GENESEE COUNTY PLANNING BOARD REFERRALS
NOTICE OF FINAL ACTION

GCDP Referral ID	**T-01-PEM-01-23**
Review Date	**1/12/2023**
Municipality	**PEMBROKE, T.**
Board Name	**PLANNING BOARD**
Applicant's Name	**Metzger Civil Engineering, PLLC**
Referral Type	**Site Plan Review**
Variance(s)	
Description:	**Site Plan Review to develop a distribution center with six multi-use buildings of approx. 1.5 million square feet.**
Location	**Alleghany Rd. (NYS Rt. 77), Pembroke**
Zoning District	**Agricultural-Residential (A-R) District**

PLANNING BOARD RECOMMENDS:

APPROVAL WITH MODIFICATION(S)

EXPLANATION:

The required modifications are as follows: 1) The applicant obtains a permit from NYS DOT for the proposed driveways and work with DOT to implement the recommendations proposed by the Traffic Impact Study; and 2) The Town Planning Board obtains comments from the Pembroke Fire Department on the proposed application prior to final approval. With these required modifications, the proposed distribution center should pose no significant county-wide or inter-community impact. It is recommended that the applicant submits the attached application for 9-1-1 Address Verification to the Genesee County Sheriff's Office to ensure that addresses are assigned that meet Enhanced 9-1-1 standards. It is further recommended that the applicant ensure that the proposed buildings will meet the Public Safety Radio System In-Building Coverage Requirement (NYS Fire Code Section 510), and that such requirement be verified post construction by the Code Enforcement Officer or by the Genesee County Sheriff's Office.

Felipe A. Oltramari

Director

January 12, 2023

Date

If the County Planning Board disapproved the proposal, or recommends modifications, the referring agency shall NOT act contrary to the recommendations except by a vote of a majority plus one of all the members and after the adoption of a resolution setting forth the reasons for such contrary action. Within 30 days after the final action the referring agency shall file a report of final action with the County Planning Board. An action taken form is provided for this purpose and may be obtained from the Genesee County Planning Department.

SEND OR DELIVER TO:
GENESEE COUNTY DEPARTMENT OF PLANNING
3837 West Main Street Road
Batavia, NY 14020-9404
Phone: (585) 815-7901

Clear Form

DEPARTMENT USE ONLY:
GCDP Referral # T-01-PEM-01-23

RECEIVED
Genesee County
Dept. of Planning
1/5/2023

* GENESEE COUNTY * PLANNING BOARD REFERRAL

Required According to:
GENERAL MUNICIPAL LAW ARTICLE 12B, SECTION 239 L, M, N
(Please answer ALL questions as fully as possible)

1. REFERRING BOARD(S) INFORMATION

Board(s) Town of Pembroke Planning Board
Address 1145 Main Rd
City, State, Zip Corfu NY 14036
Phone (585) 599 - 1209 Ext.

2. APPLICANT INFORMATION

Name Metzger Civil Engineering, PLLC
Address 8245 Sheridan Drive
City, State, Zip Williamsville NY 14221
Phone (716) 633 - 2601 Ext. Email meteng@roadrunner.com

MUNICIPALITY: ☐ **City** ☒ **Town** ☐ **Village** **of** Pembroke

3. TYPE OF REFERRAL: (Check all applicable items)

☐ Area Variance
☐ Use Variance
☐ Special Use Permit
☒ Site Plan Review
☐ Zoning Map Change
☐ Zoning Text Amendments
☐ Comprehensive Plan/Update
☐ Other:

Subdivision Proposal
☐ Preliminary
☐ Final

4. LOCATION OF THE REAL PROPERTY PERTAINING TO THIS REFERRAL:

A. Full Address 8524 Alleghany Rd Corfu NY 14036
B. Nearest intersecting road 5 & 77
C. Tax Map Parcel Number 15.-1-24.1
D. Total area of the property 210.7 Area of property to be disturbed about 70 acres
E. Present zoning district(s) Interchange (INT) District

5. REFERRAL CASE INFORMATION:

A. Has this referral been previously reviewed by the Genesee County Planning Board?

☒ NO ☐ YES If yes, give date and action taken

B. Special Use Permit and/or Variances refer to the following section(s) of the present zoning ordinance and/or law

C. Please describe the nature of this request Site Plan Review for Industrial Park

6. ENCLOSURES – Please enclose copy(s) of all appropriate items in regard to this referral

☒ Local application
☒ Site plan
☐ Subdivision plot plans
☒ SEQR forms
☐ Zoning text/map amendments
☐ Location map or tax maps
☒ Elevation drawings
☐ Agricultural data statement
☐ New or updated comprehensive plan
☐ Photos
☐ Other: SWPPP, traffic study, shpo letter USACOE jurisdiction determination

7. CONTACT INFORMATION of the person representing the community in filling out this form (required information)

Name Jim Wolbert Title CEO / ZEO Phone (585) 599 - 1209 Ext.
Address, City, State, Zip 1145 Main Rd Corfu NY 14036 Email zoning-codes@townofpembroke.org

TOWN OF PEMBROKE
1145 MAIN ROAD
CORFU, NEW YORK 14036
585-599-4892

APPLICATION FOR:
___ SPECIAL USE PERMIT
___ TEMP. SPECIAL USE PERMIT
___ USE VARIANCE
___ AREA VARIANCE
___ ZONING APPEAL
___ LAND SEPARATION
___ SUB DIVISION
___ ZONE DISTRICT CHANGE
X SITE PLAN REVIEW

DATE APPLIED FOR: 1-5-23
APPLICATION NUMBER: 0101
REFERRED TO PLANNING: 1-25-23
REFERRED TO ZBA: ___
PUBLIC HEARING REQ.: X

APPLICANT: Horizon Acres Associates, Inc
ADDRESS: 66 Truman Avenue
Spring Valley NY 10977
TELEPHONE #: 914-906-3838

STREET LOCATION #: 8524 Alleghany Road
TAX MAP PARCEL #: 15-1-24.1
ZONING DISTRICT: Interchange
SIZE OF PARCEL: 210.7
CORNER LOT: Main Street

PROPERTY OWNER (IF OTHER THAN ABOVE)
NAME: Horizon Acres Associates, Inc
ADDRESS: 66 Truman Avenue
Spring Valley NY 10977
TELEPHONE #: 914-906-3838

CURRENT SET BACK OF BUILDING
FRONT: —
REAR: —
SIDE: —

PERMIT OR VARIANCE FOR:
X NEW CONSTRUCTION
___ ADDITION
___ SIGN
___ HOME OCCUPATION
___ OTHER

IF THIS APPLICATION IS FOR A VARIANCE PLEASE STATE THE SECTION OF THE ORDINANCE UNDER WHICH THE VARIANCE REQUESTED ___

DESCRIBE REASON FOR VARIANCE ___

DOES THIS PROJECT REQUIRE APPROVAL FROM THE FOLLOWING? CHECK THOSE THAT APPLY:
X GENESEE CO. HEALTH DEPARTMENT
___ GENESEE CO. SOIL & WATER
X DEPARTMENT OF TRANSPORTATION
X COUNTY PLANNING DEPARTMENT
X D.E.C.
___ TOWN BOARD
___ Z.B.A.
X PLANNING BOARD
___ PUBLIC HEARING

DESCRIPTION OF PROPOSED PROJECT OR REASON FOR PERMIT REQUEST
Construct 6 new Distribution / Storage Warehouse Units

INSTRUCTIONS FOR COMPLETING THIS APPLICATION:
1. INCLUDE SITE SKETCH PLAN, PREFERABLY A LAND SURVEY WITH CURRENT AND PROPOSED SET BACKS.
2. IF APPLICANT IS NOT THE OWNER OF THE LAND ON WHICH THE PROPOSED PROJECT IS LOCATED, THEY ARE THEN REQUIRED TO OBTAIN WRITTEN PERMISSION FROM THE LAND OWNER FOR THE PROJECT.
3. A SEQR FORM (EAF) MUST BE INCLUDED WITH THE APPLICATION.
4. APPLICANT OR REPRESENTATIVE SHOULD ATTEND PLANNING BOARD AND/OR ZBA MEETING.

NOTE: IF THE REQUEST IS FOR A USE OR AREA VARIANCE, THE PLANNING BOARD'S ONLY ACTION WILL BE TO MAKE A RECOMMENDATION TO THE ZONING BOARD OF APPEALS FOR APPROVAL OR DISAPPROVAL.

APPLICANT SIGNATURE ___ **DATE** ___

SPECIAL USE PERMIT

THE PEMBROKE PLANNING BOARD AT A MEETING HELD ON ______________________________ HAS HEREBY

(APPROVED) (DISAPPROVED) APPLICATION # __________________ FOR A SPECIAL USE PERMIT TO CONDUCT A ____ ON PROPERTY IDENTIFIED AS TAX MAP # ______________________

THE FOLLOWING RESTRICTIONS HAVE BEEN IMPOSED AS A CONDITION OF APPROVAL

____

____

____

____

____

DATED ___________________ **CHAIRMAN OF THE PLANNING BOARD** ______________________________

ZONING OFFICER ______________________________

The applicant agrees to the Special Conditions imposed with approval ______________________________

Signature

Dated ______________________________

LAND SEPARATION PERMIT

THE PEMBROKE PLANNING BOARD AT A MEETING HELD ON ______________________________ HAS HEREBY

(APPROVED) (DISAPPROVED) APPLICATION # __________________ FOR A LAND SEPARATION FROM PROPERTY IDENTIFIED AS TAX MAP # __________________________

PLEASE NOTE: THIS PERMIT WILL NOT BE ISSUED UNTIL A SURVEY FOR THE NEWLY CREATED PARCEL IS SUBMITTED TO THE TOWN CLERK.

DATED ___________________ **CHAIRMAN OF THE PLANNING BOARD** ______________________________

MYLAR RECEIVED (Date)________ **LETTER SENT TO APPLICANT FOR FILING WITH COUNTY (Date)**________

FILED WITH COUNTY (Date)_______

VARIANCE

ZONING BOARD OF APPEALS ONLY

THE PEMBROKE BOARD OF APPEALS AT A MEETING HELD ON ______________________________ HAS HEREBY

(APPROVED) (DISAPPROVED) APPLICATION # __________________ FOR (AN AREA) OR (A USE) VARIANCE ON PROPERTY IDENTIFIED AS TAX MAP # __________________________

FOR THE FOLLOWING PURPOSE

____

____

____

____

THE FOLLOWING RESTRICTIONS HAVE BEEN IMPOSED AS A CONDITION OF APPROVAL

____

____

____

____

____

DATED ___________________ **CHAIRMAN ZONING BOARD OF APPEALS** ______________________________

The applicant agrees to the Special Conditions imposed with approval ______________________________

Signature

Dated ______________________________

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: Distribution Center 90		
Project Location (describe, and attach a general location map): Allegany Road, Pembroke, Genesee County, New York		
Brief Description of Proposed Action (include purpose or need): Construction of a distribution center off of New York State Thruway I-90 exit 48A consisting of 6 multi-use structures of approximately 1,500,000 square feet.		
Name of Applicant/Sponsor: Geis Construction	Telephone: 216-218-3508 E-Mail: JM@Geisco.net	
Address: 10020 Aurora-Hudson Road		
City/PO: Streetsboro	State: Ohio	Zip Code: 44241
Project Contact (if not same as sponsor; give name and title/role): Jeffrey Martin, President	Telephone: 216-218-3508 E-Mail: JM@Geisco.net	
Address: 10029 Aurora- Hudson Road		
City/PO: Streetsboro	State: Ohio	Zip Code: 44241
Property Owner (if not same as sponsor): Horizon Acres Associates, Inc.	Telephone: 914-906-3838 E-Mail: aron@horizonacres.com	
Address: 66 Truman Avenue		
City/PO: Spring Valley	State: NY	Zip Code: 10977

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	Site Plan Approval	January, 2023
c. City, Town or Village Zoning Board of Appeals	☐Yes ☑No		
d. Other local agencies	☐Yes ☐No		
e. County agencies	☑Yes ☐No	Genesee County Planning, Health Department	January, 2023
f. Regional agencies	☐Yes ☐No		
g. State agencies	☑Yes ☐No	NYSDOT - ROW Highway Work Permit NYSDEC - Wetand review - sanitary sewer	December 2022 and January 2023
h. Federal agencies	☑Yes ☐No	USACOE - Wetland review	December 2022

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):

____

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):

____

C.3. Zoning	
a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. If Yes, what is the zoning classification(s) including any applicable overlay district? Interchange	☑ Yes ☐ No
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? If Yes, *i.* What is the proposed new zoning for the site?	☐ Yes ☑ No

C.4. Existing community services.
a. In what school district is the project site located? Pembroke Central School District
b. What police or other public protection forces serve the project site? Corfu Police, Genesee County, NYS Troopers
c. Which fire protection and emergency medical services serve the project site? Pembroke Fire Department
d. What parks serve the project site? Pembroke Town 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, Industrial	
b. a. Total acreage of the site of the proposed action? 210.7 acres b. Total acreage to be physically disturbed? 103.7 acres c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 210.7 acres	
c. Is the proposed action an expansion of an existing project or use? *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: ______	☐ Yes ☑ No
d. Is the proposed action a subdivision, or does it include a subdivision? If Yes, *i.* Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)	☐ Yes ☑ No
ii. Is a cluster/conservation layout proposed? *iii.* Number of lots proposed? ______ *iv.* Minimum and maximum proposed lot sizes? Minimum ______ Maximum ______	☐ Yes ☐ No
e. Will the proposed action be constructed in multiple phases? *i.* If No, anticipated period of construction: ______ months *ii.* If Yes: • Total number of phases anticipated 2 • Anticipated commencement date of phase 1 (including demolition) 04 month 2023 year • Anticipated completion date of final phase 12 month 2028 year • Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: Future phasing is dependant on market conditions	☑ Yes ☐ No

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 6
ii. Dimensions (in feet) of largest proposed structure: 39 height; 260 width; and 1130 length
iii. Approximate extent of building space to be heated or cooled: 1,500,000 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: ______
ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐Other specify: ______
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: ______ 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): Federal wetlands to be impacted as allowed by the USACOE

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:
0.21 acre of Federal wetland area will be filled

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: 6,075 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: Town of Pembroke Water District No. 1
- 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: 6,750 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: Pembroke WWTP
- Name of district: Pembroke Sanitary District 1
- 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

- 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: Proposed gravity sanitary sewer extention along Allegany Road

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 79 acres (impervious surface)
____ Square feet or 210.7 acres (parcel size)

ii. Describe types of new point sources. Surface runoff from buildings, parking and roadways

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 bio-retention areas and wet ponds with outlet control structures per NYSDEC regulations

- 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)

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): ____________
See Traffic study for all responses here in section "j.".

