	1557	19	3	882	20	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1576	0	0	885	24	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.3%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.4

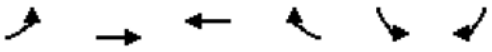
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1401	17	3	794	18	4
Future Vol, veh/h	1401	17	3	794	18	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	0	3	6	0
Mvmt Flow	1557	19	3	882	20	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1576	0	2014	788
Stage 1	-	-	-	-	1566	-
Stage 2	-	-	-	-	448	-
Critical Hdwy	-	-	4.1	-	6.92	6.9
Critical Hdwy Stg 1	-	-	-	-	5.92	-
Critical Hdwy Stg 2	-	-	-	-	5.92	-
Follow-up Hdwy	-	-	2.2	-	3.56	3.3
Pot Cap-1 Maneuver	-	-	424	-	49	338
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	599	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	424	-	48	338
Mov Cap-2 Maneuver	-	-	-	-	123	-
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	593	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.19	36.27
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	139	-	-	14	-
HCM Lane V/C Ratio	0.176	-	-	0.008	-
HCM Control Delay (s/veh)	36.3	-	-	13.6	0.1
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	382	1023	709	96	60	88
Future Volume (vph)	382	1023	709	96	60	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3467	3438	3471	1538	1719	2682
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3467	3438	3471	1538	1719	2682
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				97		105
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		610	
Travel Time (s)		8.5	8.9		13.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	5%	4%	5%	5%	6%
Adj. Flow (vph)	455	1218	844	114	71	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	455	1218	844	114	71	105
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	14.5	43.1	21.7	21.7	8.5	8.5
Actuated g/C Ratio	0.25	0.73	0.37	0.37	0.14	0.14
v/c Ratio	0.53	0.48	0.65	0.18	0.28	0.22
Control Delay (s/veh)	24.1	5.7	19.3	5.4	28.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.1	5.7	19.3	5.4	28.8	7.7
LOS	C	A	B	A	C	A
Approach Delay (s/veh)		10.7	17.7		16.3	
Approach LOS		B	B		B	
Queue Length 50th (ft)	76	99	140	4	25	0
Queue Length 95th (ft)	130	147	191	29	59	18
Internal Link Dist (ft)		484	506		530	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	948	3194	2383	1086	1051	1680
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.38	0.35	0.10	0.07	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 58.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 13.5		Intersection LOS: B	
Intersection Capacity Utilization 49.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: N French Rd & Crosspoint Pkwy



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	13	2	359	136	1
Future Volume (vph)	3	13	2	359	136	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.889				0.999	
Flt Protected	0.991		0.950			
Satd. Flow (prot)	1674	0	1805	3406	3606	0
Flt Permitted	0.991		0.950			
Satd. Flow (perm)	1674	0	1805	3406	3606	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			610	380	
Travel Time (s)	12.4			13.9	8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	0%	2%
Adj. Flow (vph)	3	14	2	390	148	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	2	390	149	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.9%	ICU Level of Service	A
Analysis Period (min)	15		

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	13	2	359	136	1
Future Vol, veh/h	3	13	2	359	136	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	6	0	2
Mvmt Flow	3	14	2	390	148	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	348	74	149	0	-	0
Stage 1	148	-	-	-	-	-
Stage 2	199	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	628	978	1445	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	627	978	1445	-	-	-
Mov Cap-2 Maneuver	627	-	-	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	821	-	-	-	-	-

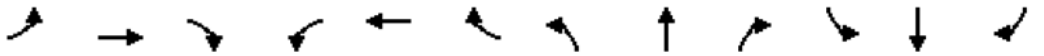
Approach	EB	NB	SB
HCM Control Delay, s/v	9.15	0.04	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1445	-	886	-	-
HCM Lane V/C Ratio	0.002	-	0.02	-	-
HCM Control Delay (s/veh)	7.5	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build PM FA MIT
04/01/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	722	225	680	1064	0	0	0	0	4	0	47
Future Volume (vph)	0	722	225	680	1064	0	0	0	0	4	0	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.875	
Flt Protected				0.950							0.996	
Satd. Flow (prot)	0	3471	1495	3400	1712	0	0	0	0	0	1569	0
Flt Permitted				0.950							0.996	
Satd. Flow (perm)	0	3471	1495	3400	1712	0	0	0	0	0	1569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			233								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	8%	3%	11%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	0	768	239	723	1132	0	0	0	0	4	0	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	768	239	723	1132	0	0	0	0	0	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	36.0	49.0	15.0
Total Split (%)	23%	32%	10%
Maximum Green (s)	29.7	42.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

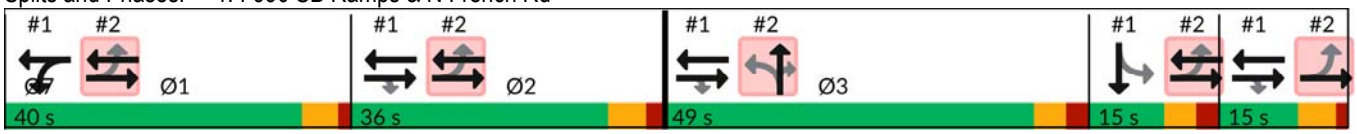
Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		87.4	87.4	34.3	134.3						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.87						0.06	
v/c Ratio		0.39	0.25	0.96	0.76						0.23	
Control Delay (s/veh)		11.4	1.7	66.1	11.2						2.4	
Queue Delay		0.0	0.0	12.2	3.3						0.0	
Total Delay (s/veh)		11.4	1.7	78.3	14.5						2.4	
LOS		B	A	E	B						A	
Approach Delay (s/veh)		9.1			39.4						2.5	
Approach LOS		A			D						A	
Queue Length 50th (ft)		145	2	345	362						0	
Queue Length 95th (ft)		176	28	m#482	516						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1957	944	752	1483						227	
Starvation Cap Reductn		0	0	42	252						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.39	0.25	1.02	0.92						0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay (s/veh): 28.3		Intersection LOS: C	
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: I-990 SB Ramps & N French Rd

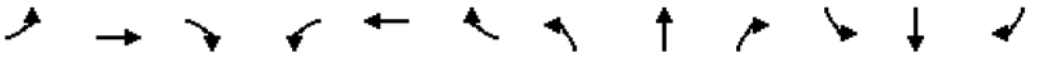


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	679	0	0	1388	0	354	1	623	0	0	0
Future Volume (vph)	48	679	0	0	1388	0	354	1	623	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.997					0.950					
Satd. Flow (prot)	0	3461	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.704					0.950					
Satd. Flow (perm)	0	2444	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								255	255			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			480			515			456	
Travel Time (s)		6.7			7.3			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	51	722	0	0	1477	0	377	1	663	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	773	0	0	1477	0	377	333	331	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							49.0	49.0	49.0			
Total Split (%)							31.6%	31.6%	31.6%			
Maximum Green (s)							42.8	42.8	42.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	36.0	15.0	15.0
Total Split (%)	26%	23%	10%	10%
Maximum Green (s)	34.3	29.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

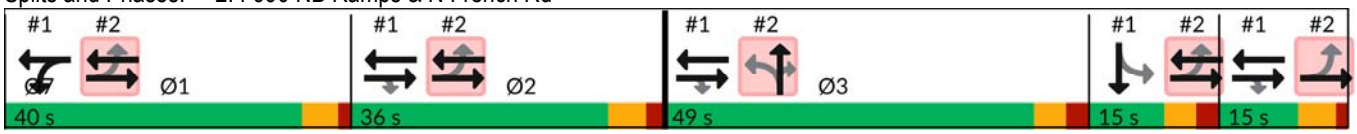
Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		100.3			79.6		42.8	42.8	42.8			
Actuated g/C Ratio		0.65			0.51		0.28	0.28	0.28			
v/c Ratio		0.48			0.57		0.88	0.56	0.56			
Control Delay (s/veh)		16.7			22.8		76.5	15.5	15.3			
Queue Delay		1.2			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		18.0			22.8		76.5	15.5	15.3			
LOS		B			C		E	B	B			
Approach Delay (s/veh)		18.0			22.9			37.6				
Approach LOS		B			C			D				
Queue Length 50th (ft)		156			258		368	64	62			
Queue Length 95th (ft)		197			291		#556	175	173			
Internal Link Dist (ft)		360			400			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1581			2586		426	591	591			
Starvation Cap Reductn		558			0		0	0	0			
Spillback Cap Reductn		0			167		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.76			0.61		0.88	0.56	0.56			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay (s/veh): 26.4		Intersection LOS: C	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: I-990 NB Ramps & N French Rd

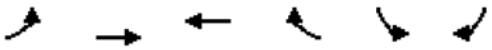


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	68	1241	1339	8	5	49
Future Volume (vph)	68	1241	1339	8	5	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.999		0.877	
Flt Protected	0.950				0.996	
Satd. Flow (prot)	1805	3343	3502	0	1660	0
Flt Permitted	0.950				0.996	
Satd. Flow (perm)	1805	3343	3502	0	1660	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		480	850		610	
Travel Time (s)		7.3	12.9		13.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	3%	0%	0%	0%
Adj. Flow (vph)	74	1349	1455	9	5	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	74	1349	1464	0	58	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.4%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	1.1

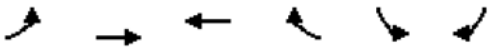
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	68	1241	1339	8	5	49
Future Vol, veh/h	68	1241	1339	8	5	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	3	0	0	0
Mvmt Flow	74	1349	1455	9	5	53

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1464	0	-	0	2282	732
Stage 1	-	-	-	-	1460	-
Stage 2	-	-	-	-	822	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	467	-	-	-	34	368
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	397	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	467	-	-	-	29	368
Mov Cap-2 Maneuver	-	-	-	-	29	-
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	397	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.73	0	35.23
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	467	-	-	-	177
HCM Lane V/C Ratio	0.158	-	-	-	0.332
HCM Control Delay (s/veh)	14.1	-	-	-	35.2
HCM Lane LOS	B	-	-	-	E
HCM 95th %tile Q(veh)	0.6	-	-	-	1.4

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	27	1211	1328	38	22	19
Future Volume (vph)	27	1211	1328	38	22	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.996			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	3343	3494	0	1805	1615
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	3343	3494	0	1805	1615
Link Speed (mph)		45	45		30	
Link Distance (ft)		850	336		642	
Travel Time (s)		12.9	5.1		14.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	3%	0%	0%	0%
Adj. Flow (vph)	29	1316	1443	41	24	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	1316	1484	0	24	21
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	27	1211	1328	38	22	19
Future Vol, veh/h	27	1211	1328	38	22	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	3	0	0	0
Mvmt Flow	29	1316	1443	41	24	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1485	0	-	0	2181	742
Stage 1	-	-	-	-	1464	-
Stage 2	-	-	-	-	717	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	459	-	-	-	40	362
Stage 1	-	-	-	-	182	-
Stage 2	-	-	-	-	450	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	459	-	-	-	38	362
Mov Cap-2 Maneuver	-	-	-	-	126	-
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	450	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.29	0	28.71
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	459	-	-	-	126	362
HCM Lane V/C Ratio	0.064	-	-	-	0.19	0.057
HCM Control Delay (s/veh)	13.4	-	-	-	40.1	15.5
HCM Lane LOS	B	-	-	-	E	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.7	0.2

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1195	37	11	1350	17	5
Future Volume (vph)	1195	37	11	1350	17	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.996				0.968	
Flt Protected					0.963	
Satd. Flow (prot)	3521	0	0	3506	1694	0
Flt Permitted					0.963	
Satd. Flow (perm)	3521	0	0	3506	1694	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	336			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	6%	0%	3%	6%	0%
Adj. Flow (vph)	1328	41	12	1500	19	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1369	0	0	1512	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.0%		ICU Level of Service B	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.6