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:
See Traffic study turn lanes and access drives.

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: ____________
3500 KW

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):
Local 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: 6 am-9pm
- Saturday: 6 am-9pm
- Sunday: 6 am-9pm
- Holidays: 6 am-9pm

ii. During Operations:
- Monday - Friday: 24 hrs
- Saturday: 24 hrs
- Sunday: 24 hrs
- Holidays: 24 hrs

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:

Typical construction noise

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

Describe: Currently a cornfield

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:

Buildings will have wall pack lighting to provide for safety of night deliveries and security . Street lighting will be provided as well.

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

Describe: Currently a cornfield

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:

Diesel truck traffic

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: 15 tons per Month (unit of time)
- Operation : 30 tons per Month (unit of time)

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

- Construction: Temporary dumpsters
- Operation: Recycle bins/ cardboard dumpsters

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

- Construction: Licensed hauler to certified landfill
- Operation: Licensed hauler to certified landfill

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:

NYS Thruway, Truck stops, Restaurants, Hotels

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	79.0	+79.0
• Forested	0	0	0
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	81.29	79.29	-2.0
• Agricultural (includes active orchards, field, greenhouse etc.)	80.0	0	-80.0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	3.0	+3.0
• Wetlands (freshwater or tidal)	49.41	49.41	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: ____________			

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):
____
____

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? 5-40' 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:

Collamer silt loam	62 %
Lamsen sandy loam	16 %
Dunkirk silt loam	18 %

d. What is the average depth to the water table on the project site? Average: 1.5 feet

e. Drainage status of project site soils:
☑ Well Drained: 30 % of site
☑ Moderately Well Drained: 40 % of site
☑ Poorly Drained 30 % of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 90 % of site
☑ 10-15%: 10 % of site
☑ 15% or greater: 0 % 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 837-64 Classification C
- Lakes or Ponds: Name ______ Classification ______
- Wetlands: Name Federal Waters, Federal Waters, Federal Waters,... Approximate Size 49.41
- 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: Principal Aquifer

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

Deer	Mice	Skunk
Rabbits	Chipmunk	Various Insects
Squirrels	Opossum	Various Birds

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): ______

Northern Long-eared Bat

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: GENE002

b. Are agricultural lands consisting of highly productive soils present? ☑ Yes ☐ No

i. If Yes: acreage(s) on project site? 92.7

ii. Source(s) of soil rating(s): USDA list of prime farmland

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: ______

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): "No Impact" letter from NYSORPHP issued 08.26.2022

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: Indian Falls

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

iii. Distance between project and resource: 2.0 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.

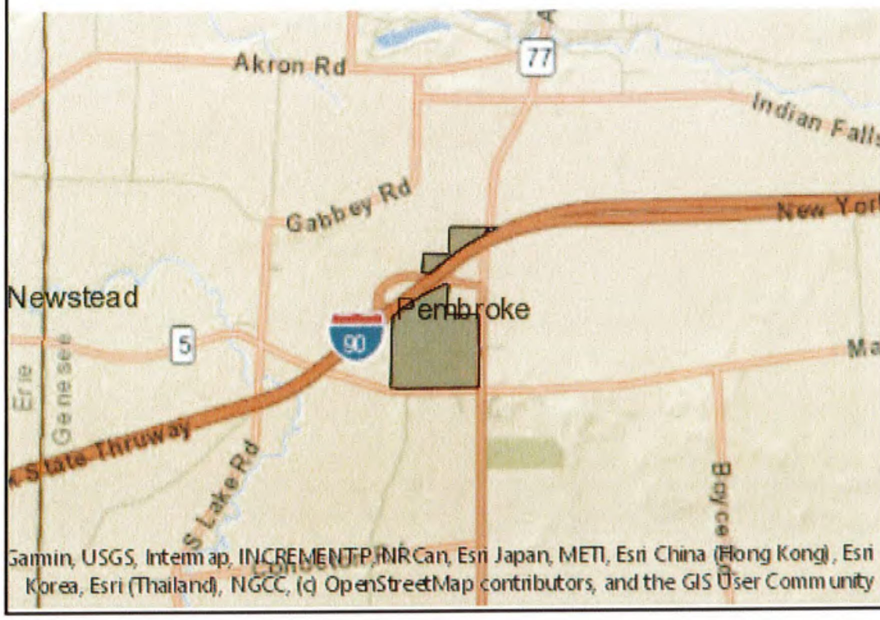
G. Verification

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

Applicant/Sponsor Name __________ Date __________

Signature __________ Title __________

PRINT FORM



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]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
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]	837-64
E.2.h.iv [Surface Water Features - Stream Classification]	C
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.j. [100 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.

E.2.k. [500 Year Floodplain]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.2.l. [Aquifers]	Yes
E.2.l. [Aquifer Names]	Principal Aquifer
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Northern Long-eared Bat
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	Yes
E.3.a. [Agricultural District]	GENE002
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

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

August 26, 2022

Michael Metzger
Metzger Civil Engineering PLLC
8245 Sheridan Drive
Williamsville, NY 14221

Re: DEC
Distribution Center 90
Alleghany Road, Pembroke, Genesee County, NY
22PR05921

Dear Michael Metzger:

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. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6 NYCRR Part 617).

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.

Sincerely,

Roger Daniel Mackay

R. Daniel Mackay

Deputy Commissioner for Historic Preservation
Division for Historic Preservation

DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

November 28, 2022

Regulatory Branch

SUBJECT: Preliminary Jurisdictional Determination for Department of the Army Reference No. LRB-2009-00219

Horizon Acres Associates, Inc.
66 Truman Avenue
Spring Valley, New York 10977
Attn: Aaron Goldklang

Dear Mr. Goldklang:

I have reviewed the aquatic resource delineation report and supporting materials submitted on your behalf by Earth Dimensions, Inc. requesting a preliminary jurisdictional determination (JD) for aquatic resources delineated on an approximate 206.63-acre parcel located adjacent to Routes 5 and 77, Town of Pembroke, Genesee County, New York.

I have evaluated the submitted materials and have determined that the aquatic resource boundaries shown on the map accurately represent on-site conditions. Please note that this is a preliminary JD. Preliminary JDs are non-binding written indications that there may be waters of the United States (WOUS) on your parcel and approximate locations of those waters. Preliminary JDs are advisory in nature and may not be appealed.

Pursuant to Regulatory Guidance Letter 16-01, any permit application made in reliance on this preliminary JD will be evaluated as though all aquatic resources on the site are regulated by the Corps. Further, all aquatic resources will be used for purposes of assessing the extent of project related impacts and compensatory mitigation. If you require a definitive response regarding Department of the Army jurisdiction for any or all of the aquatic resources identified on the submitted drawings, you may request an approved JD from this office. If an approved JD is requested, please be aware that this is often a lengthy process, and we may require the submittal of additional information.

I have enclosed the signed preliminary JD Form dated November 22, 2022, with this letter. The form and attached table identify the extent of aquatic resources on the site and specific terms and conditions of the preliminary JD.

In accordance with Regulatory Guidance Letter 05-02, "Preliminary jurisdictional determinations are not definitive determinations of areas within regulatory jurisdiction and do not have expirations dates." However, I strongly recommend that the boundaries of all aquatic resources on the parcel be re-evaluated by a qualified wetland biologist after five (5) years of the date of the signed preliminary JD. This will ensure that any changes are appropriately identified;

Regulatory Branch

SUBJECT: Preliminary Jurisdictional Determination for Department of the Army Reference No. LRB-2009-00219

and you do not inadvertently incur a violation of Federal law while constructing your project or working on your project site.

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 site identified in this request.

Note that 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 U.S. Department of Agriculture (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.

Questions pertaining to this matter should be directed to me at (716) 879-6330, by writing to Judy A. Robinson, U.S. Army Corps of Engineers, Auburn Field Office, 7413 County House Road, Auburn, New York, 13021, or by e-mail at: Judy.A.Robinson@usace.army.mil.

Sincerely,

Judy Robinson

Judy Robinson
Biologist

Enclosures
cc: Jeffrey Martin, Geis Construction
Thomas Somerville, Earth Dimensions, Inc.

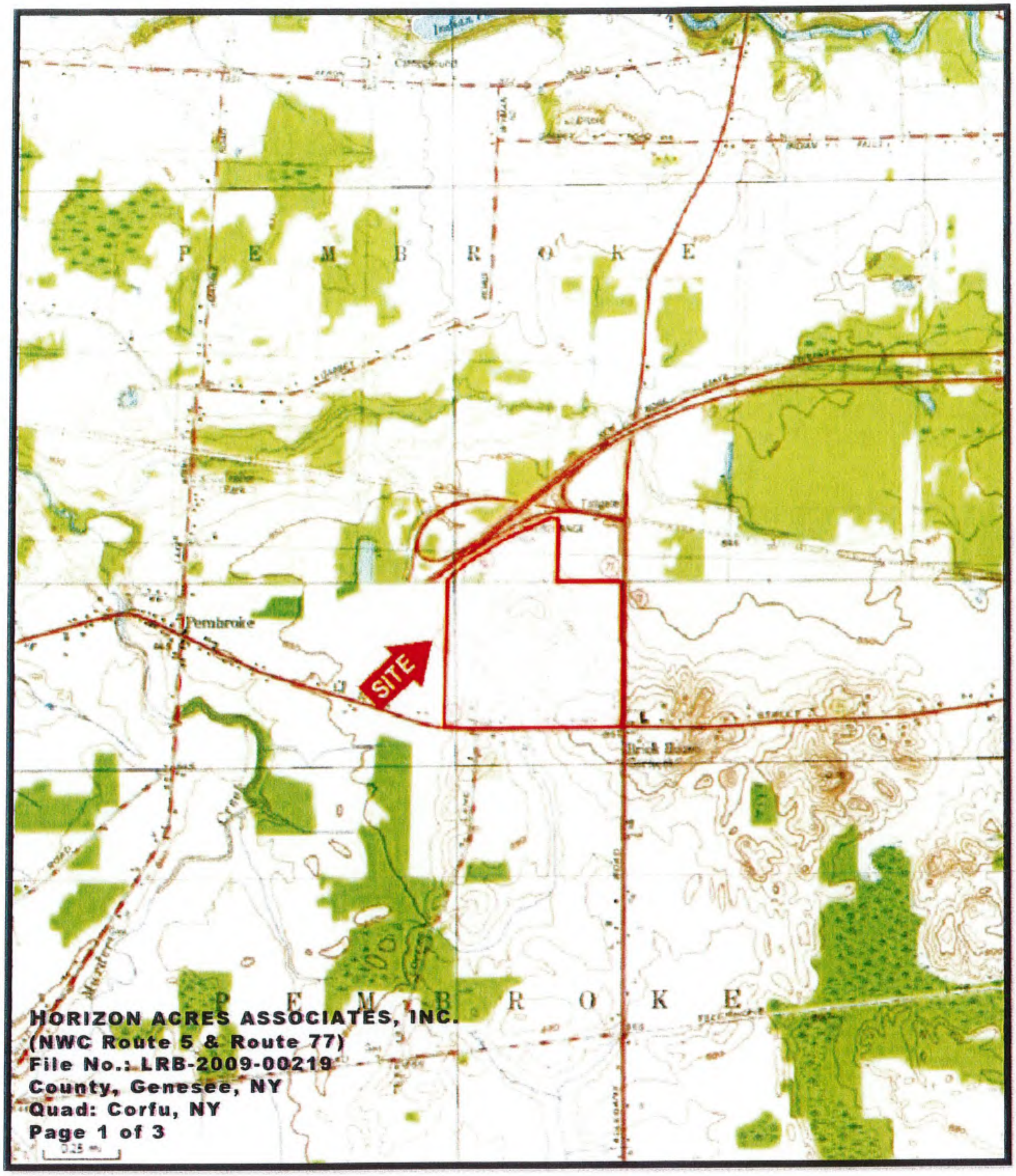


FIGURE 1: USGS 7.5 MINUTE TOPOGRAPHICAL MAP

Corfu Quadrangle / U.S. Geological Survey

NWC Route 5 & Route 77

Town of Pembroke, Genesee County, New York

EARTH DIMENSIONS, INC.