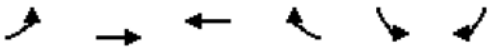
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1195	37	11	1350	17	5
Future Vol, veh/h	1195	37	11	1350	17	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	0	3	6	0
Mvmt Flow	1328	41	12	1500	19	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1369	0	2123	684
Stage 1	-	-	-	-	1348	-
Stage 2	-	-	-	-	774	-
Critical Hdwy	-	-	4.1	-	6.92	6.9
Critical Hdwy Stg 1	-	-	-	-	5.92	-
Critical Hdwy Stg 2	-	-	-	-	5.92	-
Follow-up Hdwy	-	-	2.2	-	3.56	3.3
Pot Cap-1 Maneuver	-	-	508	-	41	396
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	405	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	508	-	39	396
Mov Cap-2 Maneuver	-	-	-	-	136	-
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	388	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.59	31.54
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	160	-	-	29	-
HCM Lane V/C Ratio	0.153	-	-	0.024	-
HCM Control Delay (s/veh)	31.5	-	-	12.3	0.5
HCM Lane LOS	D	-	-	B	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	120	1081	1056	79	100	304
Future Volume (vph)	120	1081	1056	79	100	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3467	3438	3471	1538	1719	2682
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3467	3438	3471	1538	1719	2682
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				54		362
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		610	
Travel Time (s)		8.5	8.9		13.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	5%	4%	5%	5%	6%
Adj. Flow (vph)	143	1287	1257	94	119	362
Shared Lane Traffic (%)						
Lane Group Flow (vph)	143	1287	1257	94	119	362
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	8.6	48.9	35.6	35.6	10.6	10.6
Actuated g/C Ratio	0.12	0.68	0.50	0.50	0.15	0.15
v/c Ratio	0.34	0.55	0.73	0.11	0.46	0.51
Control Delay (s/veh)	33.1	7.2	18.0	6.1	35.5	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.1	7.2	18.0	6.1	35.5	6.3
LOS	C	A	B	A	D	A
Approach Delay (s/veh)		9.8	17.3		13.6	
Approach LOS		A	B		B	
Queue Length 50th (ft)	31	125	215	9	51	0
Queue Length 95th (ft)	57	191	314	32	95	28
Internal Link Dist (ft)		484	506		530	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	747	2836	1886	860	827	1479
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.45	0.67	0.11	0.14	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 71.9			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 13.5		Intersection LOS: B	
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: N French Rd & Crosspoint Pkwy



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	11	8	183	301	3
Future Volume (vph)	1	11	8	183	301	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.875				0.999	
Flt Protected	0.996			0.998		
Satd. Flow (prot)	1656	0	0	3407	3252	0
Flt Permitted	0.996			0.998		
Satd. Flow (perm)	1656	0	0	3407	3252	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			610	380	
Travel Time (s)	12.4			13.9	8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	11%	0%
Adj. Flow (vph)	1	12	9	199	327	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	0	0	208	330	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.9%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	11	8	183	301	3
Future Vol, veh/h	1	11	8	183	301	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	6	11	0
Mvmt Flow	1	12	9	199	327	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	446	165	330	0	-	0
Stage 1	329	-	-	-	-	-
Stage 2	117	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	546	857	1240	-	-	-
Stage 1	708	-	-	-	-	-
Stage 2	901	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	542	857	1240	-	-	-
Mov Cap-2 Maneuver	542	-	-	-	-	-
Stage 1	702	-	-	-	-	-
Stage 2	901	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.48	0.38	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	151	-	817	-	-
HCM Lane V/C Ratio	0.007	-	0.016	-	-
HCM Control Delay (s/veh)	7.9	0.1	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

APPENDIX I: LOS CALCULATIONS – FULL BUILD CONDITIONS RIGHT IN-RIGHT OUT WITH MITIGATION

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build AM RIRO MIT
04/01/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	732	428	483	561	0	0	0	0	1	0	55
Future Volume (vph)	0	732	428	483	561	0	0	0	0	1	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.867	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Flt Permitted				0.950							0.999	
Satd. Flow (perm)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			261								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	8%	3%	11%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	0	779	455	514	597	0	0	0	0	1	0	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	779	455	514	597	0	0	0	0	0	60	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	37.0	48.0	15.0
Total Split (%)	24%	31%	10%
Maximum Green (s)	30.7	41.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		85.0	85.0	33.7	131.4						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.86						0.06	
v/c Ratio		0.40	0.47	0.68	0.40						0.26	
Control Delay (s/veh)		11.4	6.1	49.5	4.6						2.8	
Queue Delay		0.0	0.0	0.4	0.2						0.0	
Total Delay (s/veh)		11.4	6.1	50.0	4.9						2.8	
LOS		B	A	D	A						A	
Approach Delay (s/veh)		9.5			25.8						2.8	
Approach LOS		A			C						A	
Queue Length 50th (ft)		147	63	255	179						0	
Queue Length 95th (ft)		178	118	320	178						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1929	946	767	1467						228	
Starvation Cap Reductn		0	0	52	300						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.40	0.48	0.72	0.51						0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 152.1			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 16.9		Intersection LOS: B	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: I-990 SB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

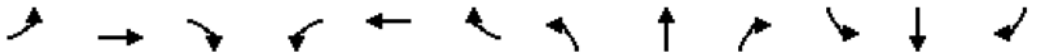
Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2027 Full-Build AM RIRO MIT
04/01/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	680	0	0	877	0	168	1	740	0	0	0
Future Volume (vph)	53	680	0	0	877	0	168	1	740	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.996					0.950					
Satd. Flow (prot)	0	3457	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.781					0.950					
Satd. Flow (perm)	0	2711	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								258	258			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			480			515			456	
Travel Time (s)		6.7			7.3			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	56	723	0	0	933	0	179	1	787	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	779	0	0	933	0	179	395	393	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							48.0	48.0	48.0			
Total Split (%)							31.0%	31.0%	31.0%			
Maximum Green (s)							41.8	41.8	41.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	37.0	15.0	15.0
Total Split (%)	26%	24%	10%	10%
Maximum Green (s)	34.3	30.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		99.0			78.3		41.1	41.1	41.1			
Actuated g/C Ratio		0.65			0.51		0.27	0.27	0.27			
v/c Ratio		0.44			0.35		0.42	0.67	0.66			
Control Delay (s/veh)		13.8			15.6		50.1	22.9	22.7			
Queue Delay		0.9			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		14.8			15.6		50.1	22.9	22.7			
LOS		B			B		D	C	C			
Approach Delay (s/veh)		14.9			15.7			27.9				
Approach LOS		B			B			C				
Queue Length 50th (ft)		154			139		151	131	128			
Queue Length 95th (ft)		178			162		230	267	262			
Internal Link Dist (ft)		360			400			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1785			2630		424	592	592			
Starvation Cap Reductn		691			0		0	0	0			
Spillback Cap Reductn		0			0		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.71			0.35		0.42	0.67	0.66			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 152.1			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 19.9		Intersection LOS: B	
Intersection Capacity Utilization 67.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: I-990 NB Ramps & N French Rd

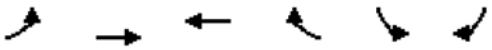


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	1420	818	3	0	59
Future Volume (vph)	0	1420	818	3	0	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.999			0.865
Flt Protected						
Satd. Flow (prot)	0	3343	3502	0	0	1644
Flt Permitted						
Satd. Flow (perm)	0	3343	3502	0	0	1644
Link Speed (mph)		45	45		30	
Link Distance (ft)		480	850		610	
Travel Time (s)		7.3	12.9		13.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	3%	0%	0%	0%
Adj. Flow (vph)	0	1543	889	3	0	64
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1543	892	0	0	64
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.6%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.3

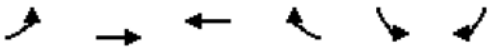
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1420	818	3	0	59
Future Vol, veh/h	0	1420	818	3	0	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	3	0	0	0
Mvmt Flow	0	1543	889	3	0	64

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	446
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	565
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	565
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	12.18
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	565
HCM Lane V/C Ratio	-	-	-	0.113
HCM Control Delay (s/veh)	-	-	-	12.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	35	1385	798	14	33	23
Future Volume (vph)	35	1385	798	14	33	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.997			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	3343	3496	0	1805	1615
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	3343	3496	0	1805	1615
Link Speed (mph)		45	45		30	
Link Distance (ft)		850	336		642	
Travel Time (s)		12.9	5.1		14.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	3%	0%	0%	0%
Adj. Flow (vph)	38	1505	867	15	36	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	1505	882	0	36	25
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	1385	798	14	33	23
Future Vol, veh/h	35	1385	798	14	33	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	3	0	0	0
Mvmt Flow	38	1505	867	15	36	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	883	0	-	0	1704	441
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	829	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	775	-	-	-	84	569
Stage 1	-	-	-	-	373	-
Stage 2	-	-	-	-	394	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	775	-	-	-	80	569
Mov Cap-2 Maneuver	-	-	-	-	207	-
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	394	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.24	0	20.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	775	-	-	-	207	569
HCM Lane V/C Ratio	0.049	-	-	-	0.173	0.044
HCM Control Delay (s/veh)	9.9	-	-	-	26	11.6
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6	0.1

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1401	17	3	794	18	4
Future Volume (vph)	1401	17	3	794	18	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.998				0.977	
Flt Protected					0.960	
Satd. Flow (prot)	3530	0	0	3505	1697	0
Flt Permitted					0.960	
Satd. Flow (perm)	3530	0	0	3505	1697	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	336			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	6%	0%	3%	6%	0%
Adj. Flow (vph)	1557	19	3	882	20	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1576	0	0	885	24	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.3%		ICU Level of Service A	
Analysis Period (min) 15			

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Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1401	17	3	794	18	4
Future Vol, veh/h	1401	17	3	794	18	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	0	3	6	0
Mvmt Flow	1557	19	3	882	20	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1576	0	2014	788
Stage 1	-	-	-	-	1566	-
Stage 2	-	-	-	-	448	-
Critical Hdwy	-	-	4.1	-	6.92	6.9
Critical Hdwy Stg 1	-	-	-	-	5.92	-
Critical Hdwy Stg 2	-	-	-	-	5.92	-
Follow-up Hdwy	-	-	2.2	-	3.56	3.3
Pot Cap-1 Maneuver	-	-	424	-	49	338
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	599	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	424	-	48	338
Mov Cap-2 Maneuver	-	-	-	-	123	-
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	593	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.19	36.27
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	139	-	-	14	-
HCM Lane V/C Ratio	0.176	-	-	0.008	-
HCM Control Delay (s/veh)	36.3	-	-	13.6	0.1
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

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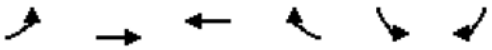


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	382	1023	709	97	60	88
Future Volume (vph)	382	1023	709	97	60	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3467	3438	3471	1538	1719	2682
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3467	3438	3471	1538	1719	2682
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				98		105
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		610	
Travel Time (s)		8.5	8.9		13.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	5%	4%	5%	5%	6%
Adj. Flow (vph)	455	1218	844	115	71	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	455	1218	844	115	71	105
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	14.5	43.1	21.7	21.7	8.5	8.5
Actuated g/C Ratio	0.25	0.73	0.37	0.37	0.14	0.14
v/c Ratio	0.53	0.48	0.65	0.18	0.28	0.22
Control Delay (s/veh)	24.1	5.7	19.3	5.4	28.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.1	5.7	19.3	5.4	28.8	7.7
LOS	C	A	B	A	C	A
Approach Delay (s/veh)		10.7	17.7		16.3	
Approach LOS		B	B		B	
Queue Length 50th (ft)	76	99	140	4	25	0
Queue Length 95th (ft)	130	147	191	29	59	18
Internal Link Dist (ft)		484	506		530	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	948	3194	2383	1086	1051	1680
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.38	0.35	0.11	0.07	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 58.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 13.5		Intersection LOS: B	
Intersection Capacity Utilization 49.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: N French Rd & Crosspoint Pkwy



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	13	3	481	136	1
Future Volume (vph)	2	13	3	481	136	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.882				0.999	
Flt Protected	0.994		0.950			
Satd. Flow (prot)	1633	0	1770	3539	3536	0
Flt Permitted	0.994		0.950			
Satd. Flow (perm)	1633	0	1770	3539	3536	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			610	380	
Travel Time (s)	12.4			13.9	8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	14	3	523	148	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	0	3	523	149	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.3%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	13	3	481	136	1
Future Vol, veh/h	2	13	3	481	136	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	14	3	523	148	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	416	74	149	0	-	0
Stage 1	148	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	564	972	1430	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	563	972	1430	-	-	-
Mov Cap-2 Maneuver	563	-	-	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	753	-	-	-	-	-

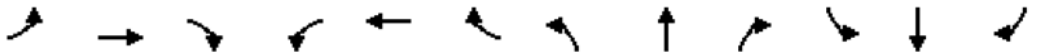
Approach	EB	NB	SB
HCM Control Delay, s/v	9.14	0.05	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1430	-	886	-	-
HCM Lane V/C Ratio	0.002	-	0.018	-	-
HCM Control Delay (s/veh)	7.5	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build PM RIRO MIT
04/01/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	722	225	680	1064	0	0	0	0	4	0	47
Future Volume (vph)	0	722	225	680	1064	0	0	0	0	4	0	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.875	
Flt Protected				0.950							0.996	
Satd. Flow (prot)	0	3471	1495	3400	1712	0	0	0	0	0	1569	0
Flt Permitted				0.950							0.996	
Satd. Flow (perm)	0	3471	1495	3400	1712	0	0	0	0	0	1569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			233								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	8%	3%	11%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	0	768	239	723	1132	0	0	0	0	4	0	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	768	239	723	1132	0	0	0	0	0	54	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	36.0	49.0	15.0
Total Split (%)	23%	32%	10%
Maximum Green (s)	29.7	42.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

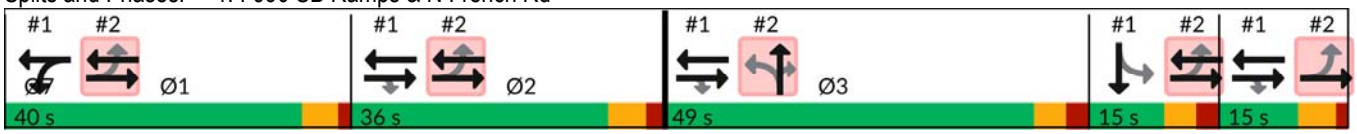
2027 Full-Build PM RIRO MIT
04/01/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		87.4	87.4	34.3	134.3						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.87						0.06	
v/c Ratio		0.39	0.25	0.96	0.76						0.23	
Control Delay (s/veh)		11.4	1.7	66.1	11.2						2.4	
Queue Delay		0.0	0.0	12.2	3.3						0.0	
Total Delay (s/veh)		11.4	1.7	78.3	14.5						2.4	
LOS		B	A	E	B						A	
Approach Delay (s/veh)		9.1			39.4						2.5	
Approach LOS		A			D						A	
Queue Length 50th (ft)		145	2	345	362						0	
Queue Length 95th (ft)		176	28	m#482	516						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1957	944	752	1483						227	
Starvation Cap Reductn		0	0	42	252						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.39	0.25	1.02	0.92						0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay (s/veh): 28.3		Intersection LOS: C	
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: I-990 SB Ramps & N French Rd

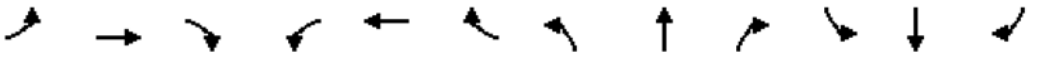


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	679	0	0	1388	0	354	1	623	0	0	0
Future Volume (vph)	48	679	0	0	1388	0	354	1	623	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.997					0.950					
Satd. Flow (prot)	0	3461	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.704					0.950					
Satd. Flow (perm)	0	2444	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								255	255			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			480			515			456	
Travel Time (s)		6.7			7.3			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	51	722	0	0	1477	0	377	1	663	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	773	0	0	1477	0	377	333	331	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							49.0	49.0	49.0			
Total Split (%)							31.6%	31.6%	31.6%			
Maximum Green (s)							42.8	42.8	42.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	36.0	15.0	15.0
Total Split (%)	26%	23%	10%	10%
Maximum Green (s)	34.3	29.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

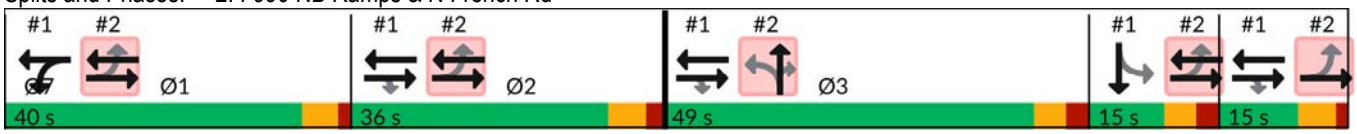
2027 Full-Build PM RIRO MIT
04/01/2024

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		100.3			79.6		42.8	42.8	42.8			
Actuated g/C Ratio		0.65			0.51		0.28	0.28	0.28			
v/c Ratio		0.48			0.57		0.88	0.56	0.56			
Control Delay (s/veh)		16.7			22.8		76.5	15.5	15.3			
Queue Delay		1.2			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		18.0			22.8		76.5	15.5	15.3			
LOS		B			C		E	B	B			
Approach Delay (s/veh)		18.0			22.9			37.6				
Approach LOS		B			C			D				
Queue Length 50th (ft)		156			258		368	64	62			
Queue Length 95th (ft)		197			291		#556	175	173			
Internal Link Dist (ft)		360			400			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1581			2586		426	591	591			
Starvation Cap Reductn		558			0		0	0	0			
Spillback Cap Reductn		0			167		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.76			0.61		0.88	0.56	0.56			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay (s/veh): 26.4		Intersection LOS: C	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: I-990 NB Ramps & N French Rd

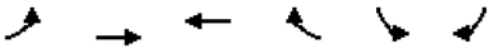


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	1302	1339	8	0	49
Future Volume (vph)	0	1302	1339	8	0	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.999			0.865
Flt Protected						
Satd. Flow (prot)	0	3343	3310	0	0	1644
Flt Permitted						
Satd. Flow (perm)	0	3343	3310	0	0	1644
Link Speed (mph)		45	45		30	
Link Distance (ft)		480	850		610	
Travel Time (s)		7.3	12.9		13.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	9%	0%	0%	0%
Adj. Flow (vph)	0	1415	1455	9	0	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1415	1464	0	0	53
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.3%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.3

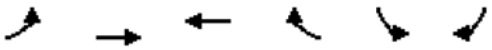
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1302	1339	8	0	49
Future Vol, veh/h	0	1302	1339	8	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	9	0	0	0
Mvmt Flow	0	1415	1455	9	0	53

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	732
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	368
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	368
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	16.43
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	368
HCM Lane V/C Ratio	-	-	-	0.145
HCM Control Delay (s/veh)	-	-	-	16.4
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.5

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	96	1206	1328	38	27	19
Future Volume (vph)	96	1206	1328	38	27	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.996			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	3343	3306	0	1805	1615
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	3343	3306	0	1805	1615
Link Speed (mph)		45	45		30	
Link Distance (ft)		850	336		642	
Travel Time (s)		12.9	5.1		14.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	9%	0%	0%	0%
Adj. Flow (vph)	104	1311	1443	41	29	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	1311	1484	0	29	21
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.6%		ICU Level of Service B	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	96	1206	1328	38	27	19
Future Vol, veh/h	96	1206	1328	38	27	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	9	0	0	0
Mvmt Flow	104	1311	1443	41	29	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1485	0	-	0	2328	742
Stage 1	-	-	-	-	1464	-
Stage 2	-	-	-	-	864	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	459	-	-	-	32	362
Stage 1	-	-	-	-	182	-
Stage 2	-	-	-	-	378	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	459	-	-	-	~ 25	362
Mov Cap-2 Maneuver	-	-	-	-	102	-
Stage 1	-	-	-	-	141	-
Stage 2	-	-	-	-	378	-

Approach	EB	WB	SB
HCM Control Delay, s/v	1.12	0	37.96
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	459	-	-	-	102	362
HCM Lane V/C Ratio	0.227	-	-	-	0.287	0.057
HCM Control Delay (s/veh)	15.1	-	-	-	53.8	15.5
HCM Lane LOS	C	-	-	-	F	C
HCM 95th %tile Q(veh)	0.9	-	-	-	1.1	0.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1195	37	11	1350	17	5
Future Volume (vph)	1195	37	11	1350	17	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.996				0.968	
Flt Protected					0.963	
Satd. Flow (prot)	3521	0	0	3506	1694	0
Flt Permitted					0.963	
Satd. Flow (perm)	3521	0	0	3506	1694	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	336			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	6%	0%	3%	6%	0%
Adj. Flow (vph)	1328	41	12	1500	19	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1369	0	0	1512	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.0%		ICU Level of Service B	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.6

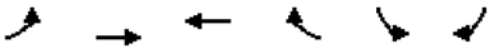
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1195	37	11	1350	17	5
Future Vol, veh/h	1195	37	11	1350	17	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	0	3	6	0
Mvmt Flow	1328	41	12	1500	19	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1369	0	2123	684
Stage 1	-	-	-	-	1348	-
Stage 2	-	-	-	-	774	-
Critical Hdwy	-	-	4.1	-	6.92	6.9
Critical Hdwy Stg 1	-	-	-	-	5.92	-
Critical Hdwy Stg 2	-	-	-	-	5.92	-
Follow-up Hdwy	-	-	2.2	-	3.56	3.3
Pot Cap-1 Maneuver	-	-	508	-	41	396
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	405	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	508	-	39	396
Mov Cap-2 Maneuver	-	-	-	-	136	-
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	388	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.59	31.54
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	160	-	-	29	-
HCM Lane V/C Ratio	0.153	-	-	0.024	-
HCM Control Delay (s/veh)	31.5	-	-	12.3	0.5
HCM Lane LOS	D	-	-	B	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	120	1081	1056	79	100	304
Future Volume (vph)	120	1081	1056	79	100	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3467	3438	3471	1538	1719	2682
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3467	3438	3471	1538	1719	2682
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				54		362
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		610	
Travel Time (s)		8.5	8.9		13.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	5%	4%	5%	5%	6%
Adj. Flow (vph)	143	1287	1257	94	119	362
Shared Lane Traffic (%)						
Lane Group Flow (vph)	143	1287	1257	94	119	362
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	8.6	48.9	35.6	35.6	10.6	10.6
Actuated g/C Ratio	0.12	0.68	0.50	0.50	0.15	0.15
v/c Ratio	0.34	0.55	0.73	0.11	0.46	0.51
Control Delay (s/veh)	33.1	7.2	18.0	6.1	35.5	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.1	7.2	18.0	6.1	35.5	6.3
LOS	C	A	B	A	D	A
Approach Delay (s/veh)		9.8	17.3		13.6	
Approach LOS		A	B		B	
Queue Length 50th (ft)	31	125	215	9	51	0
Queue Length 95th (ft)	57	191	314	32	95	28
Internal Link Dist (ft)		484	506		530	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	747	2836	1886	860	827	1479
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.45	0.67	0.11	0.14	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 71.9			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 13.5		Intersection LOS: B	
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: N French Rd & Crosspoint Pkwy