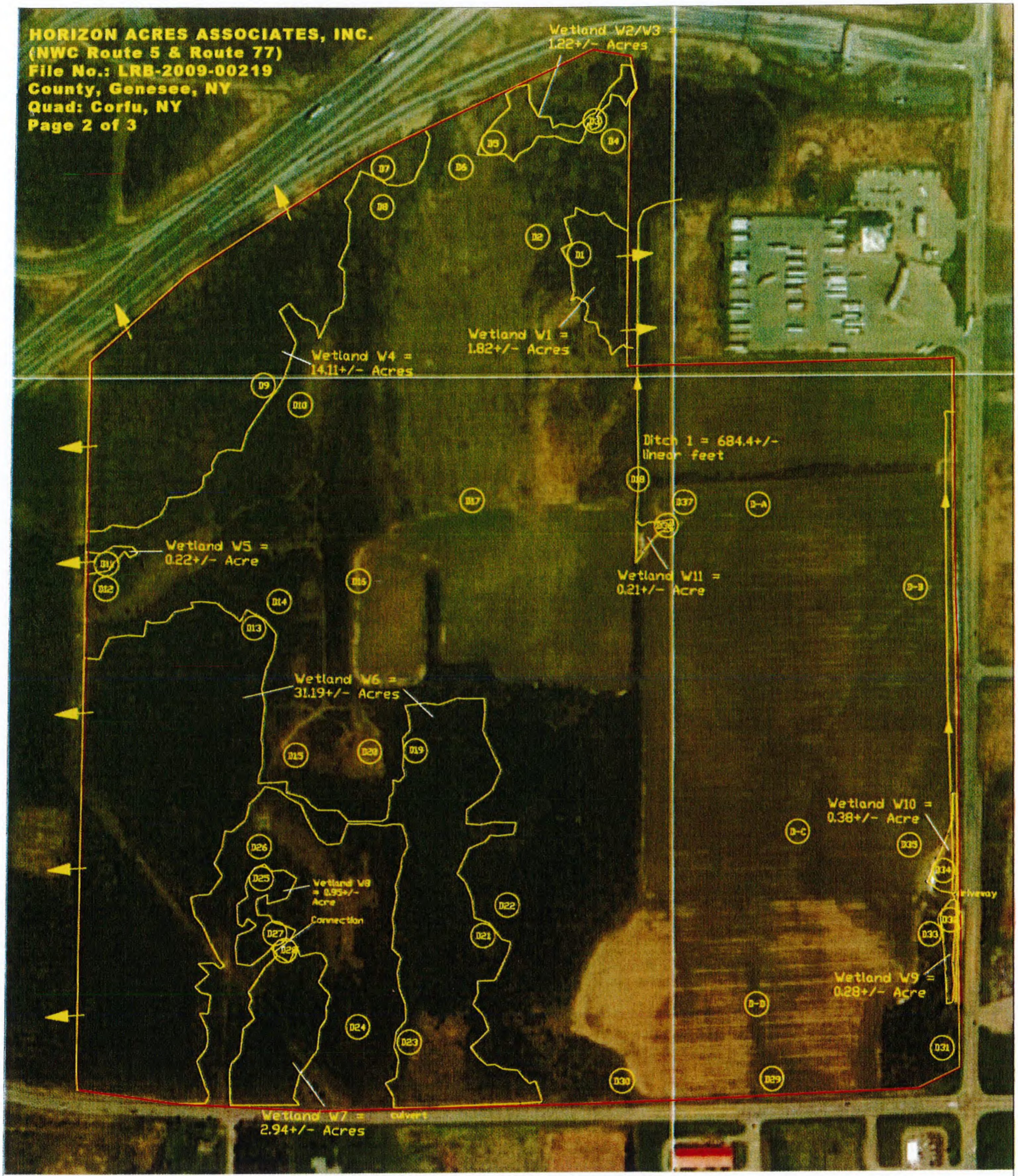
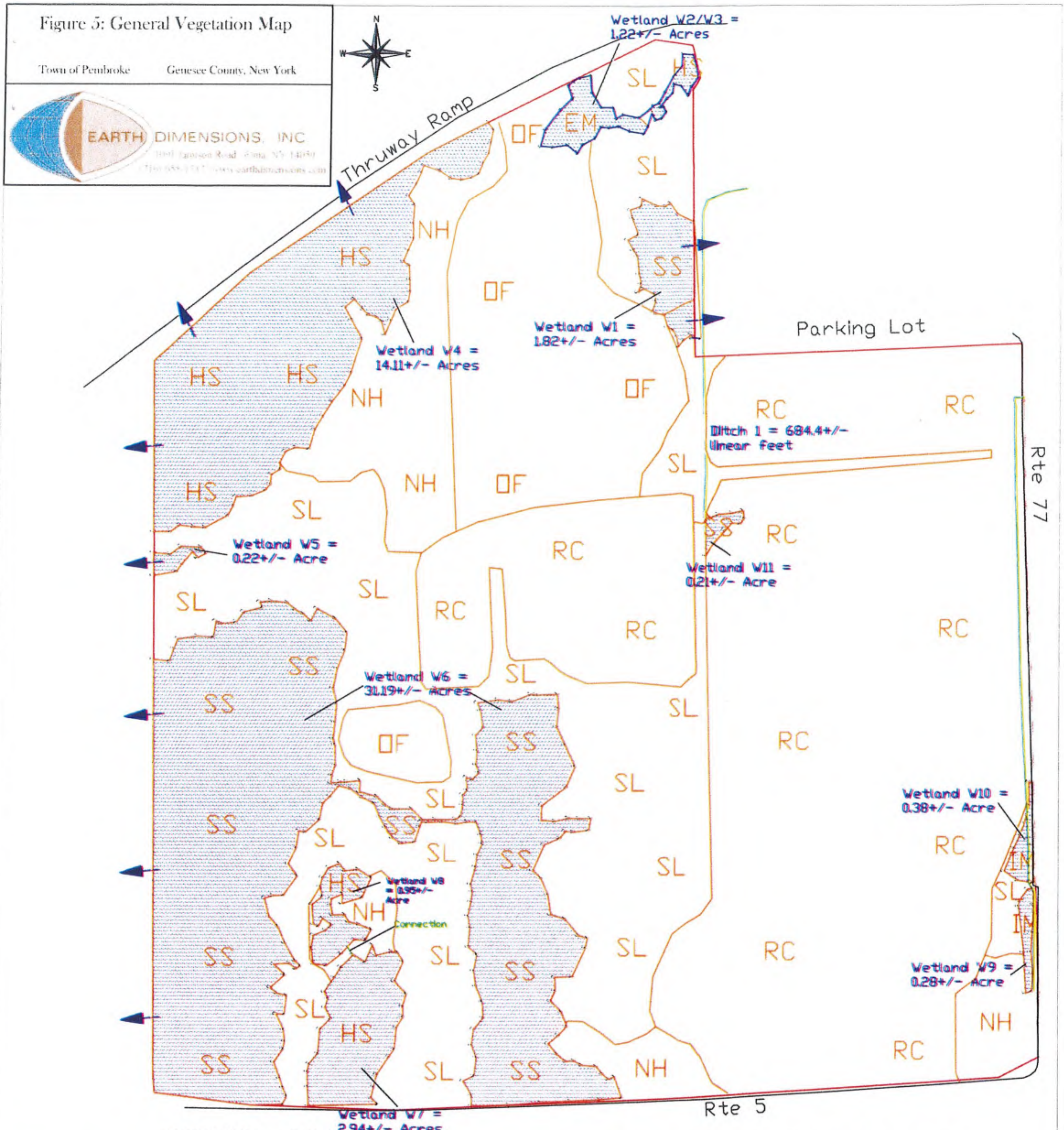


Figure 9: Aerial Photo With Wetlands

https://www.arcgis.com/apps/webappviewer/index.html (Visited 9/2/22)

NWC Route 5 and Route 77

Town of Pembroke, Genesee County, New York



NWC Rte 5 & Rte 77

LEGEND

Limits of Investigation	NH Northern Hardwood
Community Boundary	RC Row Crop
W1-1 Wetland Boundary Flag	IM Invasive Species Marsh
Wetland Area	EM Emergent Marsh
OF Successional Old Field	SS Scrub-shrub
SL Successional Shrubland	HS Hardwood Swamp

HORIZON ACRES ASSOCIATES, INC.
(NWC Route 5 & Route 77)
File No.: LRB-2009-00219
County, Genesee, NY
Quad: Corfu, NY
Page 3 of 3

Scale: 0 200' 400'	
Map Date: September 2, 2022/ TJS for EDI Revised:	
Base Map Provided By: Trimble Geo 7X	
File Name: Delineation map.dwg	
EDI Project Code: W29I08c	

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: November 25, 2022

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: Buffalo District, Auburn Field Office; Horizon Acres Associates, Inc. (NWC Route 5 & Route 77); File No. LRB-2009-00219

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

State: NY **County: Genesee** **City: Town of Pembroke**

Center coordinates of site (lat/long in degree decimal format):

Lat.: 42.999217 **Long.: -78.477783**

Name of nearest waterbody: **off-site unnamed tributary to Murder Creek**

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

(X) Office (Desk) Determination: Date: November 25, 2022
(X) Field Determination: Date: November 4, 2022

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Wetland 1	43.00099	-78.41070	1.82 acres	PSS	Section 404
Wetland 2/3	43.00274	-78.41050	0.28 acre	PFO	Section 404
Wetland 2/3a	43.00274	-78.41050	0.94 acre	PEM	Section 404
Wetland 4	43.00005	-78.41602	14.11 acres	PFO	Section 404
Wetland 5	42.99832	-78.41739	0.22 acre	PSS	Section 404
Wetland 6	42.99614	-78.41645	31.19 acres	PSS	Section 404
Wetland 7	42.99385	-78.41503	2.94 acres	PFO	Section 404
Wetland 8	42.99474	-78.41523	0.95 acres	PFO	Section 404
Wetland 9	42.99444	-78.40613	0.28 acre	PEM	Section 404
Wetland 10	42.99535	-78.40613	0.38 acre	PEM	Section 404
Wetland 11	42.99849	-78.41017	0.21 acre	PEM	Section 404
Ditch 1	42.99906	-78.41030	684 linear feet	Ephemeral	Section 404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that:

(1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources;

(2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions;

(3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization;

(4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary;

5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD;

(6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and

(7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331.

If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable.

This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

(X) Maps, plans, plots or plat submitted by Earth Dimensions, Inc. on behalf of Horizon Acres Associates, Inc. (NWC Route 5 and Route 77)

Map: See below for map details

(X) Data sheets prepared/submitted by Earth Dimensions, Inc. on behalf of Horizon Acres Associates, Inc. (NWC Route 5 and Route 77)

(X) Office concurs with delineation data sheets dated August 19, 22, 23/2022 on an approximately 206.63-acre site and summarized in the delineation report dated September 6, 2022; revised October 2022

() Office does not concur with data sheets/delineation report.

() Data sheets prepared by the Corps

() Corps navigable waters' study

() U.S. Geological Survey Hydrologic Atlas

() USGS NHD data

() USGS 8 and 12 digit HUC maps

(X) U.S. Geological Survey map(s). Cite scale & quad name: 24K; Corfu, NY

(X) Natural Resources Conservation Service Soil Survey Citation: On-Line Web Soil Survey generated 08/30/2022

(X) National wetlands inventory map(s) Cite name: Corfu, NY – 1990's

The USFWS on-line Wetland Mapper provides only the decade for the image

(X) State/local wetland inventory map(s) Cite name: Corfu, NY – generated 09/02/2022

New York State on-line Environmental Resource Mapper

() FEMA/FIRM maps

() 100-year Floodplain Elevation is: ____. (National Geodetic Vertical Datum of 1929)

(X) Photographs:

(x) Aerial (Name & Date): Google Earth 2006, 2009, 2014, 2015, 2016; Historic Aerial 1972, 1974, 1986, 1995, 2005; Historic Topo 2013, 2016

(x) Other (Name & Date): Photos dated August 19, 22, 23 2022 contained in the delineation report

(X) Previous determination(s). An approved JD was issued on 04/30/2010

() Other information (please specify). Use this if AJD was also determined for waters on the site.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Judy Robinson

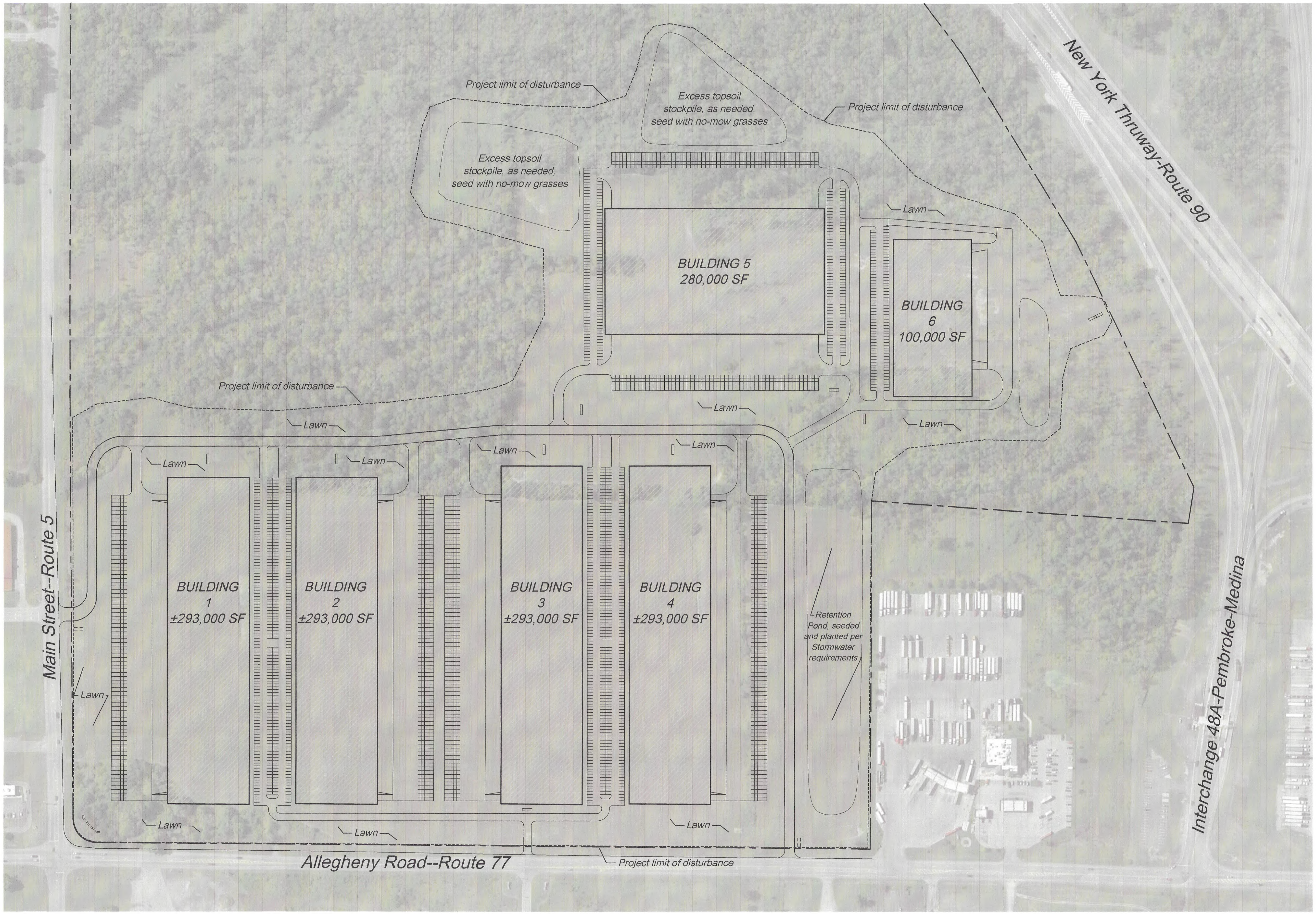
Date: 11/25/2022

Signature Regulatory staff member

Date: 11/25/2022

Signature of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

[1] Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.



OVERALL PARK LANDSCAPE CONCEPT PLAN

NOT TO SCALE

NOTE: All disturbed areas to be re-seeded as either lawn or no-mow grass. Local regulations to apply concerning plant type and planting.

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4 January 2023
Conceptual Landscaping Plan

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Distribution Center 90
Park Landscaping Plan
Pembroke, New York

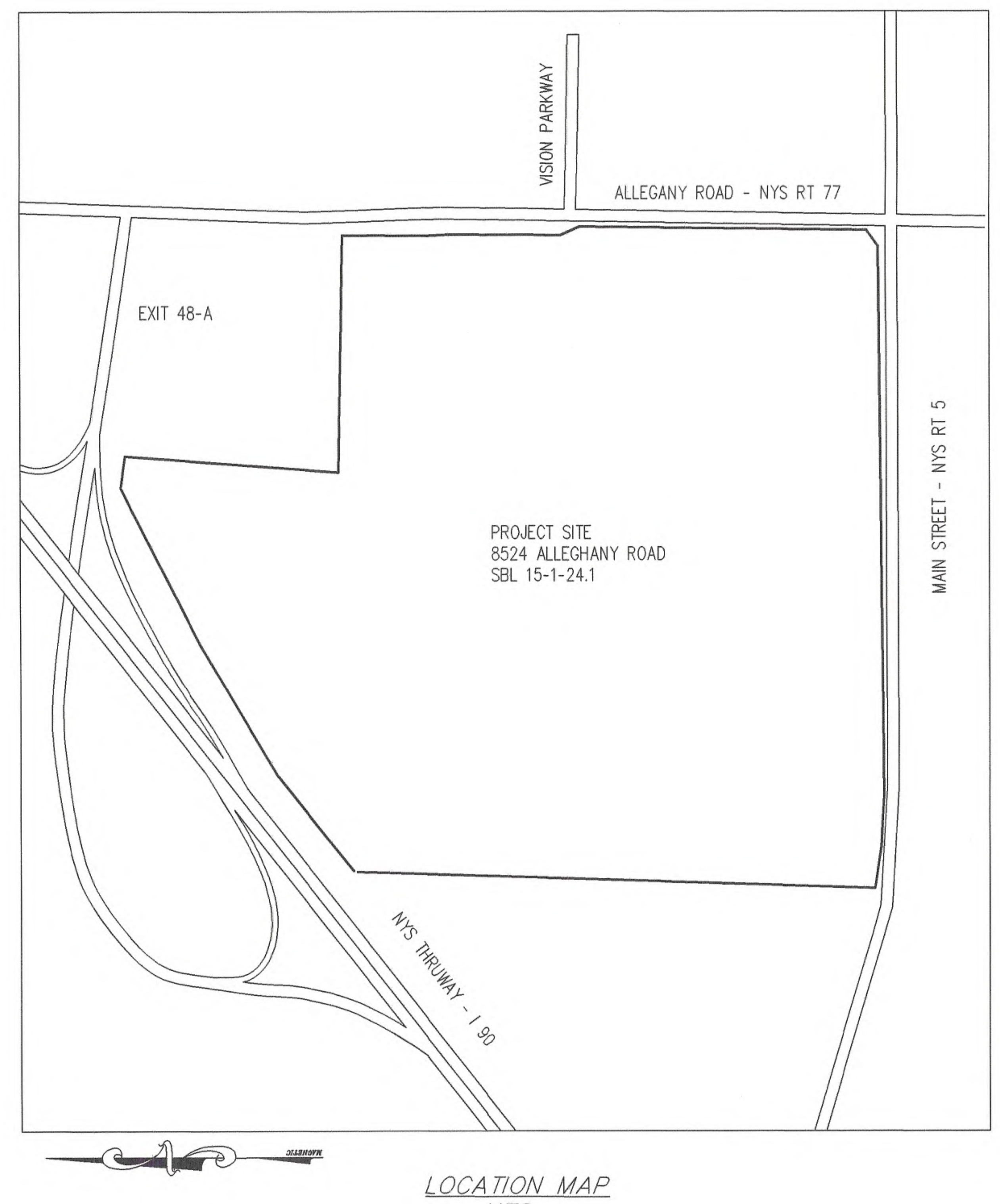
Drawn By
Checked By
Project Number

NORTH

SITE PLAN
DRAWING NO:
LS.1

DISTRIBUTION CENTER 90

TOWN OF PEMBROKE, GENESEE COUNTY, NEW YORK



LOCATION MAP
NTS

SCHEDULE OF DRAWINGS:

1 CS-1 COVER SHEET

2 PP-1 PHASING PLAN

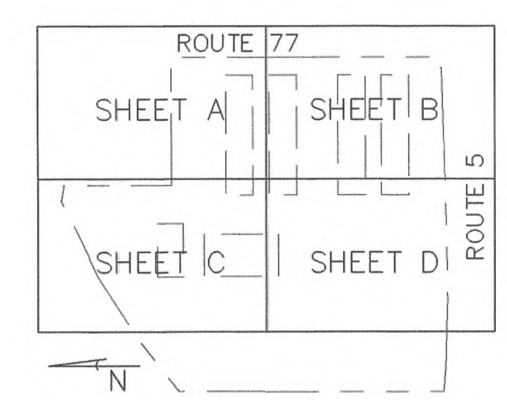
3 EC-1 EROSION AND SEDIMENT CONTROL PLAN

4 SP-1 SITE PLAN A
5 SP-2 SITE PLAN B
6 SP-3 SITE PLAN C
7 SP-4 SITE PLAN D

8 GD-1 GRADING AND DRAINAGE PLAN A
9 GD-2 GRADING AND DRAINAGE PLAN B
10 GD-3 GRADING AND DRAINAGE PLAN C
11 GD-4 GRADING AND DRAINAGE PLAN D

12 SW-1 SANITARY AND WATER PLAN A
13 SW-2 SANITARY AND WATER PLAN B
14 SW-3 SANITARY AND WATER PLAN C
15 SW-4 SANITARY AND WATER PLAN D

16 DT-1 DETAILS
17 DT-2 DETAILS
18 DT-3 WATER DETAILS
19 DT-4 WATER DETAILS
20 DT-5 SANITARY DETAILS
21 DT-6 SANITARY DETAILS



SHEET KEY PLAN
NTS

OWNER:
HORIZON ACRES ASSOCIATES, INC.
66 TRUMAN AVENUE
SPRING VALLEY, NEW YORK 10977

(914) 906-3838

DEVELOPER:
GEIS CONSTRUCTION
10020 AURORA-HUDSON ROAD
STREETSBORO, OHIO 44241

JEFF MARTIN (216) 218-3508

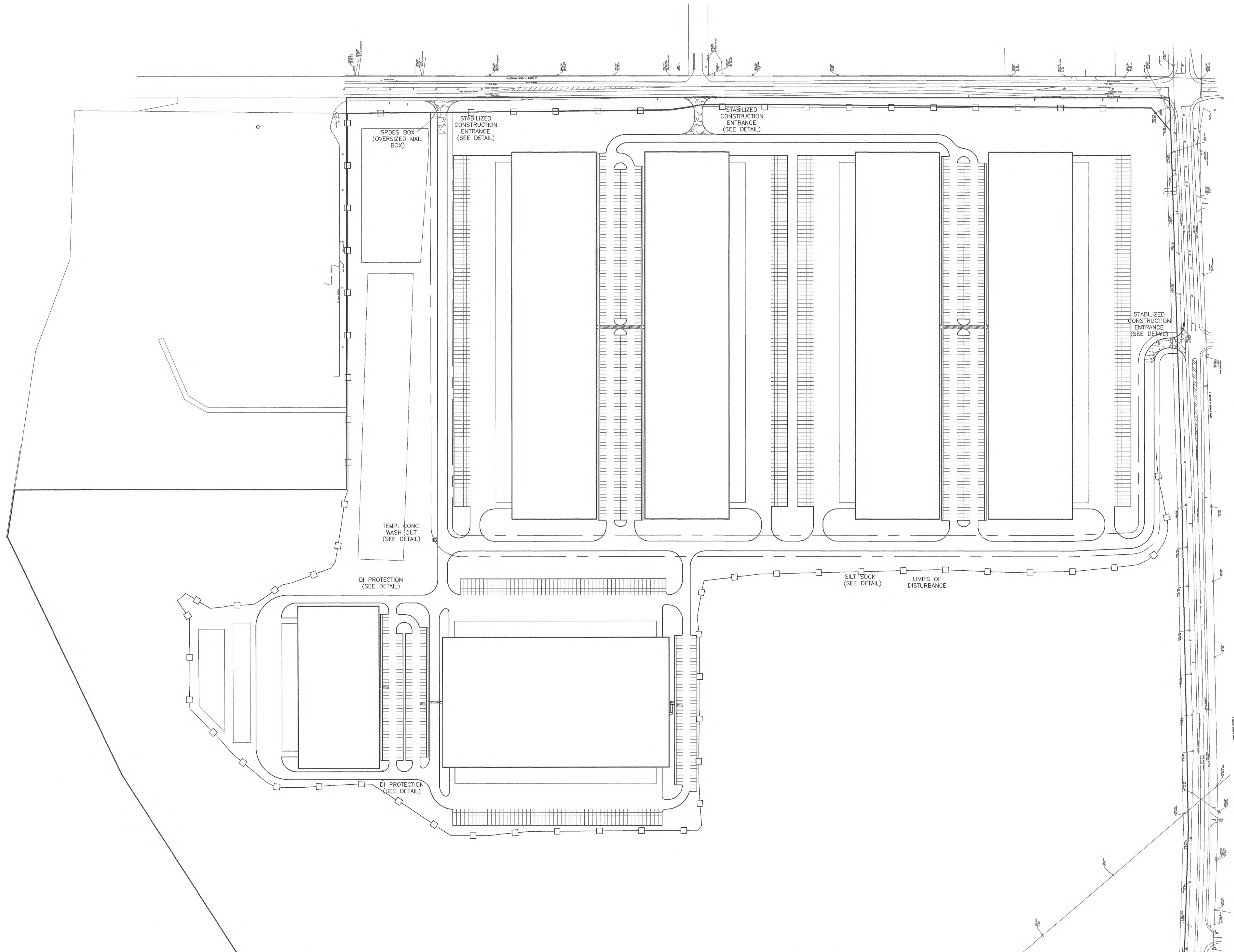
CIVIL ENGINEER:
METZGER CIVIL ENGINEERING, PLLC.
8245 SHERIDAN DRIVE
WILLIAMSVILLE, NEW YORK 14221

PHONE No. (716) 633-2601

METENG@ROADRUNNER.COM

METZGER CIVIL ENGINEERING, PLLC

SCALE:	NTS
DATE:	DECEMBER 14, 2022
JOB NO:	M-2220
SHEET NO:	CS-1



NOTES

1) THIS PLAN IS BASED ON SURVEY BY TRUE NORTH SURVEY. THIS IS NOT A PROPERTY SURVEY.

Designed By:	ARH
Drawn By:	ARH
Checked By:	JCM
Cad File:	M2220

NOTE:
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WILLIAMSVILLE, NY 14221
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FAX: 716-633-2704

CIVIL ENGINEERING
LAND PLANNING
SITE DESIGN
MUNICIPAL ENGINEERING

DISTRIBUTION CENTER 90

TOWN OF PEMBROKE, GENESEE COUNTY, NEW YORK

EROSION AND SEDIMENT CONTROL PLAN

SCALE:	1"=150'
DATE:	December 14, 2022
JOB NO:	M-2220
SHEET NO:	EC-1

F:\MCE\M2220 Alleghany Road (Gelis)\DWGS\Site 3.dwg, 1/4/2023 11:43:03 AM

MATCH LINE

ROUTE 77
SHEET A
SHEET B
SHEET C
SHEET D
ROUTE 5
N
KEY PLAN

NOTES

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FAX: 716-633-2704
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LAND PLANNING
SITE DESIGN
MUNICIPAL ENGINEERING

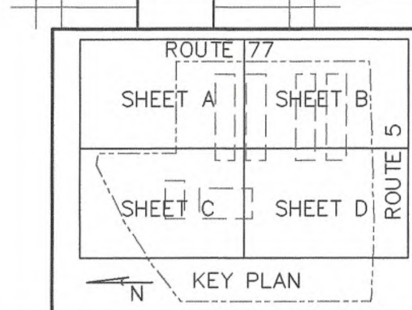
STATE OF NEW YORK
MICHAEL J. METZGER
066786
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CENTER 90

TOWN OF PEMBROKE, GENESEE COUNTY, NEW YORK

SITE PLAN – SHEET A

SCALE:	1"=60'
DATE:	December 14, 2022
JOB NO:	M-2220
SHEET NO:	SP-1



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Drawn By:	ARH
Checked By:	JCM
Cad File:	M2220

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FAX: 716-633-2704

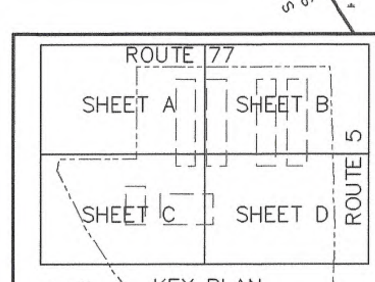
CIVIL ENGINEERING
LAND PLANNING
SITE DESIGN
MUNICIPAL ENGINEERING

DISTRIBUTION CENTER 90

TOWN OF PEMBROKE, GENESEE COUNTY, NEW YORK

SITE PLAN – SHEET B

SCALE:	1"=60'
DATE:	December 14, 2022
JOB NO:	M-2220
SHEET NO:	SP-2



NOTES

1) THIS PLAN IS BASED ON SURVEY BY TRUE NORTH SURVEY. THIS IS NOT A PROPERTY SURVEY.