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	13	8	190	394	3
Future Volume (vph)	2	13	8	190	394	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.882				0.999	
Flt Protected	0.994		0.950			
Satd. Flow (prot)	1666	0	1805	3406	3251	0
Flt Permitted	0.994		0.950			
Satd. Flow (perm)	1666	0	1805	3406	3251	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			610	380	
Travel Time (s)	12.4			13.9	8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	11%	0%
Adj. Flow (vph)	2	14	9	207	428	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	0	9	207	431	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.0%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	13	8	190	394	3
Future Vol, veh/h	2	13	8	190	394	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	6	11	0
Mvmt Flow	2	14	9	207	428	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	551	216	432	0	-	0
Stage 1	430	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	470	795	1139	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	466	795	1139	-	-	-
Mov Cap-2 Maneuver	466	-	-	-	-	-
Stage 1	625	-	-	-	-	-
Stage 2	898	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.07	0.33	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1139	-	727	-	-
HCM Lane V/C Ratio	0.008	-	0.022	-	-
HCM Control Delay (s/veh)	8.2	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

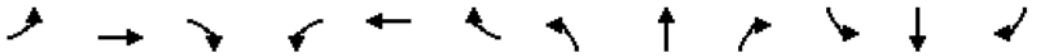
Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

APPENDIX J: LOS CALCULATIONS – FULL BUILD CONDITIONS GATED ACCESS WITH MITIGATIONS

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
1: I-990 SB Ramps & N French Rd

2027 Full-Build AM Gated Access MIT
04/01/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	732	428	483	561	0	0	0	0	1	0	55
Future Volume (vph)	0	732	428	483	561	0	0	0	0	1	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		0	0		0
Storage Lanes	0		1	2		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.867	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Flt Permitted				0.950							0.999	
Satd. Flow (perm)	0	3471	1495	3400	1712	0	0	0	0	0	1554	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			261								147	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		612			440			428			410	
Travel Time (s)		9.3			6.7			9.7			9.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	8%	3%	11%	0%	0%	0%	0%	0%	0%	6%
Adj. Flow (vph)	0	779	455	514	597	0	0	0	0	1	0	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	779	455	514	597	0	0	0	0	0	60	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2 3 7		1	1 2 3 7						4	
Permitted Phases			2 3 7							4		
Detector Phase		2 3 7	2 3 7	1	1 2 3 7					4	4	
Switch Phase												
Minimum Initial (s)				10.0						6.0	6.0	
Minimum Split (s)				15.7						12.2	12.2	
Total Split (s)				40.0						15.0	15.0	
Total Split (%)				25.8%						9.7%	9.7%	
Maximum Green (s)				34.3						8.8	8.8	
Yellow Time (s)				4.3						3.6	3.6	
All-Red Time (s)				1.4						2.6	2.6	
Lost Time Adjust (s)				0.0							0.0	
Total Lost Time (s)				5.7							6.2	
Lead/Lag				Lead						Lag	Lag	
Lead-Lag Optimize?				Yes						Yes	Yes	
Vehicle Extension (s)				3.0						3.0	3.0	
Recall Mode				None						None	None	

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Turn Type			
Protected Phases	2	3	7
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	20.0	6.0	10.0
Minimum Split (s)	45.3	12.2	15.7
Total Split (s)	37.0	48.0	15.0
Total Split (%)	24%	31%	10%
Maximum Green (s)	30.7	41.8	9.3
Yellow Time (s)	4.3	3.6	4.3
All-Red Time (s)	2.0	2.6	1.4
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	2.0	4.0	5.0
Recall Mode	Min	None	None

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)		85.0	85.0	33.7	131.4						8.8	
Actuated g/C Ratio		0.56	0.56	0.22	0.86						0.06	
v/c Ratio		0.40	0.47	0.68	0.40						0.26	
Control Delay (s/veh)		11.4	6.1	49.5	4.6						2.8	
Queue Delay		0.0	0.0	0.4	0.2						0.0	
Total Delay (s/veh)		11.4	6.1	50.0	4.9						2.8	
LOS		B	A	D	A						A	
Approach Delay (s/veh)		9.5			25.8						2.8	
Approach LOS		A			C						A	
Queue Length 50th (ft)		147	63	255	179						0	
Queue Length 95th (ft)		178	118	320	178						0	
Internal Link Dist (ft)		532			360			348			330	
Turn Bay Length (ft)			300									
Base Capacity (vph)		1929	946	767	1467						228	
Starvation Cap Reductn		0	0	52	300						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.40	0.48	0.72	0.51						0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 152.1			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 16.9		Intersection LOS: B	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: I-990 SB Ramps & N French Rd

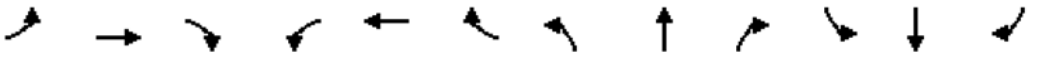


Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø2	Ø3	Ø7
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	32.0	32.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay (s/veh)			
Queue Delay			
Total Delay (s/veh)			
LOS			
Approach Delay (s/veh)			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	680	0	0	877	0	168	1	740	0	0	0
Future Volume (vph)	53	680	0	0	877	0	168	1	740	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.996					0.950					
Satd. Flow (prot)	0	3457	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.781					0.950					
Satd. Flow (perm)	0	2711	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								258	258			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			480			515			456	
Travel Time (s)		6.7			7.3			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	56	723	0	0	933	0	179	1	787	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	779	0	0	933	0	179	395	393	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							48.0	48.0	48.0			
Total Split (%)							31.0%	31.0%	31.0%			
Maximum Green (s)							41.8	41.8	41.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	37.0	15.0	15.0
Total Split (%)	26%	24%	10%	10%
Maximum Green (s)	34.3	30.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		99.0			78.3		41.1	41.1	41.1			
Actuated g/C Ratio		0.65			0.51		0.27	0.27	0.27			
v/c Ratio		0.44			0.35		0.42	0.67	0.66			
Control Delay (s/veh)		13.8			15.6		50.1	22.9	22.7			
Queue Delay		0.9			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		14.8			15.6		50.1	22.9	22.7			
LOS		B			B		D	C	C			
Approach Delay (s/veh)		14.9			15.7			27.9				
Approach LOS		B			B			C				
Queue Length 50th (ft)		154			139		151	131	128			
Queue Length 95th (ft)		178			162		230	267	262			
Internal Link Dist (ft)		360			400			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1785			2630		424	592	592			
Starvation Cap Reductn		691			0		0	0	0			
Spillback Cap Reductn		0			0		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.71			0.35		0.42	0.67	0.66			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 152.1			
Natural Cycle: 115			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 19.9		Intersection LOS: B	
Intersection Capacity Utilization 67.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: I-990 NB Ramps & N French Rd



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Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

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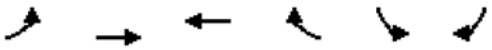

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	35	1385	795	19	33	82
Future Volume (vph)	35	1385	795	19	33	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.996			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	3343	3305	0	1805	1615
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	3343	3305	0	1805	1615
Link Speed (mph)		45	45		30	
Link Distance (ft)		850	336		642	
Travel Time (s)		12.9	5.1		14.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	8%	9%	0%	0%	0%
Adj. Flow (vph)	38	1505	864	21	36	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	1505	885	0	36	89
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	1385	795	19	33	82
Future Vol, veh/h	35	1385	795	19	33	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	8	9	0	0	0
Mvmt Flow	38	1505	864	21	36	89

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	885	0	-	0	1703	442
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	829	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	773	-	-	-	84	568
Stage 1	-	-	-	-	373	-
Stage 2	-	-	-	-	394	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	773	-	-	-	80	568
Mov Cap-2 Maneuver	-	-	-	-	207	-
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	394	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.24	0	16.38
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	773	-	-	-	207	568
HCM Lane V/C Ratio	0.049	-	-	-	0.173	0.157
HCM Control Delay (s/veh)	9.9	-	-	-	26	12.5
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6	0.6

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Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1401	17	3	796	18	4
Future Volume (vph)	1401	17	3	796	18	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.998				0.977	
Flt Protected					0.960	
Satd. Flow (prot)	3530	0	0	3505	1697	0
Flt Permitted					0.960	
Satd. Flow (perm)	3530	0	0	3505	1697	0
Link Speed (mph)	45			45	35	
Link Distance (ft)	336			564	623	
Travel Time (s)	25.2			8.5	12.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	6%	0%	3%	6%	0%
Adj. Flow (vph)	1557	19	3	884	20	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1576	0	0	887	24	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	Yes					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.3%		ICU Level of Service A	
Analysis Period (min) 15			

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Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1401	17	3	796	18	4
Future Vol, veh/h	1401	17	3	796	18	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	6	0	3	6	0
Mvmt Flow	1557	19	3	884	20	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1576	0	2015	788
Stage 1	-	-	-	-	1566	-
Stage 2	-	-	-	-	449	-
Critical Hdwy	-	-	4.1	-	6.92	6.9
Critical Hdwy Stg 1	-	-	-	-	5.92	-
Critical Hdwy Stg 2	-	-	-	-	5.92	-
Follow-up Hdwy	-	-	2.2	-	3.56	3.3
Pot Cap-1 Maneuver	-	-	424	-	49	338
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	599	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	424	-	48	338
Mov Cap-2 Maneuver	-	-	-	-	123	-
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	592	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.19	36.28
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	139	-	-	14	-
HCM Lane V/C Ratio	0.176	-	-	0.008	-
HCM Control Delay (s/veh)	36.3	-	-	13.6	0.1
HCM Lane LOS	E	-	-	B	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

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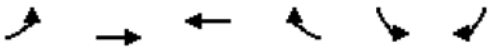

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	382	1023	711	95	60	88
Future Volume (vph)	382	1023	711	95	60	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	205			150	0	210
Storage Lanes	2			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.88
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3467	3438	3471	1538	1719	2682
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3467	3438	3471	1538	1719	2682
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				96		105
Link Speed (mph)		45	45		30	
Link Distance (ft)		564	586		610	
Travel Time (s)		8.5	8.9		13.9	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	5%	4%	5%	5%	6%
Adj. Flow (vph)	455	1218	846	113	71	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	455	1218	846	113	71	105
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		24	24		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	1	6	2		3	
Permitted Phases				2		3
Detector Phase	1	6	2	2	3	3
Switch Phase						
Minimum Initial (s)	6.0	15.0	15.0	15.0	6.0	6.0
Minimum Split (s)	10.7	21.4	21.4	21.4	11.8	11.8
Total Split (s)	20.0	65.0	45.0	45.0	40.0	40.0
Total Split (%)	19.0%	61.9%	42.9%	42.9%	38.1%	38.1%
Maximum Green (s)	15.3	58.6	38.6	38.6	34.2	34.2
Yellow Time (s)	3.2	5.0	5.0	5.0	3.2	3.2
All-Red Time (s)	1.5	1.4	1.4	1.4	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	6.4	6.4	6.4	5.8	5.8
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	Min	None	None