Designed By:	ARH
Drawn By:	ARH
Checked By:	JCM
Cad File:	M2220

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SITE DESIGN
MUNICIPAL ENGINEERING

STATE OF NEW YORK LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CENTER 90

TOWN OF PEMBROKE, GENESEE COUNTY, NEW YORK

SITE PLAN – SHEET C

SCALE:	1"=60'
DATE:	December 14, 2022
JOB NO:	M-2220
SHEET NO:	SP-3

F:\MCE\M2220 Alleghany Road (Gelo)\DWGS\Site 3.dwg, 1/4/2023 11:39:52 AM

ROUTE 77	
SHEET A	SHEET B
SHEET C	SHEET D
ROUTE 5	
KEY PLAN	N

NOTES

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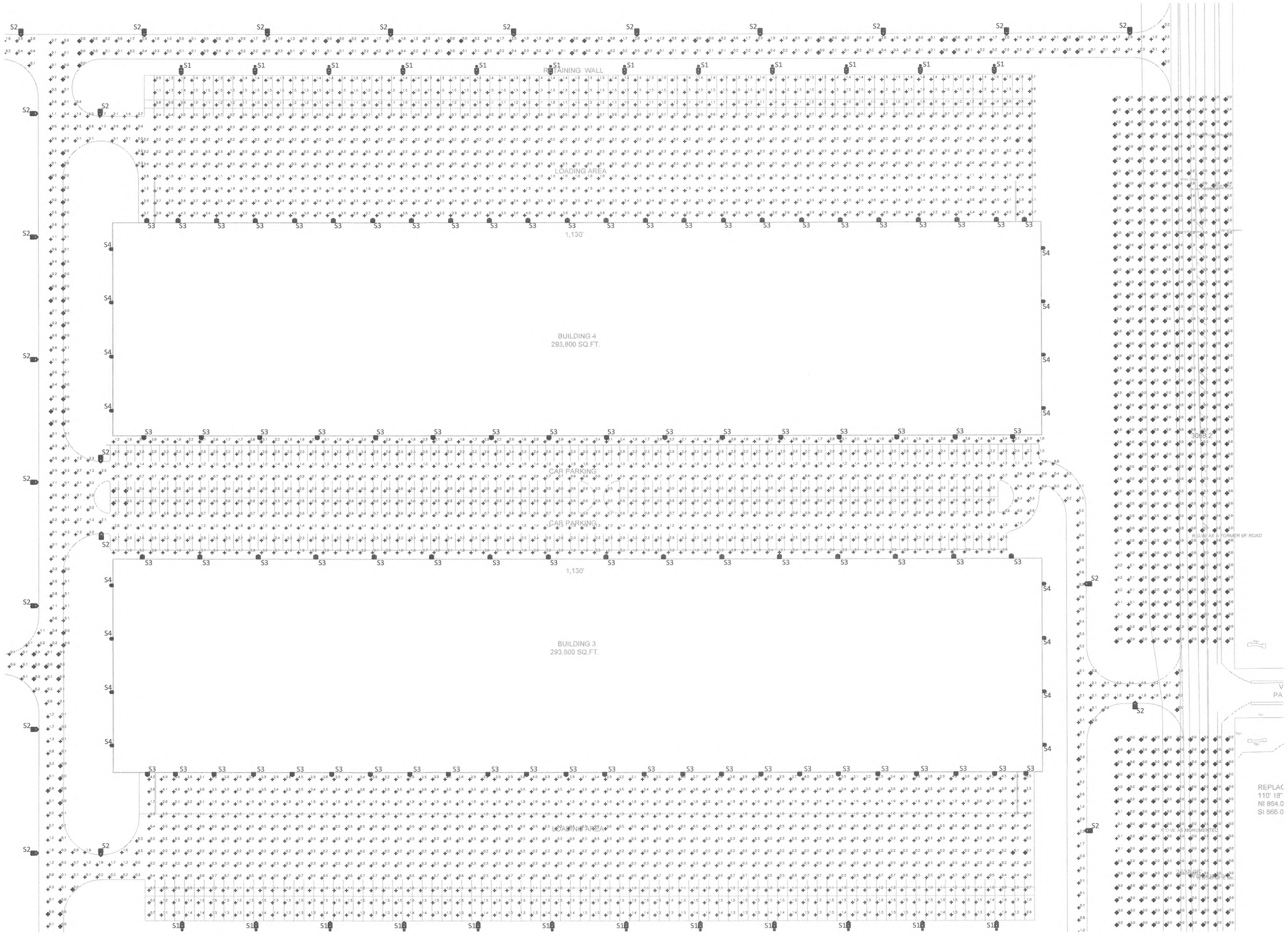
STATE OF NEW YORK
MICHAEL J. METZGER
No. 0066786
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CENTER 90

TOWN OF PEMBROKE, GENESEE COUNTY, NEW YORK

SITE PLAN – SHEET D

SCALE:	1"=60'
DATE:	December 14, 2022
JOB NO:	M–2220
SHEET NO:	SP–4



PARTIAL SITE LIGHTING PLAN

SCALE: 1"=75'-0"

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FX: (330) 528-0008
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DATES AND REVISIONS

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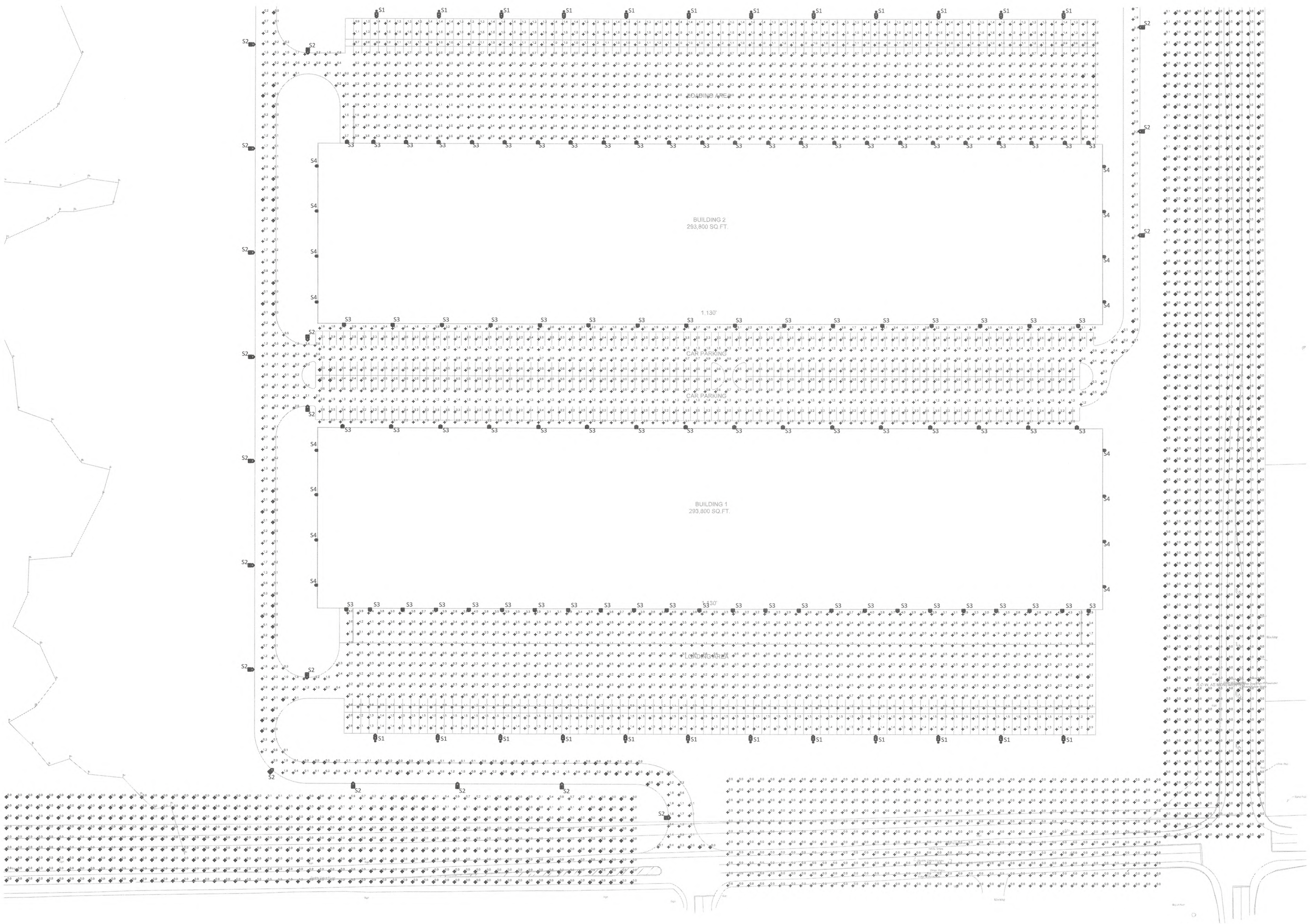
Distribution Center 90

Site Study
Pembroke, New York

Drawn By
Checked By
Project Number

NORTH

SITE PLAN
DRAWING NO:
E0.1



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Site Study
Pembroke, New York

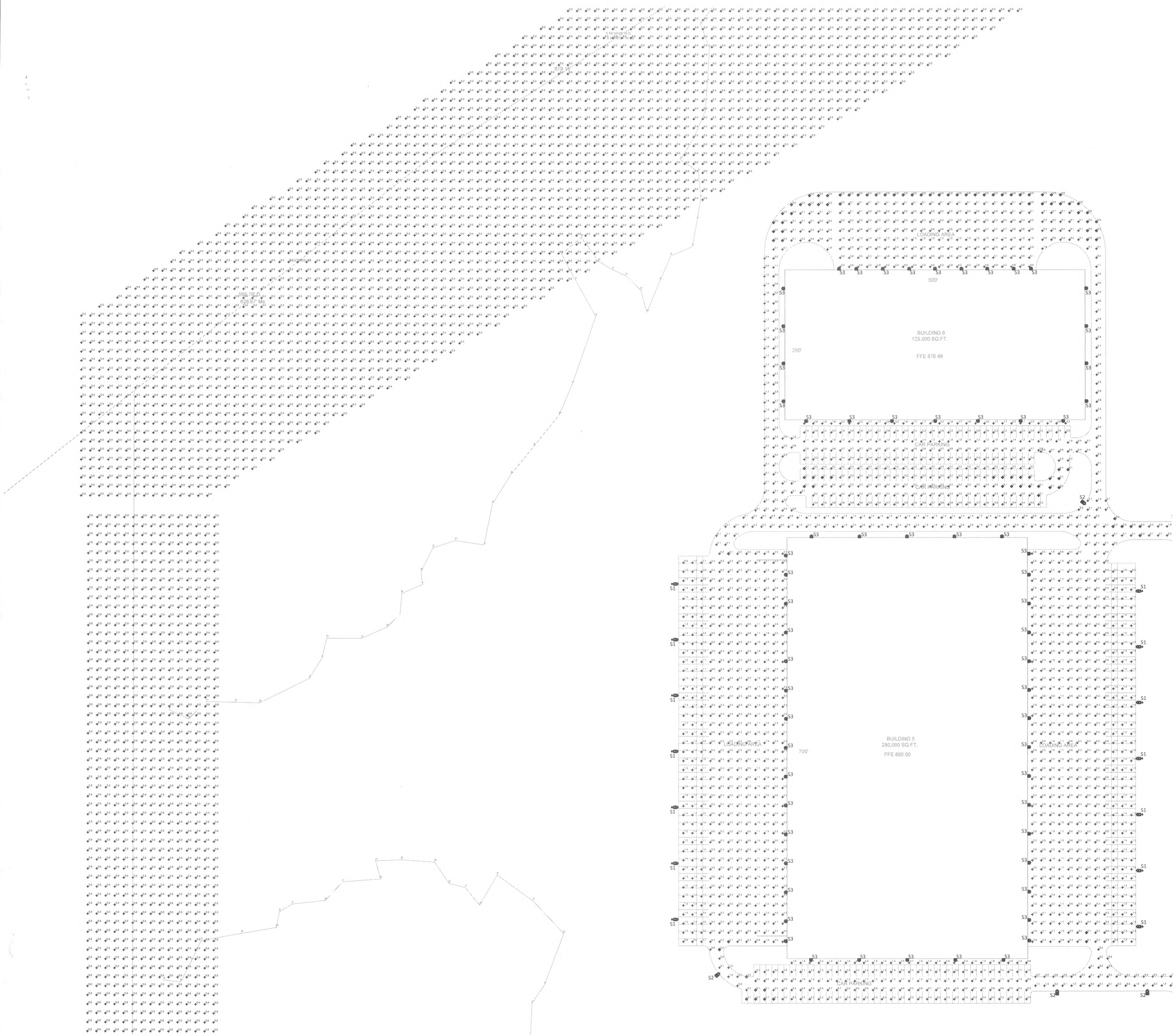
Drawn By
Checked By
Project Number

NORTH

PARTIAL SITE LIGHTING PLAN

SCALE: 1"=75'-0"

SITE PLAN
DRAWING NO:
E0.2



PARTIAL SITE LIGHTING PLAN

SCALE: 1"=75'-0"