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Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Walk Time (s)			7.0	7.0		
Flash Dont Walk (s)			15.0	15.0		
Pedestrian Calls (#/hr)			0	0		
Act Effct Green (s)	14.5	43.1	21.7	21.7	8.5	8.5
Actuated g/C Ratio	0.25	0.73	0.37	0.37	0.14	0.14
v/c Ratio	0.53	0.48	0.65	0.17	0.28	0.22
Control Delay (s/veh)	24.1	5.7	19.3	5.4	28.8	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.1	5.7	19.3	5.4	28.8	7.7
LOS	C	A	B	A	C	A
Approach Delay (s/veh)		10.7	17.8		16.3	
Approach LOS		B	B		B	
Queue Length 50th (ft)	76	99	141	4	25	0
Queue Length 95th (ft)	130	147	192	29	59	18
Internal Link Dist (ft)		484	506		530	
Turn Bay Length (ft)	205			150		210
Base Capacity (vph)	948	3193	2382	1085	1050	1680
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.38	0.36	0.10	0.07	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 58.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 13.5		Intersection LOS: B	
Intersection Capacity Utilization 49.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: N French Rd & Crosspoint Pkwy



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Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	13	1	476	136	1
Future Volume (vph)	3	13	1	476	136	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.889				0.999	
Flt Protected	0.991		0.950			
Satd. Flow (prot)	1674	0	1805	3406	3251	0
Flt Permitted	0.991		0.950			
Satd. Flow (perm)	1674	0	1805	3406	3251	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	544			610	380	
Travel Time (s)	12.4			13.9	8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	6%	11%	0%
Adj. Flow (vph)	3	14	1	517	148	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	1	517	149	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.2%		ICU Level of Service A	
Analysis Period (min) 15			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	13	1	476	136	1
Future Vol, veh/h	3	13	1	476	136	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	6	11	0
Mvmt Flow	3	14	1	517	148	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	409	74	149	0	-	0
Stage 1	148	-	-	-	-	-
Stage 2	261	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	576	978	1445	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	575	978	1445	-	-	-
Mov Cap-2 Maneuver	575	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	765	-	-	-	-	-

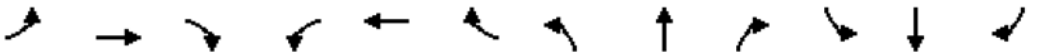
Approach	EB	NB	SB
HCM Control Delay, s/v	9.25	0.02	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1445	-	865	-	-
HCM Lane V/C Ratio	0.001	-	0.02	-	-
HCM Control Delay (s/veh)	7.5	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lanes, Volumes, Timings
2: I-990 NB Ramps & N French Rd

2027 Full-Build PM Gated Access MIT
04/01/2024



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	679	0	0	1388	0	354	1	623	0	0	0
Future Volume (vph)	48	679	0	0	1388	0	354	1	623	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	250		0	0		0	0		0
Storage Lanes	0		0	1		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.95	0.95	1.00	1.00	1.00
Frt								0.850	0.850			
Flt Protected		0.997					0.950					
Satd. Flow (prot)	0	3461	0	0	5036	0	1543	1475	1475	0	0	0
Flt Permitted		0.704					0.950					
Satd. Flow (perm)	0	2444	0	0	5036	0	1543	1475	1475	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								255	255			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		440			480			515			456	
Travel Time (s)		6.7			7.3			11.7			10.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	4%	0%	0%	3%	0%	17%	0%	4%	0%	0%	0%
Adj. Flow (vph)	51	722	0	0	1477	0	377	1	663	0	0	0
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	773	0	0	1477	0	377	333	331	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		1 2 4 7			1 2 4			3				
Permitted Phases	1 2 4 7						3		3			
Detector Phase	1 2 4 7	1 2 4 7			1 2 4		3	3	3			
Switch Phase												
Minimum Initial (s)							6.0	6.0	6.0			
Minimum Split (s)							12.2	12.2	12.2			
Total Split (s)							49.0	49.0	49.0			
Total Split (%)							31.6%	31.6%	31.6%			
Maximum Green (s)							42.8	42.8	42.8			
Yellow Time (s)							3.6	3.6	3.6			
All-Red Time (s)							2.6	2.6	2.6			
Lost Time Adjust (s)							0.0	0.0	0.0			
Total Lost Time (s)							6.2	6.2	6.2			
Lead/Lag							Lead	Lead	Lead			
Lead-Lag Optimize?							Yes	Yes	Yes			
Vehicle Extension (s)							4.0	4.0	4.0			
Recall Mode							None	None	None			

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Peak Hour Factor				
Heavy Vehicles (%)				
Adj. Flow (vph)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Enter Blocked Intersection				
Lane Alignment				
Median Width(ft)				
Link Offset(ft)				
Crosswalk Width(ft)				
Two way Left Turn Lane				
Headway Factor				
Turning Speed (mph)				
Turn Type				
Protected Phases	1	2	4	7
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	10.0	20.0	6.0	10.0
Minimum Split (s)	15.7	45.3	12.2	15.7
Total Split (s)	40.0	36.0	15.0	15.0
Total Split (%)	26%	23%	10%	10%
Maximum Green (s)	34.3	29.7	8.8	9.3
Yellow Time (s)	4.3	4.3	3.6	4.3
All-Red Time (s)	1.4	2.0	2.6	1.4
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	2.0	3.0	5.0
Recall Mode	None	Min	None	None

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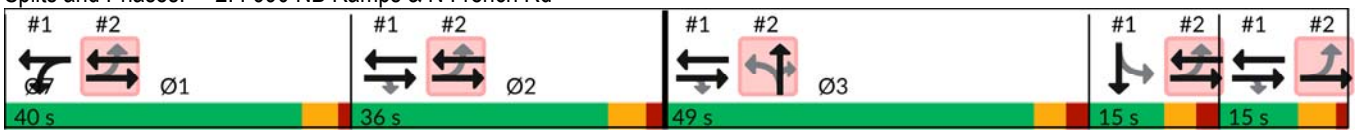
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)							7.0	7.0	7.0			
Flash Dont Walk (s)							32.0	32.0	32.0			
Pedestrian Calls (#/hr)							0	0	0			
Act Effct Green (s)		100.3			79.6		42.8	42.8	42.8			
Actuated g/C Ratio		0.65			0.51		0.28	0.28	0.28			
v/c Ratio		0.48			0.57		0.88	0.56	0.56			
Control Delay (s/veh)		16.7			22.8		76.5	15.5	15.3			
Queue Delay		1.2			0.0		0.0	0.0	0.0			
Total Delay (s/veh)		18.0			22.8		76.5	15.5	15.3			
LOS		B			C		E	B	B			
Approach Delay (s/veh)		18.0			22.9			37.6				
Approach LOS		B			C			D				
Queue Length 50th (ft)		156			258		368	64	62			
Queue Length 95th (ft)		197			291		#556	175	173			
Internal Link Dist (ft)		360			400			435			376	
Turn Bay Length (ft)												
Base Capacity (vph)		1581			2586		426	591	591			
Starvation Cap Reductn		558			0		0	0	0			
Spillback Cap Reductn		0			167		0	0	0			
Storage Cap Reductn		0			0		0	0	0			
Reduced v/c Ratio		0.76			0.61		0.88	0.56	0.56			

Intersection Summary			
Area Type:	Other		
Cycle Length: 155			
Actuated Cycle Length: 155			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay (s/veh): 26.4		Intersection LOS: C	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: I-990 NB Ramps & N French Rd



Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

Lane Group	Ø1	Ø2	Ø4	Ø7
Walk Time (s)		7.0		
Flash Dont Walk (s)		32.0		
Pedestrian Calls (#/hr)		0		
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay (s/veh)				
Queue Delay				
Total Delay (s/veh)				
LOS				
Approach Delay (s/veh)				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary

Attachment: BCPA-2024-01_application_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

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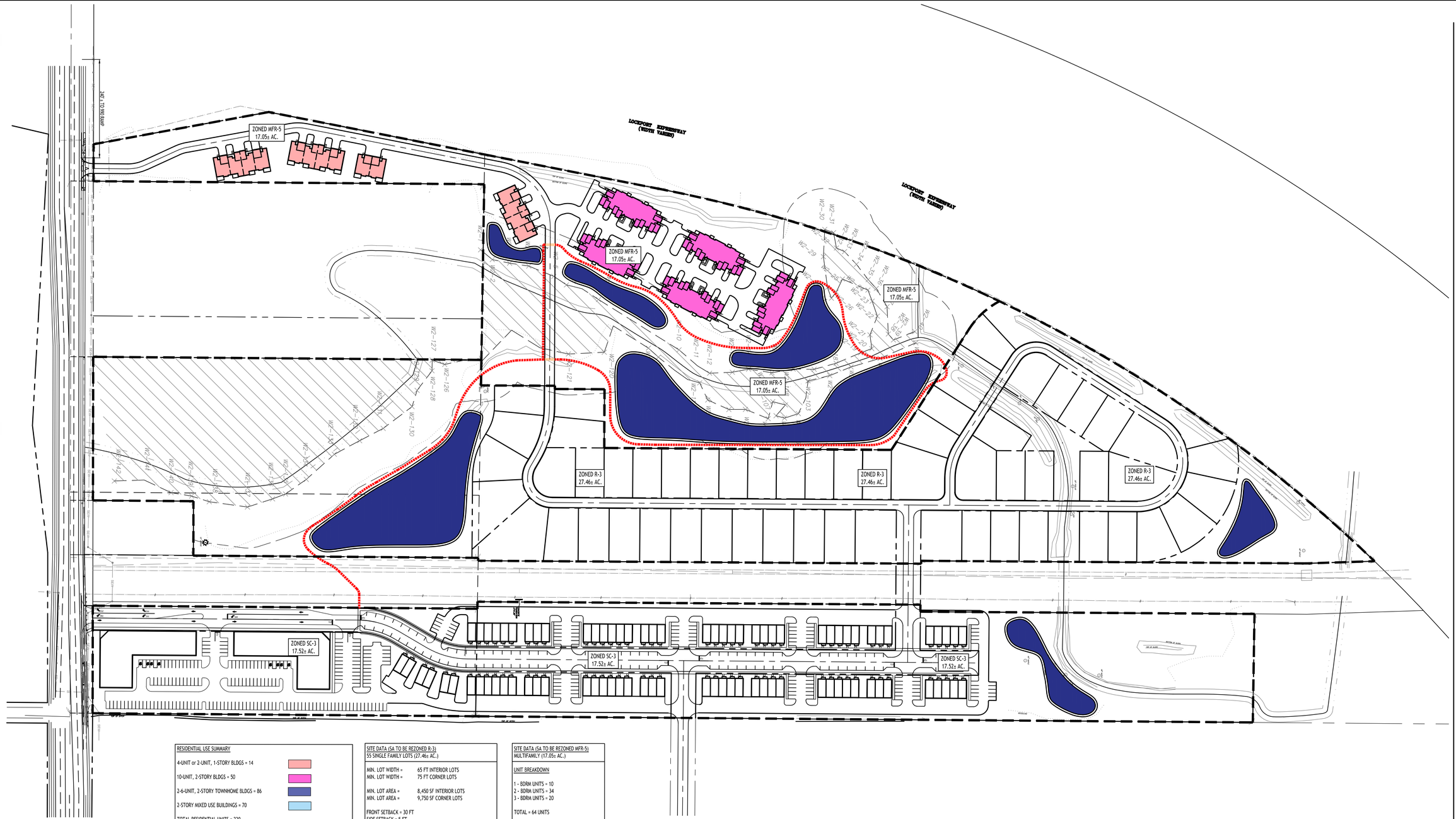
ZONED MFR-5
17.05± AC.
ZONED MFR-5
17.05± AC.
ZONED MFR-5
17.05± AC.
ZONED MFR-5
17.05± AC.
ZONED R-3
27.46± AC.
ZONED R-3
27.46± AC.
ZONED R-3
27.46± AC.
ZONED SC-3
17.52± AC.
ZONED SC-3
17.52± AC.
ZONED SC-3
17.52± AC.
LOCKPORT EXPRESSWAY
(NEW YORK THRUWAY)
LOCKPORT EXPRESSWAY
(NEW YORK THRUWAY)
WETLAND
WETLAND
WETLAND