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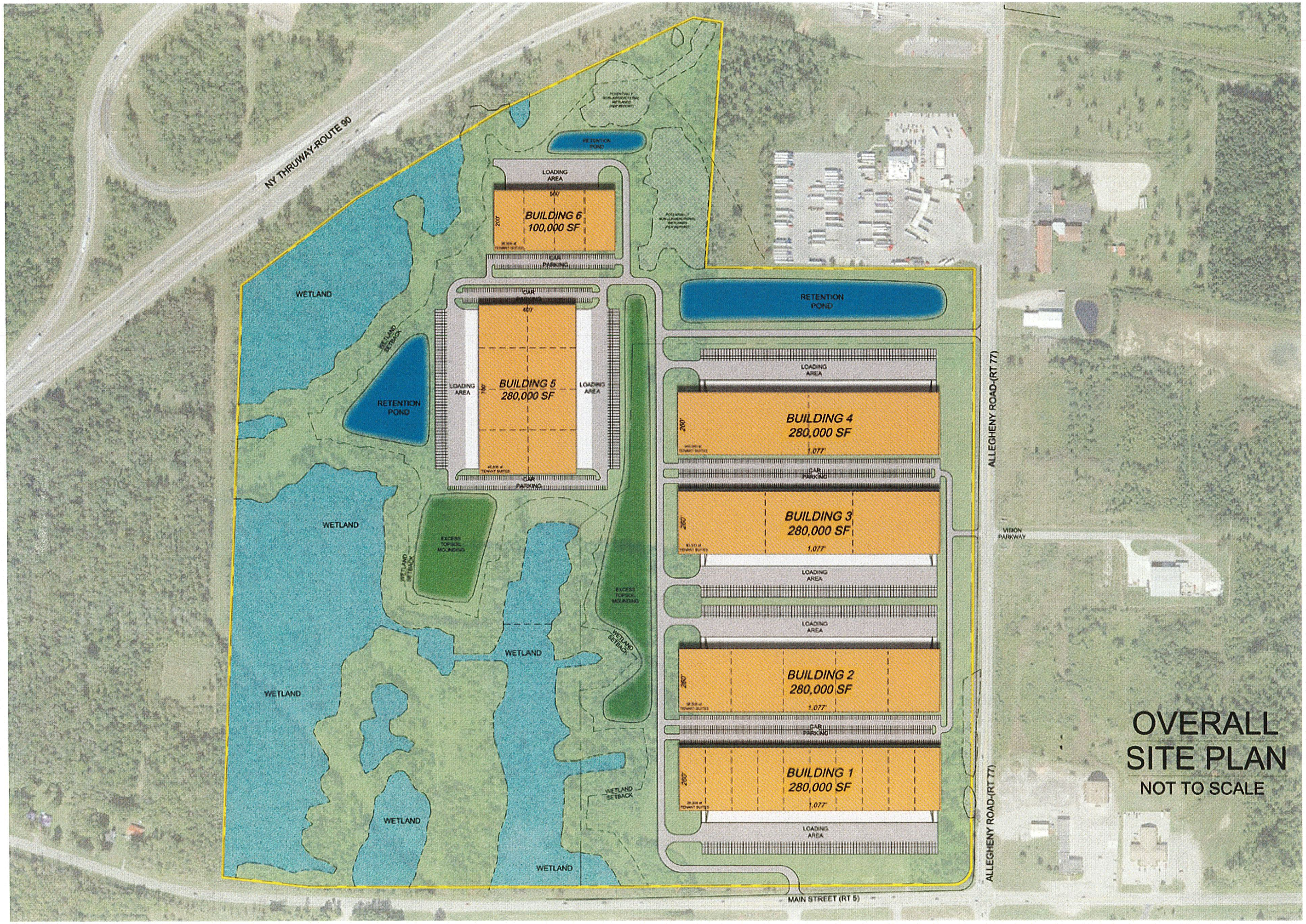
Site Study
Pembroke, New York

Drawn By
Checked By
Project Number

NORTH

SITE PLAN
DRAWING NO:
E0.3



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OVERALL SITE PLAN

DISTRIBUTION CENTER 90

07 SEPTEMBER, 2022

PEMBROKE, NY

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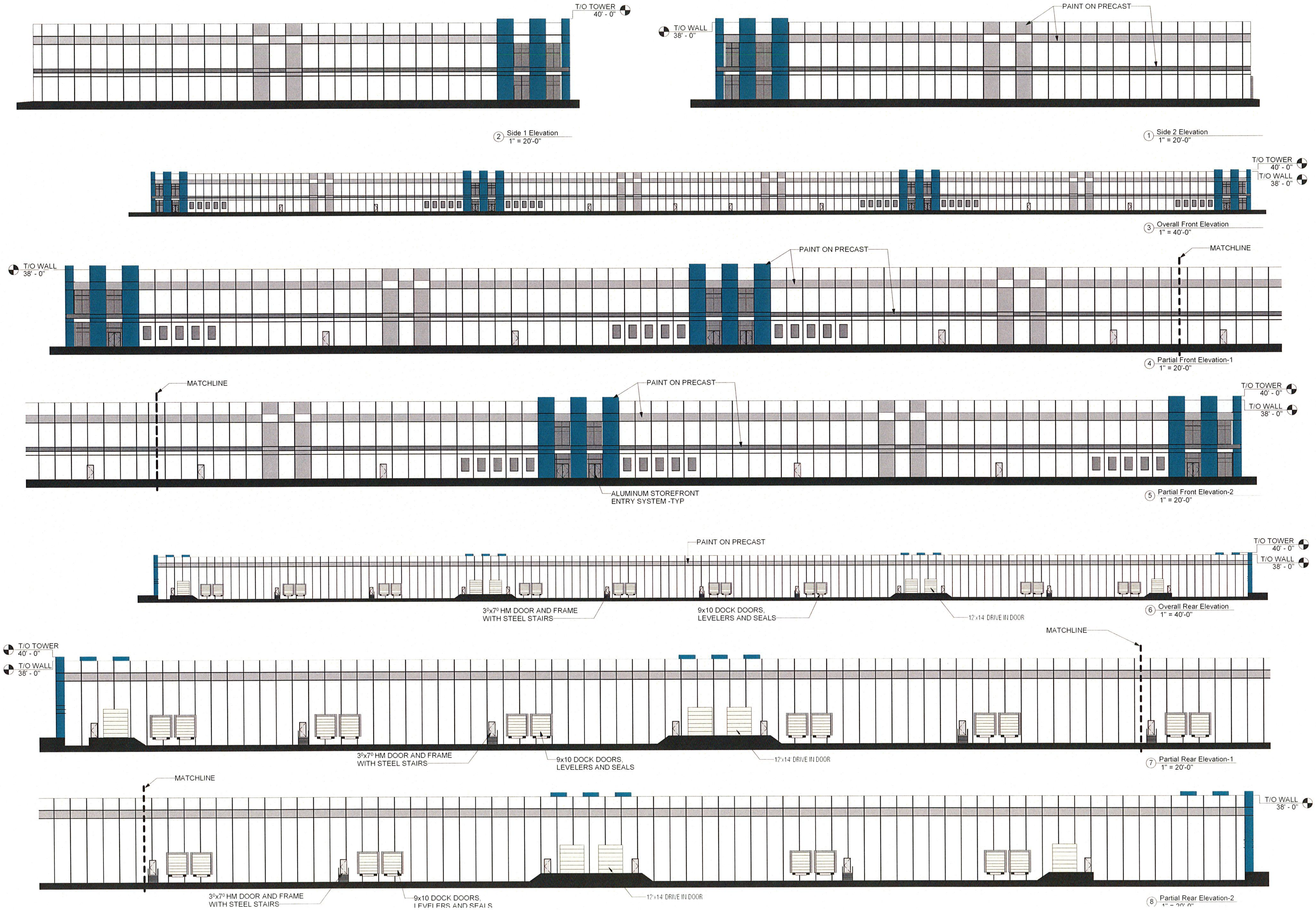
CONCEPTUAL BUILDING RENDERING

DISTRIBUTION CENTER 90

07 SEPTEMBER, 2022

PEMBROKE, NY



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BUILDINGS 1 THRU 4 ELEVATIONS

DISTRIBUTION CENTER 90

PEMBROKE, NY

07 SEPTEMBER, 2022

Sign Type 1

Park signature element

Central sign element with flanking stone walls

Free-standing Development Business Sign
35' maximum height
(1) location proposed

Sign Type 2

Park entrance element

Metal offset sign element in a supporting masonry pier

Off-premises Directional Sign
32 sf. maximum
(2) locations proposed

Sign Type 3

Building Identification Sign

Metal Pier with multiple tenant sign locations

On-premises Freestanding Sign
100 sf. maximum
(7) locations proposed

Sign Type 4

Building Identification Sign

Metal Pier with multiple tenant sign locations. To provide direction for 4 buildings-(car traffic only)

Free-standing Directory Sign
32' maximum area
(1) location proposed

Sign Type 5

Park signature element

35' total height for visibility from the Thruway

Free-standing Development Business Sign
35' maximum height
(1) location proposed

NOTE: all signs shown are examples, not actual proposed sign layouts

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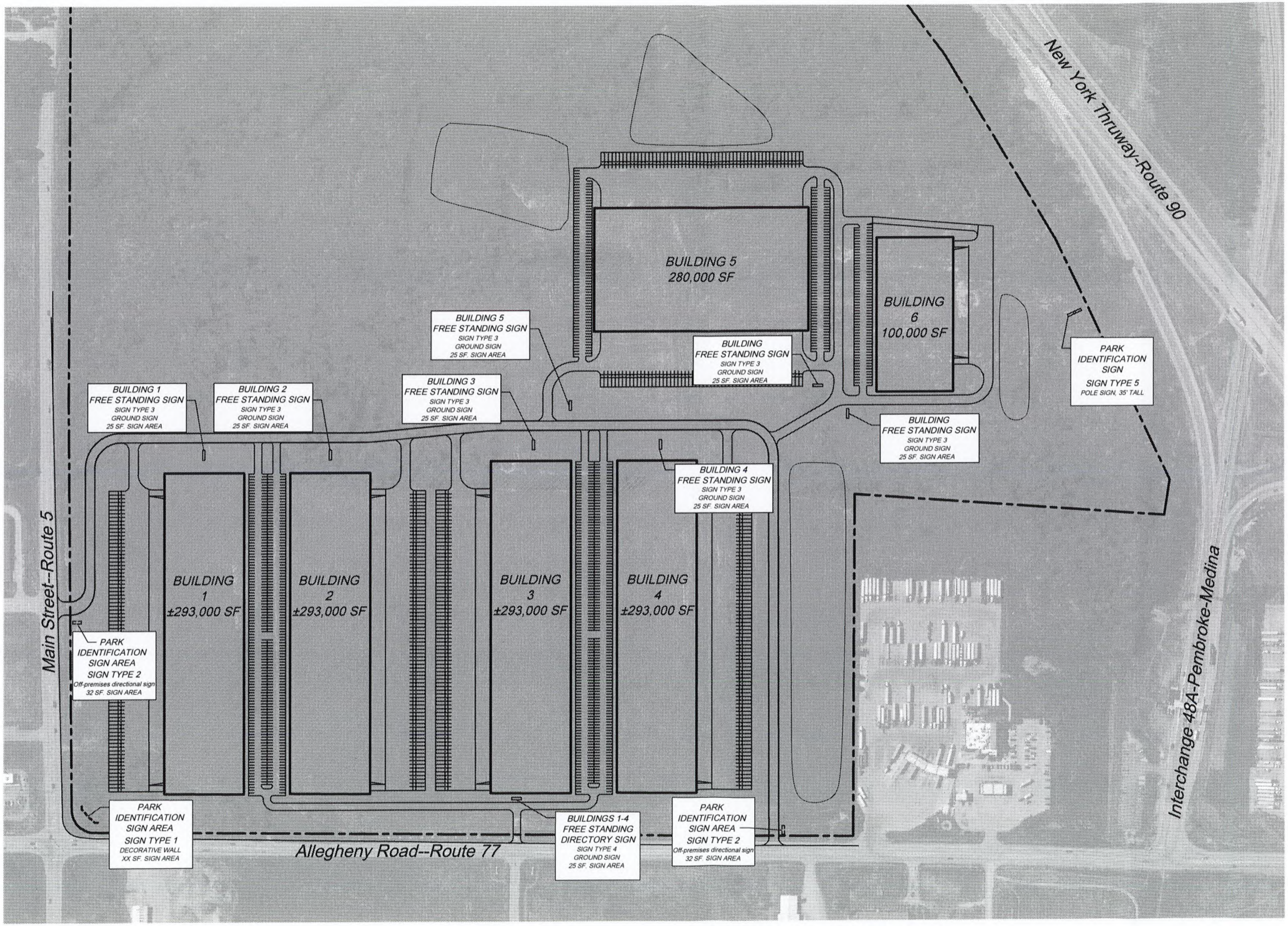
Distribution Center 90
Park Signage Study
Pembroke, New York

Drawn By
Checked By
Project Number

SITE PLAN
DRAWING NO:
A.1.2 signs



OVERALL PARK SIGNAGE PLAN

NOT TO SCALE

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FX: (330) 528-0008
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DATES AND REVISIONS