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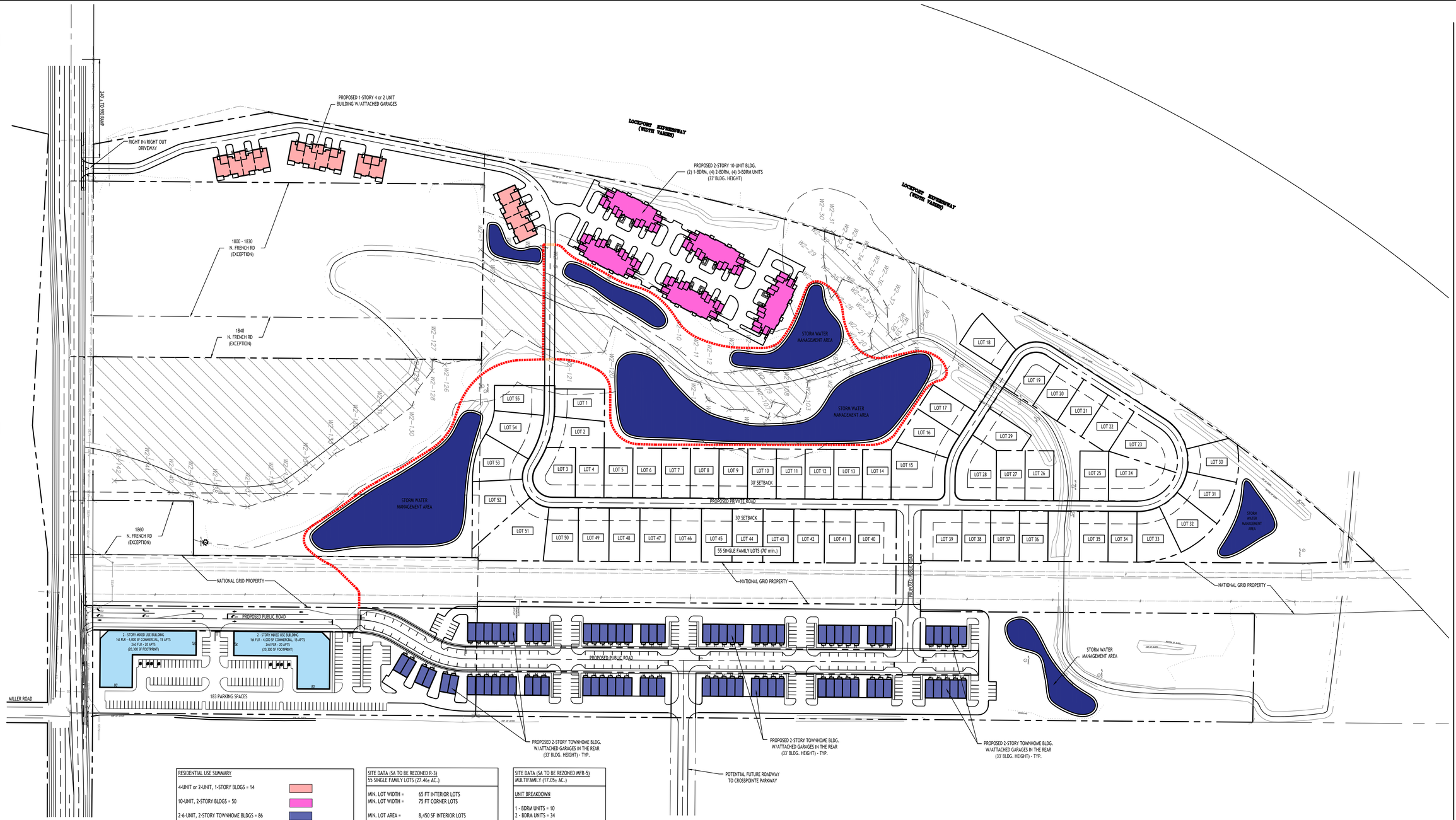

RESIDENTIAL USE SUMMARY	
4-UNIT or 2-UNIT, 1-STORY BLDGS = 14	
10-UNIT, 2-STORY BLDGS = 50	
2-6-UNIT, 2-STORY TOWNHOME BLDGS = 86	
2-STORY MIXED USE BUILDINGS = 70	
TOTAL RESIDENTIAL UNITS = 220	

PROPOSED
WALKING/JOGGING TRAILS

SITE DATA (SA TO BE REZONED R-3) 55 SINGLE FAMILY LOTS (27.46± AC.)	
MIN. LOT WIDTH =	65 FT INTERIOR LOTS
MIN. LOT WIDTH =	75 FT CORNER LOTS
MIN. LOT AREA =	8,450 SF INTERIOR LOTS
MIN. LOT AREA =	9,750 SF CORNER LOTS
FRONT SETBACK = 30 FT	
SIDE SETBACK = 5 FT	
REAR SETBACK = 30 FT	
MAXIMUM LOT COVERAGE = 35%	
MAXIMUM BUILDING HEIGHT = 35 FT	
MINIMUM FLOOR AREA = 1,000 SF (1 STORY)	
MINIMUM FLOOR AREA = 1,200 SF (2 STORIES)	

SITE DATA (SA TO BE REZONED AFR-5)
MULTIFAMILY (17.05± AC.)

UNIT BREAKDOWN

1 - BDRM UNITS = 10
2 - BDRM UNITS = 34
3 - BDRM UNITS = 20

TOTAL = 64 UNITS

DENSITY CALCULATION

REQD LAND AREA

1 - BDRM: 10 x 3630 SF = 36,300 SF
2 - BDRM: 34 x 4356 SF = 148,104 SF
3 - BDRM: 20 x 5445 SF = 108,900 SF

TOTAL = 293,304 SF = 6.73 ACRES REQD

PARKING CALCULATION

REQD = 2 SPACES PER UNIT
REQD = 64 UNITS x 2 = 128 SPACES REQD

PROVIDED = 128 SPACES W/ GARAGES

N CONCEPT SITE PLAN

SCALE: 1"=110'

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS, CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

110' 110 0 110 220Ft.

CARMINAWOOD DESIGN
Buffalo | Utica | Greensboro

Mixed Use Development

1790 & 1920 North French Road & Portion of 999 Campbell Blvd.
Amherst, New York
SBL No. 27.04-1-12, 16.1 & 20, 27.00-2-29

REVISIONS:

No.	Description	Date
1	Revised title block address	4/3/24

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWING NAME:
Concept Site Plan

Date: 3/22
Drawn By: C. W.
Scale: As No

DRAWING NO.
C-100

Project No: 23-4131

Attachment: BCPA-2024-01, 051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

NOTE: THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE.

NOTE: UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 PROVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

● SET OR EX. 5/8" REBAR

LEGEND

- SIGN (1 POST)
- SIGN (2 POST)
- WATER VALVE
- CLEANOUT
- CONIFEROUS TREE
- DECIDUOUS TREE
- DECIDUOUS SHRUB
- UTILITY POLE
- LIGHT POLE
- FIRE HYDRANT
- MISC. UTILITY
- CHAIN LINK FENCE
- GUARDRAIL
- INT. CONTOUR
- MAIN CONTOUR

MATCH LINE A

LOCKPORT EXPRESSWAY

N 11°08'02" E 975.19'

N 10°35'12" W 434.26'

S 00°27'14" W 932.49'

REBAR 0.2'S
N: 1106294.29
E: 1101482.36

CHAIN LINK FENCE

REBAR 0.3'S, 0.1'E
N: 1105867.05
E: 1101561.00

EX. AXLE
0.3'S, 0.1'E
N: 1105866.89
E: 1101650.97

SANITARY MANHOLE
RIM=579.57
E&W INV=559.57

N 89°54'02" W 90.00'

SANITARY MANHOLE
RIM=581.59
E&W INV=559.59

CATCH BASIN
RIM=580.27
S INV=576.77

CATCH BASIN
RIM=580.97

SOUTH LINE LOT 65

55.00'

NOT TO SCALE

GUIDERAIL POSTS

GUIDERAIL

534.50'
N 89°54'02" W (S.P.C.)
SURVEY CONTROL LINE

CP 1
SET CUT IN CONC.
N:1105843.667
E:1102614.948

SW COR OF CATCH BASIN RIM

NOT TO SCALE

MAG NAIL S/FACE OF UTILITY POLE

27.03'

23.38'

534.50'
N 89°54'02" W (S.P.C.)
SURVEY CONTROL LINE

SE COR OF CATCH BASIN RIM

35.36'

CP 2
SET CUT IN CONC.
N:1105844.595
E:1102080.456

SET REBAR
N: 1106672.72
E: 1102085.66

FEDERAL JURISDICTIONAL WETLANDS AND NYSDEC FRESHWATER WETLAND TE-18

SET REBAR
N: 1106626.98
E: 1102085.29

25.00'

100.00'

N 00°27'14" E 946.32'

PROPOSED 50' WIDE BUFFER AREA (TYPICAL)

WETLAND E
AREA=1.438± ACRES

WETLAND F
AREA=0.290± ACRES

PROPOSED 50' WIDE BUFFER AREA (TYPICAL)

PROPOSED 50' WIDE BUFFER AREA (TYPICAL)

EX. AXLE
0.35'N, 1.08'E
N: 1105866.80
E: 1102080.35

SANITARY MANHOLE
RIM=581.63

SET REBAR
N: 1105866.21
E: 1102221.80

SET REBAR
N: 1105865.96
E: 1102367.16

REBAR
N: 1105865.85
E: 1102429.44

N 89°54'02" W 350.17'

534.50'
N 89°54'02" W (S.P.C.)
SURVEY CONTROL LINE

CP-2, CUT
N: 1105844.60
E: 1102080.46

330.17' D&M

N 89°54'02" W 1297.57'

SANITARY MANHOLE
RIM=581.32
INVNE INV=559.80

REBAR
N: 1105865.85
E: 1102562.11

SANITARY MANHOLE
RIM=580.28
SWNE INV=559.81

CP-1, CUT
N: 1105843.67
E: 1102614.95

REBAR
N: 1106110.61
E: 1102564.01

N 89°54'02" W 132.63'

S 00°27'14" W 245.00'

UNDERGROUND CABLE

7.00'

S 00°27'14" W 692.90' DEED - 684.37' M.E.A.S.