19 December 2022
Conceptual Signage Plan

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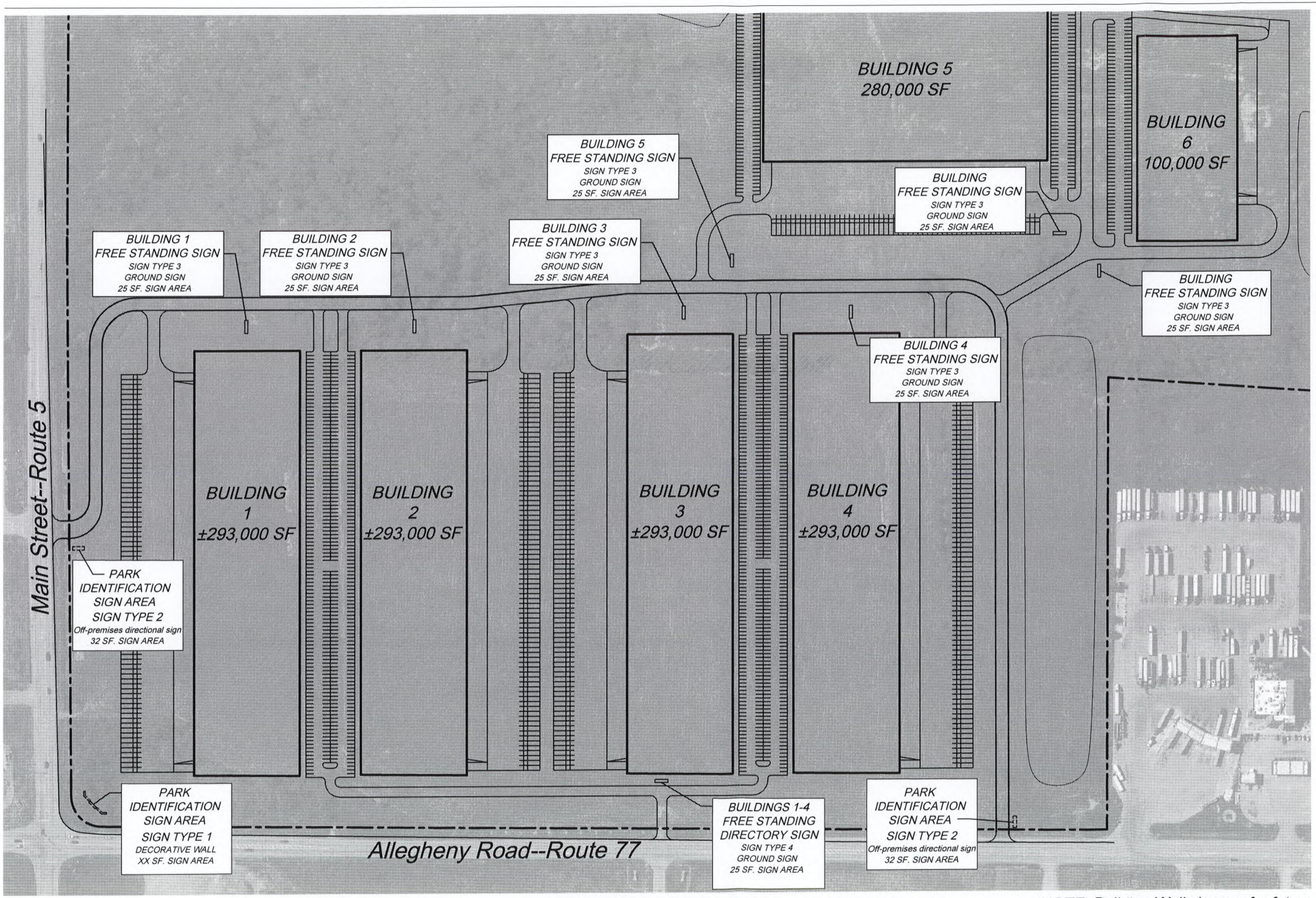
Distribution Center 90
Park Signage Study
Pembroke, New York

Drawn By
Checked By
Project Number

NORTH

SITE PLAN
DRAWING NO:

A.1 signs



BUILDING SIGNS SITE PLAN

NOT TO SCALE

NOTE: Building Wall signage for future individual tenants may occur, and are not included on the current scope

Future signage shall be subject to review and approval

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Streetsboro, Ohio 44241
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FX: (330) 528-0008
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19 December 2022
Conceptual Site Plan

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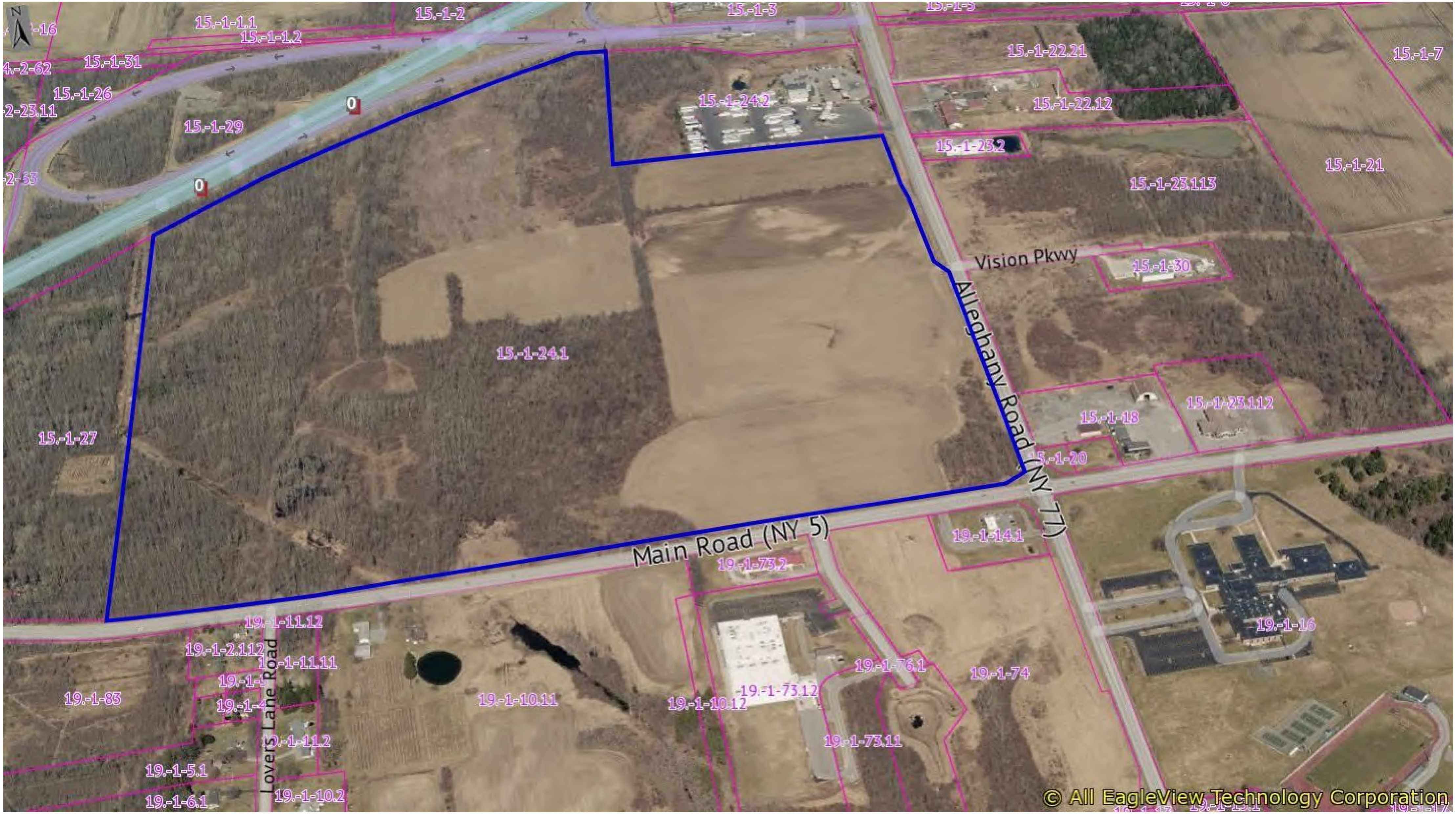
Distribution Center 90
Park Signage Study
Pembroke, New York

Drawn By
Checked By
Project Number

NORTH

SITE PLAN
DRAWING NO:
A.1.1 signs

T-01-PEM-01-23



03/21/2021

Traffic Impact Study

for the proposed

Industrial Park at
NY-5/NY-77

Town of Pembroke
Genesee County, New York

January 2023

Project No. 42072

Prepared For:

GEIS COMPANIES

10020 Aurora Hudson Road
Streetsboro, Ohio 44241

Prepared By:

SRF ASSOCIATES
www.srfa.net
Transportation Planning / Engineering / Design

PASSERO ASSOCIATES
engineering architecture

Please note we've moved and are now with Passero Associates

242 West Main Street, Suite 100 Rochester, NY 14614
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A6. LEVEL OF SERVICE CALCULATIONS – FULL DEVELOPMENT CONDITIONS

A7. LEVEL OF SERVICE CALCULATIONS – FULL DEVELOPMENT CONDITIONS (MITIGATION)

LIST OF REFERENCES

1. Highway Capacity Manual 6th Edition. Transportation Research Board (TRB). The National Academies, Washington, DC. 2016.
2. Trip Generation, 11th Edition. Institute of Transportation Engineers (ITE). Washington, DC. 2021.
3. New York State Department of Transportation (NYSDOT) Traffic Data Viewer. 2022. Retrieved from https://www.dot.ny.gov/tdv.
4. OnTheMap. U.S. Census Bureau. 2022.
5. NCHRP Report 279, Intersection Channelization Design Guide. TRB. 1985.
6. Highway Functional Classification Concepts, Criteria, and Procedures. Federal Highway Administration (FHWA). 2013.
7. Manual on Uniform Traffic Control Devices (MUTCD). Federal Highway Administration (FHWA). 2009.
8. A Policy on Geometric Design of Highways and Streets. The American Association of State Highway Transportation Officials (AASHTO). Washington, DC. 2011.

EXECUTIVE SUMMARY

OVERVIEW

The purpose of this report is to evaluate the potential traffic impacts related to the proposed industrial park development in the Town of Pembroke, NY. Within this report, the operating characteristics of the proposed access points and impacts to the adjacent roadway network are identified and mitigating measures (if needed) are provided 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.

The proposed project will be located on the northwest corner of the NY-5/NY-77 intersection in the Town of Pembroke, Genesee County, New York. The project site is bounded by Flying J Travel Center to the north, NY-77 to the east, NY-5 to the south, and forested lands to the west. Land uses in the vicinity of the proposed project generally include service, retail, light industrial, farmland, and educational.

To ensure a comprehensive analysis of potential traffic impacts, a geographically broad study area was determined consisting of the following intersections, as approved by the New York State Department of Transportation (NYSDOT) and Town of Pembroke:

- NY-77/NYS Thruway Exit 48A Ramp (signalized)
- NY-77/Flying J Truck Access (unsignalized)
- NY-77/Vision Parkway (unsignalized)
- NY/77/NY-5 (signalized)
- NY-5/Brickhouse Road (unsignalized)

The proposed project consists of constructing the following under each phase of development.

- Phase 1: 560,000 square feet (SF) of industrial park space
  - Two separate buildings of 280,000 SF each
- Phase 2: 380,000 SF of high-cube fulfillment center warehouse
  - One building consisting of 100,000 SF space and one consisting of 280,000 SF of space
- Phase 3: 560,000 SF of industrial park space
  - Two separate buildings of 280,000 SF each

The concept site plan is shown in **Figure 5**. Three new access roads are proposed. This site access plan was reviewed with the NYSDOT prior to analysis of potential traffic impacts to determine the feasibility of the number of access points and proposed locations. Based upon feedback from this early coordination, the proposed northerly access road along NY-77 was relocated approximately 200' south of the prior location to provide more spacing between the proposed location and the existing Flying J Truck Access intersection.

The remaining two access roads are located opposite the existing Vision Parkway (along NY-77) and opposite Brickhouse Road (along NY-5). The NY-5 access road is proposed as a truck-only access point while the NY-77 access road opposite Vision Parkway is proposed as the main gateway to be used by passenger vehicles (employees and visitors). The proposed northerly driveway will consist of a mix of traffic.

It is noted that no tenants have been secured at this time for any of the development spaces. Therefore, there is variability to the nature of development of each phase, such as warehouse versus higher intensity industrial park space. There is also variability between estimating vehicle trips based upon square footage of new buildings or number of employees. In many cases, similar projects may consist of a large building size but few employees occupying them on a daily basis. However, this development scenario is considered as a conservative approach for purposes in determining future transportation impacts. Prior to development of each phase, a follow-up traffic analysis will determine the actual type of uses (and possibly number of employees proposed) and related trip generation estimates.

Construction of the proposed project is planned in three phases over a duration of approximately ten years depending on market conditions. For purposes of this analysis, this report analyzed Phase 1 as a three-year build, Phase 2 as a four-year build, and Phase 3 as a three-year build.

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 municipality 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. The Town identified two projects: a warehouse distribution center for NEXgistics along Vision Parkway and Brickhouse Commons along NY-77 south of NY-5. The site trips generated by these developments were added to the study area intersections.

A review of historical New York State Department of Transportation traffic volume data on the study roadways in the vicinity of the site indicates that traffic has generally decreased between 2011 and 2019. To account for normal increases in background traffic growth, including any unforeseen developments in the study area in addition to the projects identified, and considering the projected timeframe for full build-out of the project, a growth rate of 1.0% was applied to the existing traffic volumes in the study area for each phase of development during the AM and PM peak hours.

CONCLUSIONS & RECOMMENDATIONS

This Traffic Impact Study identified and evaluated the potential traffic impacts that can be expected from the proposed Pembroke Industrial Park in the Town of Pembroke, New York. 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. Phase 1 of the proposed project is expected to generate approximately 154 entering/36 exiting vehicle trips during the AM peak hour and 41 entering/149 exiting vehicle trips during the PM peak hour based upon the ITE Trip Generation Manual. Under full development of all phases, the project is expected to generate approximately 354 entering/83 exiting vehicle trips during the AM peak hour and 106 entering/335 exiting vehicle trips during the PM peak hour.

2. Generally, all movements at the study intersections operate at level of service "C" or better during the AM and PM peak hours under existing, projected background, Phase 1, Phase 2, and Phase 3 conditions.

3. The study evaluated the available sight distances at the proposed access intersections along NY-77 and NY-5. The available sight distances along NY-77 at the proposed site driveways exceed the required SSD and desirable ISD. The available sight distances along NY-5 at the proposed site driveway exceeds the ISD and SSD to the left, but not to the right.

4. The warrants for a northbound left-turn lane were evaluated during both peak hours at the NY-77/Vision Parkway/Proposed Southerly Access intersection. The warrants were not satisfied during either peak hour under Phase 1 or Phase 2 conditions. During the AM peak hour under Phase 3, the warrant is satisfied, while the PM peak hour warrant is not satisfied.