WOODLINE

WEST LINE NIAGARA MOHAWK (FORMERLY NIAGARA, LOCKPORT & ONTARIO POWER COMPANY)
L-1016, P-313

TOWER

N 00°27'14" E 937.58'

CP-3, CUT
N: 1105843.95
E: 1102614.95

SANITARY MANHOLE
RIM=580.01
COULD NOT OPEN

SANITARY MANHOLE
RIM=580.64
SWNE INV=559.94

18" HDPE
INV=576.15

N 89°54'02" W 262.32'

539.03' D&M

CATCH BASIN
RIM=581.39
E INV=578.19

SANITARY MANHOLE
RIM=581.39
NWNE INV=559.84

CATCH BASIN
RIM=581.29
W INV=577.04
E INV=576.89
S INV=577.09

SANITARY MANHOLE
RIM=581.10
UNABLE TO OPEN

CATCH BASIN
RIM=581.53
E INV=577.48
S INV=577.73

18" HDPE

CATCH BASIN
RIM=581.35
W INV=577.23
N INV=577.20

CATCH BASIN
RIM=581.44
W INV=577.62
E INV=577.34

SANITARY MANHOLE
RIM=581.83

18" HDPE
INV=576.19

EAST LINE LOT 65

S 00°27'14" W 933.80'

TOP OF DITCH

FRAME GARAGE

2 STY FRAME HOUSE No. 1920

ASPHALT DRIVE

CONC

OUTLET

VENT

BLD 6.43'N

BLD 5.69'N

NORTH FRENCH ROAD

TOPOGRAPHIC SURVEY OF
SBLC PROPERTY
BEING PART OF LOT 65, TOWNSHIP 12, RANGE 7
TOWN OF AMHERST, ERIE COUNTY, NEW YORK

DATE	REVISION/TYPE

GPI ENGINEERING, LANDSCAPE ARCHITECTURE & SURVEYING, LLP
ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE
4950 GENESEE STREET, SUITE 100
BUFFALO, NEW YORK 14225
(716) 633-4844 FAX 633-4940

Job No. 88244 2023 TOPO Date: OCTOBER 11, 2023
Scale: 1" = 50' TAX No.

Attachment: BCPA-2024-01_drawings_051624pdf (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard)

NOTE: THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE.

● SET OR EX. 5/8" REBAR

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LEGEND

- SIGN (1 POST)
- SIGN (2 POST)
- WATER VALVE
- CLEANOUT
- CONIFEROUS TREE
- DECIDUOUS TREE
- DECIDUOUS SHRUB
- UTILITY POLE
- LIGHT POLE
- FIRE HYDRANT
- MISC. UTILITY
- CHAIN LINK FENCE
- GUARDRAIL
- INT. CONTOUR
- MAIN CONTOUR

TOPOGRAPHIC SURVEY OF
SBLC PROPERTY
BEING PART OF LOT 65, TOWNSHIP 12, RANGE 7
TOWN OF AMHERST, ERIE COUNTY, NEW YORK

DATE	REVISION/TYPE

GPI ENGINEERING, LANDSCAPE ARCHITECTURE & SURVEYING, LLP
ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE
4950 GENESEE STREET, SUITE 100
BUFFALO, NEW YORK 14225
(716) 633-4844 FAX 633-4940

Job No. 88244 2023 TOPO
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MATCH LINE C

MATCH LINE B

LOCKPORT EXPRESSWAY

WETLAND C AREA=0.378± ACRES

WETLAND E AREA=2.131± ACRES

FEDERAL JURISDICTIONAL WETLANDS AND NYSDEC FRESHWATER WETLAND TE-19

WETLAND D AREA=0.459± ACRES

JURISDICTIONAL DITCH

WETLAND B (2016) AREA=0.917± ACRES

PROPOSED 50' WIDE BUFFER AREA (TYPICAL)

BOTTOM OF SLOPE

TOP OF BANK

WOODLINE

WIRE FENCE

UNDERGROUND CABLE

WEST LINE NIAGARA MOHAWK (FORMERLY NIAGARA, LOCKPORT & ONTARIO POWER COMPANY) L-1016, T-415

L=1988.12'
R=1909.72'

N 00°23'03" E 814.05'

S 00°27'14" W 1169.57'

S 00°23'03" W 938.71'

N 00°23'03" E 1079.88'

S 00°23'03" W 1080.03'

S 89°59'27" E 7.00'

S 89°59'27" E 12.00'

100.00'

25.00'

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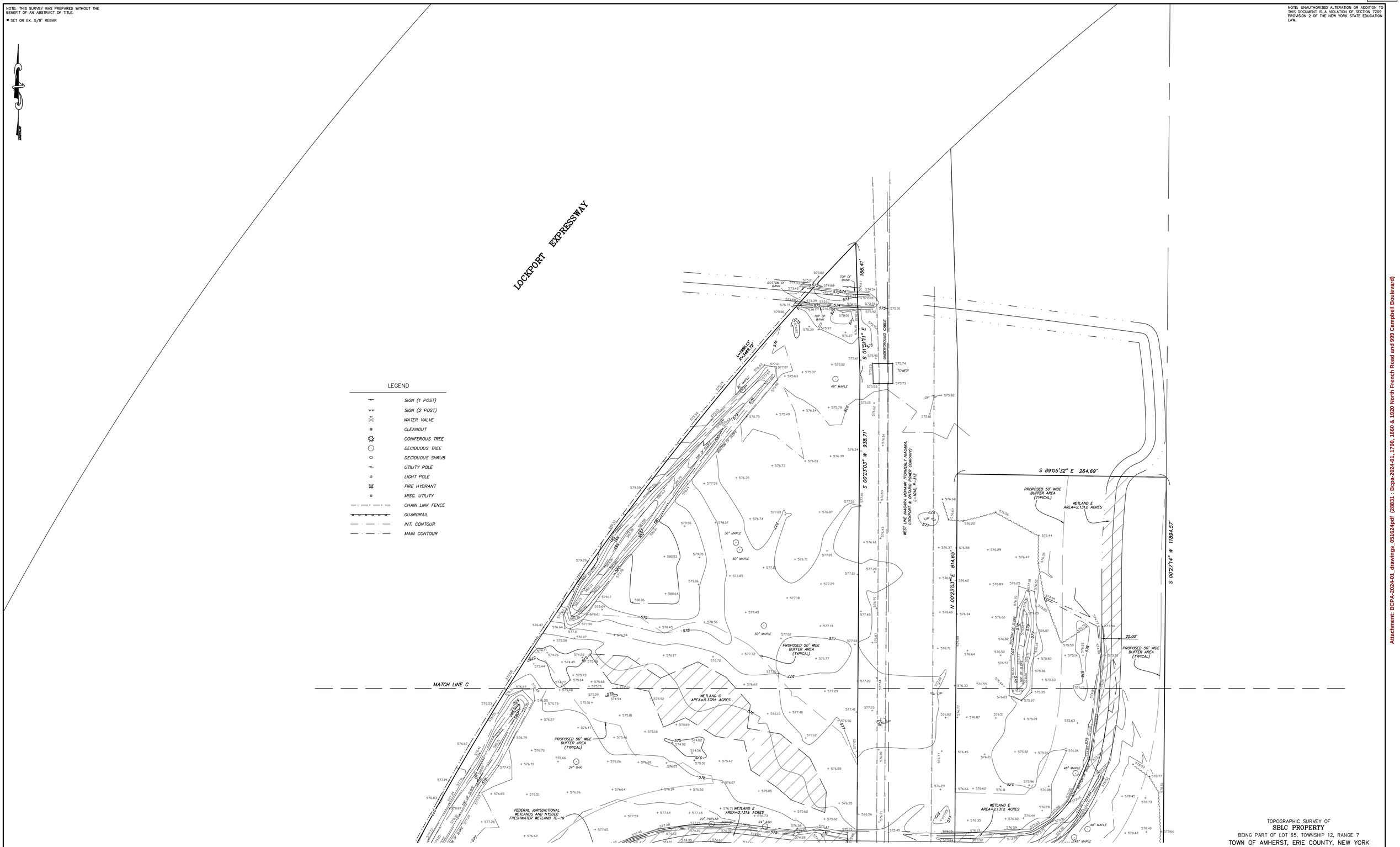

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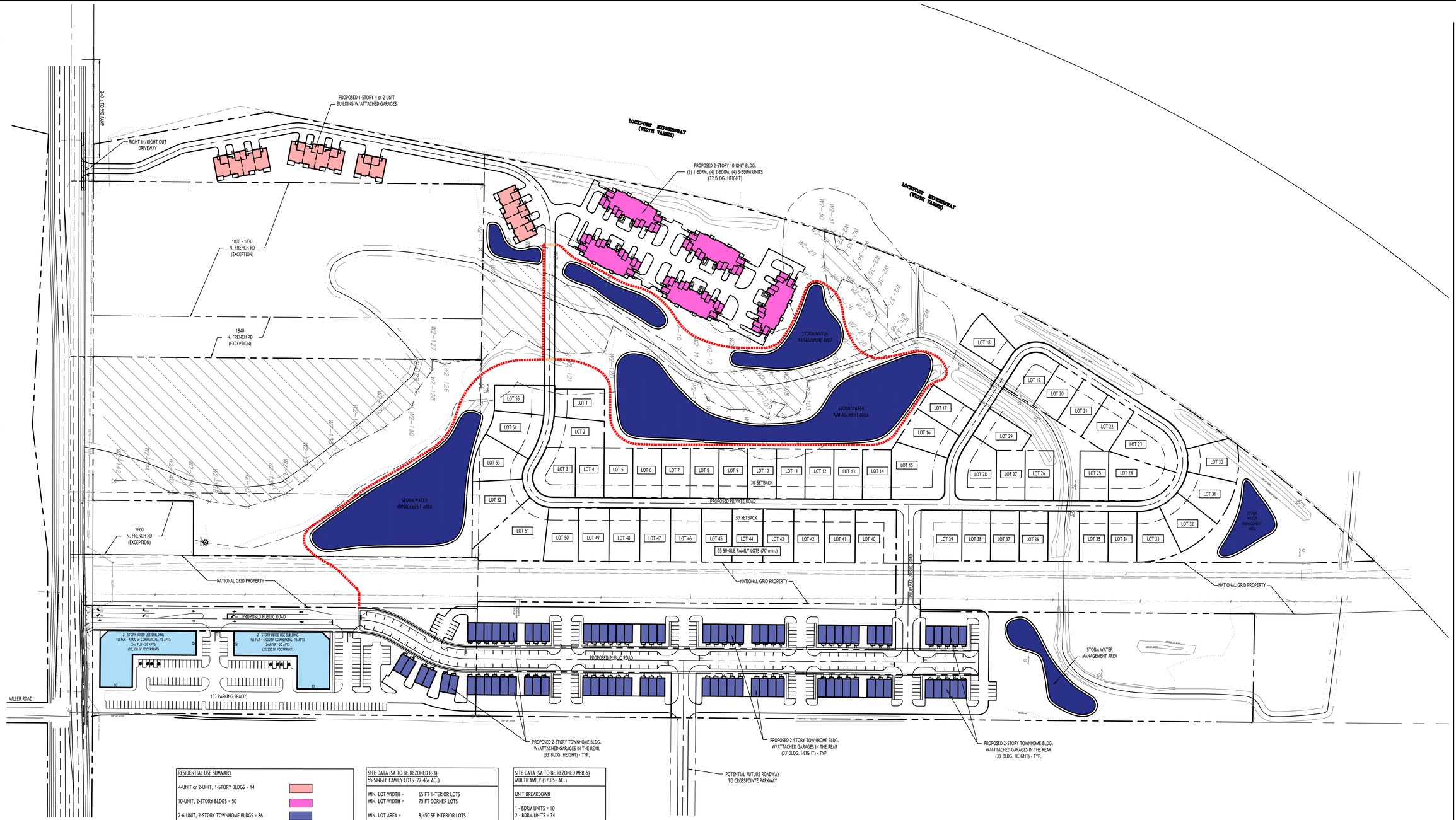

RESIDENTIAL USE SUMMARY	
4-UNIT or 2-UNIT, 1-STORY BLDGS = 14	
10-UNIT, 2-STORY BLDGS = 50	
2-6-UNIT, 2-STORY TOWNHOME BLDGS = 86	
2-STORY MIXED USE BUILDINGS = 70	
TOTAL RESIDENTIAL UNITS = 220	

PROPOSED
WALKING/JOGGING TRAILS

SITE DATA (SA TO BE REZONED R-3)
55 SINGLE FAMILY LOTS (27.46± AC.)

MIN. LOT WIDTH = 65 FT INTERIOR LOTS
MIN. LOT WIDTH = 75 FT CORNER LOTS

MIN. LOT AREA = 8,450 SF INTERIOR LOTS
MIN. LOT AREA = 9,750 SF CORNER LOTS

FRONT SETBACK = 30 FT
SIDE SETBACK = 5 FT
REAR SETBACK = 30 FT

MAXIMUM LOT COVERAGE = 35%
MAXIMUM BUILDING HEIGHT = 35 FT

MINIMUM FLOOR AREA = 1,000 SF (1 STORY)
MINIMUM FLOOR AREA = 1,200 SF (2 STORIES)

SITE DATA (SA TO BE REZONED MFR-5)
MULTIFAMILY (17.05± AC.)

UNIT BREAKDOWN

1 - BDRM UNITS = 10
2 - BDRM UNITS = 34
3 - BDRM UNITS = 20

TOTAL = 64 UNITS

DENSITY CALCULATION

REQD LAND AREA

1 - BDRM: 10 x 3630 SF = 36,300 SF
2 - BDRM: 34 x 4356 SF = 148,104 SF
3 - BDRM: 20 x 5445 SF = 108,900 SF

TOTAL = 293,304 SF = 6.73 ACRES REQD

PARKING CALCULATION

REQD = 2 SPACES PER UNIT
REQD = 64 UNITS x 2 = 128 SPACES REQD

PROVIDED = 128 SPACES W/ GARAGES

N CONCEPT SITE PLAN

SCALE: 1"=110'

NOTE: BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY OTHERS, CARMINA WOOD DESIGN ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

110' 110 0 110 220Ft.

CARMINAWOOD DESIGN
Buffalo | Utica | Greensboro

Mixed Use Development

1790 & 1920 North French Road & Portion of 999 Campbell Blvd.
Amherst, New York
SBL No. 27.04-1-12, 16.1 & 20, 27.00-2-29

REVISIONS:

No.	Description	Date

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWING NAME:
Concept Site Plan

Date: 3/22
Drawn By: C. W.
Scale: As No

DRAWING NO.
C-100

Project No: 23-4131

Attachment: BCPA-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell Boulevard) (28831 : Bcpa-2024-01_drawings_051624pdf

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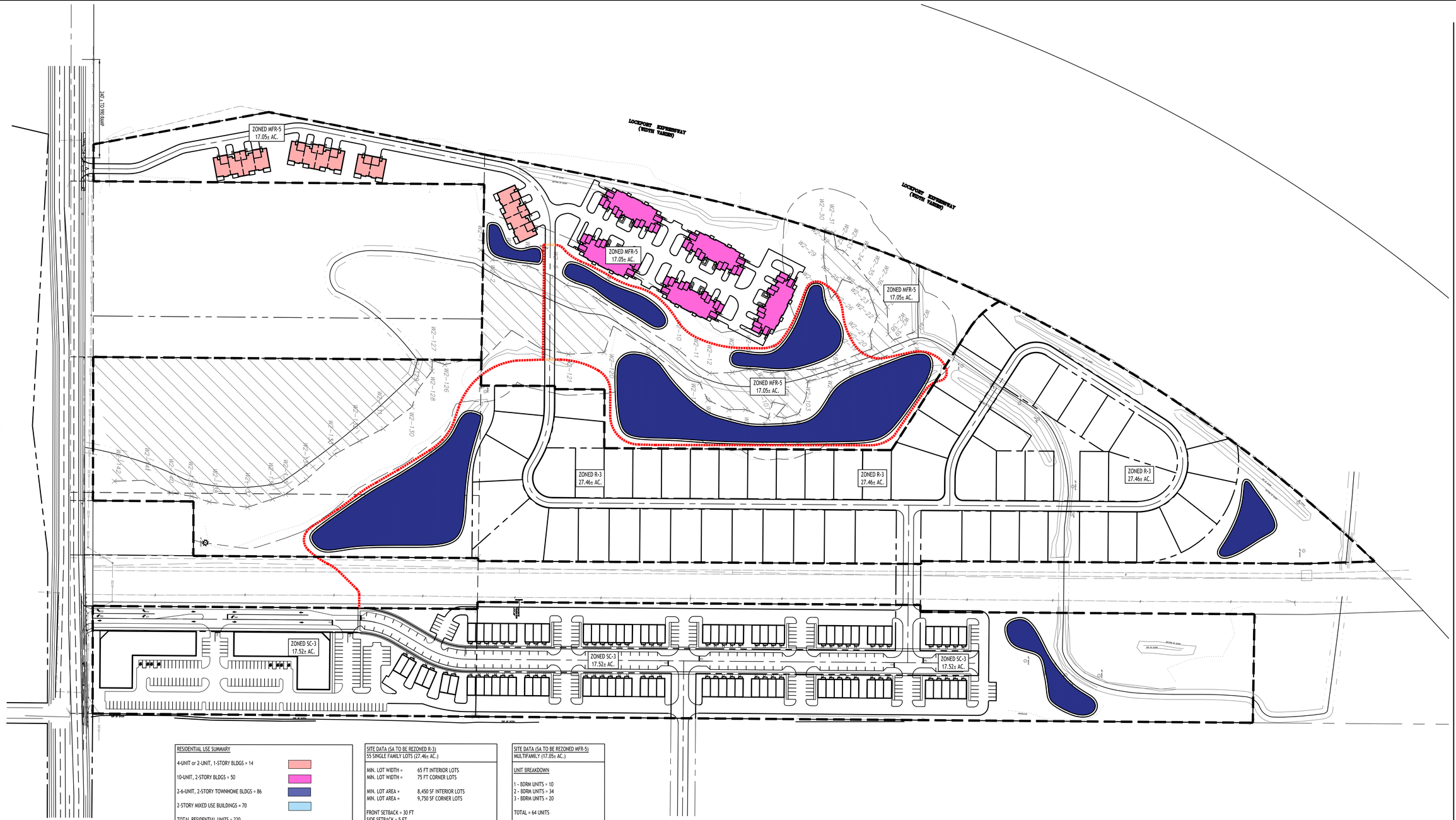

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CONCEPT ZONING PLAN

SCALE: 1"=110'

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110' 110 0 110 220Ft.

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Amherst, New York
SBL No. 27.04-1-12, 16.1 & 20, 27.00-2-29

REVISIONS:

No.	Description	Date

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWING NAME:
Concept Zoning Pl

Date: 3/22
Drawn By: C. W
Scale: As No

DRAWING NO.
C-100

Project No: 23-4131

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TOWN OF AMHERST
PLANNING BOARD
COMPREHENSIVE PLAN AMENDMENT
BCPA-2024-01

PETITIONER

SBLC Development Corporation
c/o Sean Hopkins
5500 Main Street, Suite 343
Williamsville, NY 14221

PROPERTY LOCATION

1790, 1860 & 1920 North French Rd.
& 999 Campbell Blvd. (portion)

MAY 23 2024 AM 8

WHEREAS the Town of Amherst Planning Board on Thursday, May 16, 2024 held a public hearing on the proposed amendment to the Bicentennial Comprehensive Plan, and

WHEREAS the Planning Board has reviewed the Town of Amherst Bicentennial Comprehensive Plan, and

WHEREAS the Planning Board has reviewed plans and other materials regarding the proposal, and

WHEREAS the materials and plans have been referred to the Town's various review agencies, and

WHEREAS the Planning Board finds that:

A. The proposed request is generally inconsistent with the Zoning Ordinance and is inconsistent with the following goals, objectives, recommendations and sections of the Comprehensive Plan:

- The Comprehensive Plan encourages redevelopment and infill development within existing residential neighborhoods and commercial areas as opposed to extending suburban development on to open lands in northern Amherst.
- Chapter 3, Land Use and Development; identifies much of this area as Recreation, Open Space & Greenways and areas to the east as Industrial-Office.
- The Conceptual Land Use Plan (Figure 6), illustrates the future direction and land use as Industrial-Office for a portion of the area. As stated in Section 3.3.4 of the Plan, the desirable site characteristics for the location of industrial-office uses are: 1) access to major transportation routes; 2) away from residential neighborhoods; and 3) on large tracts of land that can be buffered from surrounding areas. While the proposed project offers a range of housing choices in a suburban/rural setting, the subject land location extends a limited land resource for a future use that is currently in high demand.
- The I-990 is an interstate expressway and North French Road is a minor arterial roadway at this location. The proposed site is ideally located for warehousing distribution and/or research and development uses with excellent accessibility to these roads and North French Road with direct connections, Millersport Highway (a major arterial) and Campbell Boulevard. This location is ideal for higher volume, higher speed trips that serve intercommunity and interregional trade daily.

Attachment: BCPA-2024-01 signed resolution 051624 (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell

TOWN OF AMHERST
PLANNING BOARD
COMPREHENSIVE PLAN AMENDMENT
BCPA-2024-01

PETITIONER

SBLC Development Corporation

PROPERTY LOCATION

1790, 1860 & 1920 North French Rd.
& 999 Campbell Blvd. (portion)

MAY 23 2024 AMS

- The proposed project increases potential for impacts of development on sensitive lands
- This proposed development at this location does not fulfill the objectives or goals of the Housing and Neighborhoods section of the Plan or promote housing affordability as stated in Section 8.3 of the Plan.

B. The subject property is suitable for uses permitted by the current versus the proposed land use designation.

C. The proposed change does not improve the balance of land uses, and does not meet a specific demand in the Town.

D. The Towns Strategic Economic Development Plan prepared by RKG consultants indicates a regional demand for warehousing space due to high volume ecommerce spending and identified this area as an ideal location for sidewalks due to the site's access to I-990 and it offers a viable development opportunity for warehouse/distribution facilities.

E. The land surrounding the subject request is comprised of transportation facilities, industrial uses and natural beneficial features which are less compatible with the largely residential development.

NOW THEREFORE BE IT RESOLVED that the Planning Board recommends to the Town Board in accordance with New York State Town Law §272-a Subsection 4, that the request to amend the Bicentennial Comprehensive Plan be denied for the above state reasons.

The foregoing resolution was adopted by the Town of Amherst Planning Board, May 16, 2024; moved by Penberthy; seconded by Gill; ayes 5; noes 0; Absent 2 (Davis, Giuliani).

Michael J. Chmiel, Planning Board Chair

5/23/24
Date

Attachment: BCPA-2024-01 signed resolution 051624 (28831 : Bcpa-2024-01, 1790, 1860 & 1920 North French Road and 999 Campbell

TOWN OF AMHERST
PLANNING BOARD
COMPREHENSIVE PLAN AMENDMENT
BCPA-2024-01

PETITIONER

SBLC Development Corporation

PROPERTY LOCATION

1790, 1860 & 1920 North French Rd.

MAY 23 2024 AM9

SM/ac
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cc: Town Clerk
Commissioner of Building
Highway Superintendent
Town Engineer
Traffic/Safety Coordinator
ECDEP
ECDPW
NYSDOT
NYSDEC
ACAC
Anthony Pandolfe, Carmina Wood Design, 487 Main Street #500, Buffalo, NY 14203
Christopher Wood, Carmina Wood Design, 487 Main Street #500, Buffalo, NY 14203
Fred Cimato, Cimato & Sons, 9920 Transit Rd., E. Amherst, NY 14051
Elliot Lasky, PO Box 1454, Williamsville, NY 14221

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