5. Volume warrants for a right-turn lane at the proposed access intersections along NY-77 and NY-5 were evaluated under Phase 3 conditions given the volume of right-turn traffic entering the project site at that point. The evaluation showed that the warrants are satisfied during the AM peak hour at the NY-77/Vision Parkway/Proposed Southerly Access and NY-5/Brickhouse Road/Proposed Access intersections.

6. The warrant for a traffic signal was evaluated at the NY-77/Vision Parkway/Proposed Access intersection. The warrants were not satisfied.

Recommendations

7. Periodic snapshots of actual traffic operations at the proposed access intersections and adjacent study intersections are recommended as part of a Monitoring and Mitigation Plan to determine if/when the identified improvement strategies are justified prior to each phase of development.

8. Minor signal timing adjustments are recommended at the NY-77/NY-5 intersection during the AM and PM peak hours under Phase 3 conditions.

9. The northbound left-turn lane at the NY-77/Flying J Truck Access intersection should be restriped to accommodate the northbound left-turn lane at the NY-77/Proposed Northerly Access intersection. The lane should be 450 feet in length with a 75-foot taper.

10. A southbound right-turn lane should be constructed at the NY-77/Vision Parkway/Proposed Southerly Access intersection under Phase 3 conditions. The lane should be 450 feet in length with a 75-foot taper.

11. An eastbound left-turn lane should be constructed at the NY-5/Brickhouse Road/Proposed Access intersection. The lane should be 450 feet in length with a 75-foot taper. This can be accomplished via restriping and minor roadway widening.

12. A westbound right-turn lane should be constructed at the NY-5/Brickhouse Road/Proposed Access intersection under Phase 3 conditions. The lane should be 450 feet in length with a 75-foot taper.

13. Advance intersection warning signage (MUTCD W2-2L) is recommended for installation in the eastbound direction at the NY-5/Brickhouse Road/Proposed Access intersection. A supplemental speed plaque beneath the sign should be considered and posted at 35 mph. This speed is chosen as the Intersection Sight Distance and Stopping Sight Distance will be satisfied at this speed for eastbound drivers. The sign

should be installed facing eastbound drivers and at 250 to 325 feet in advance of the intersection.

14. No significant adverse traffic impacts are projected as a result of the proposed project at any of the study area intersections.

15. Based upon the expected delays under each development phase, the following traffic mitigation plan is recommended.

INTERSECTION	MITIGATION MEASURE AND IMPLEMENTATION TIMEFRAME
NY-77/NYS Thruway (Exit 48A)	**Phase 1**: No improvements recommended **Phase 2**: Monitor **Phase 3**: Monitor
NY-77/Flying J Truck Access	**Phase 1**: No improvements recommended **Phase 2**: Monitor, restripe northbound left-turn lane **Phase 3**: Monitor
NY-77/Proposed Northerly Access	**Phase 1**: No improvements recommended **Phase 2**: Install northbound left-turn lane as part of restriping at Flying J Truck Access **Phase 3**: Monitor
NY-77/Vision Parkway/Proposed Southerly Access	**Phase 1**: No improvements recommended **Phase 2**: Monitor **Phase 3**: Monitor, construct southbound right-turn lane
NY-5/NY-77	**Phase 1**: No improvements recommended **Phase 2**: Monitor **Phase 3**: Monitor, perform signal timing adjustments during the AM and PM peak hours
NY-5/Brickhouse Road/Proposed Access	**Phase 1**: Construct eastbound left-turn lane **Phase 2**: Monitor **Phase 3**: Monitor, construct westbound right-turn lane

I. INTRODUCTION

The purpose of this report is to evaluate the potential traffic impacts related to the proposed industrial park development in the Town of Pembroke, NY. Within this report, the operating characteristics of the proposed access points and impacts to the adjacent roadway network are identified and mitigating measures (if needed) are provided 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.

II. LOCATION

The proposed project will be located on the northwest corner of the NY-5/NY-77 intersection in the Town of Pembroke, Genesee County, New York. The project site is bounded by Flying J Travel Center to the north, NY-77 to the east, NY-5 to the south, and forested lands to the west. Land uses in the vicinity of the proposed project generally include service, retail, light industrial, farmland, and educational.

To ensure a comprehensive analysis of potential traffic impacts, a geographically broad study area was determined consisting of the following intersections, as approved by the New York State Department of Transportation (NYSDOT) and Town of Pembroke:

- NY-77/NYS Thruway Exit 48A Ramp (signalized)
- NY-77/Flying J Truck Access (unsignalized)
- NY-77/Vision Parkway (unsignalized)
- NY/77/NY-5 (signalized)
- NY-5/Brickhouse Road (unsignalized)

The site location and study area are illustrated in **Figure 1** (all figures are included at the end of this report).

III. EXISTING HIGHWAY SYSTEM

A. ***Vehicular Network Description***

The following information outlined in **Table I** provides a description of the existing roadway network within project study area. **Figure 2** illustrates the lane geometry 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. Where data from the NYSDOT is not available, an extrapolation of turning movement counts performed by Passero Associates shows the estimated ADTs.

Functional classification of highways within the study area is determined by the NYSDOT and the Federal Highway Administration (FHWA). Definitions of the functional classifications shown in **Table I** are provided hereafter.

Rural Principal Arterial – Interstate (Class 1)
Interstates are the highest classification of arterials and were designed and constructed with mobility and long-distance travel in mind.

Rural Principal Arterial – Other (Class 4)
These roadways serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel. They connect nearly all urbanized areas and provide an integrated network of continuous routes without stub connections.

TABLE I: EXISTING HIGHWAY SYSTEM

ROADWAY	CLASS[1]	AGENCY[2]	SPEED LIMIT[3]	TRAVEL LANES[4]	TRAVEL PATTERN/ DIRECTION	EST. AADT & SOURCE[5]
NY-77	4	NYSDOT	45	2-3	Two-way/ North-South	6,971 NYSDOT (2017)
NY-5	4	NYSDOT	45	2	Two-way/ East-West	6,336 NYSDOT (2018)
NYS Thruway Exit 48A	1	NYSDOT	45	4-5	Two-way/ East-West	9,700 Passero (2022)

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).

B. Multi-Modal Network Description

This evaluation reviewed the study area's pedestrian, bicycle, and transit infrastructure via field and aerial reconnaissance. A description of the multi-modal infrastructure is described hereafter.

Pedestrian & Bicycle Facilities
There are no sidewalks along any of the corridors nor pedestrian crossing signals at the signalized intersections.

There are no dedicated bicycle facilities; however, bicyclists are permitted to share the road on all roadways, aside from the NYS Thruway.

Transit Facilities
No public transit service is provided within the study area.

IV. EXISTING TRAFFIC CONDITIONS

A. Peak Intervals for Analysis

Given the functional characteristics of the study corridors, adjacent land uses, and the proposed land use for the project site (industrial park), 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.

B. Existing Traffic Volume Data

Turning movement traffic counts were collected by Passero Associates at the study intersections on Wednesday, September 7, 2022. Traffic counts were conducted from 6:00-9:00 AM and 4:00-7:00 PM. All turning movement count data was collected on a typical weekday while local schools were in session. No adverse weather conditions impacted the traffic counts. The traffic volumes were reviewed 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 as well as activity related to driveways located in the segments between the study intersections. **Figure 3** illustrates the weekday AM and PM peak hour volumes.

C. Field Observations

The study intersections were observed during both peak intervals to assess current traffic operations. Signal timing and phasing information was obtained by the NYSDOT to determine peak hour phasing plans and phase durations during each interval. This information was used to support and/or calibrate capacity analysis models described in detail later in this report.

V. FUTURE AREA DEVELOPMENT AND LOCAL GROWTH

Construction of the proposed project is planned in three phases over a duration of approximately ten years depending on market conditions. For purposes of this analysis, this report analyzed Phase 1 as a three-year build, Phase 2 as a four-year build, and Phase 3 as a three-year build.

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 municipality 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. The Town identified two projects: a warehouse distribution center for NEXgistics along Vision Parkway and Brickhouse Commons along NY-77 south of NY-5. The site trips generated by these developments were added to the study area intersections.

A review of historical NYSDOT traffic volume data on the study roadways in the vicinity of the site indicates that traffic has generally decreased between 2011 and 2019. To account for normal increases in background traffic growth, including any unforeseen developments in the study area in addition to the projects identified, and considering the projected timeframe for full build-out of the project, a growth rate of 1.0% was applied to the existing traffic volumes in the study area for each phase of development during the AM and PM peak hours. The Phase 1 background traffic volumes are depicted in **Figure 4**.

VI. PROPOSED DEVELOPMENT

A. Project Description

The proposed project consists of constructing the following under each phase of development.

- Phase 1: 560,000 square feet (SF) of industrial park space
  - Two separate buildings of 280,000 SF each
- Phase 2: 380,000 SF of high-cube fulfillment center warehouse
  - One building consisting of 100,000 SF space and one consisting of 280,000 SF of space
- Phase 3: 560,000 SF of industrial park space
  - Two separate buildings of 280,000 SF each

The concept site plan is shown in **Figure 5**. Three new access roads are proposed. This site access plan was reviewed with the NYSDOT prior to analysis of potential traffic impacts to determine the feasibility of the number of access points and proposed locations. Based upon feedback from this early coordination, the proposed northerly access road along NY-77 was relocated approximately 200' south of the prior location to provide more spacing between the proposed location and the existing Flying J Truck Access intersection.

The remaining two access roads are located opposite the existing Vision Parkway (along NY-77) and opposite Brickhouse Road (along NY-5). The NY-5 access road is proposed as a truck-only access point while the NY-77 access road opposite Vision Parkway is proposed as the main gateway to be used by passenger vehicles (employees and visitors). The proposed northerly driveway will consist of a mix of traffic.

It is noted that no tenants have been secured at this time for any of the development spaces. Therefore, there is variability to the nature of development of each phase, such as warehouse versus higher intensity industrial park space. There is also variability between estimating vehicle trips based upon square footage of new buildings or number of employees. In many cases, similar projects may consist of a large building size but few employees occupying them on a daily basis. However, this development scenario is considered as a conservative approach for purposes in determining future transportation impacts. Prior to development of each phase, a follow-up traffic analysis will determine the actual type of uses (and possibly number of employees proposed) and related trip generation estimates.

B. Site Generated Traffic

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 commuter AM and PM peaks, represent a more critical volume when analyzing the capacity of the system; those intervals will provide the basis of this analysis.

Table II shows the total site generated trips for the proposed project. The proposed uses may consist of a measurable portion of truck traffic versus car traffic. Therefore, the table distinguishes the vehicle mix in italics for each phase using ITE data obtained from the Trip Generation Manual. All trip generation information has been included in the Appendices.

TABLE II: SITE GENERATED TRIPS

DESCRIPTION	ITE LUC[1]	SIZE	AM PEAK HOUR		PM PEAK HOUR	
			ENTER	EXIT	ENTER	EXIT
Industrial Park	130	560,000 SF	154	36	41	149
Cars			*136*	*32*	*36*	*130*
Trucks			*18*	*4*	*5*	*19*
High-Cube Fulfillment Center Warehouse	155	380,000 SF	46	11	24	37
Cars			*42*	*10*	*22*	*34*
Trucks			*4*	*1*	*2*	*3*
Industrial Park	130	560,000 SF	154	36	41	149
Cars			*136*	*32*	*36*	*130*
Trucks			*18*	*4*	*5*	*19*
Total Site Generated Trips			**354**	**83**	**106**	**335**

Note:
1. LUC = Land Use Code.

Phase 1 of the proposed project is expected to generate approximately 154 entering/36 exiting vehicle trips during the AM peak hour and 41 entering/149 exiting vehicle trips during the PM peak hour based upon the ITE Trip Generation Manual. Under full development of all phases, the project is expected to generate approximately 354 entering/83 exiting vehicle trips during the AM peak hour and 106 entering/335 exiting vehicle trips during the PM peak hour.

C. ***Site Traffic 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 centers using U.S. Census Data
- Proximity and access to NYS Thruway
- Site access locations stratified by intended vehicle mode and phase of development
- Existing traffic patterns
- Existing traffic conditions and controls

The following figures illustrate the anticipated trip distribution pattern percentages and the projected site generated traffic based on those percentages.

Trip Distribution
Figure 6A - Phase 1 and 3 Cars
Figure 6B - Phase 2 Cars
Figure 6C - Phase 1 and 3 Trucks
Phase 6D - Phase 2 Trucks

Site Generated Trips
Figure 7A - Phase 1
Figure 7B - Phase 2
Figure 7C - Phase 3
Figure 7D - Total Site Trips

VII. FULL DEVELOPMENT VOLUMES

Proposed design hour traffic volumes for each traffic phase were developed for the AM and PM peak hours by combining the background traffic conditions (**Figure 4**) and the new site generated traffic volumes by phase (**Figures 7A-7C**) to yield the traffic volumes under each development condition.

The resulting design hour volumes for the proposed project by development phase are illustrated in **Figures 8A-8C** for Phase 1, Phase 2, and Phase 3, respectively.

VIII. CAPACITY ANALYSIS

A. 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.

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 generally desirable, but LOS “D” for signalized locations and LOS “E” for unsignalized are generally acceptable during peak periods so long as the volume to capacity ratio (v/c) is below 1.0.

The standard procedure for capacity analysis of signalized and unsignalized intersections is outlined in the Highway Capacity Manual (HCM 2016) published by the Transportation Research Board (TRB). Traffic analysis software, Synchro 11, 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.

B. 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 by phase were analyzed to assess the operation of the study area intersections. Capacity results for existing, background, and each phase of development conditions are listed in **Table III**. The discussion following the table summarizes capacity conditions.

Given potential variability of market conditions, follow-up traffic studies of actual traffic conditions are recommended prior to each development phase to verify the trip generation and distribution projections at the site driveways and evaluate study area intersection operations. These subsequent post-studies are recommended as it relates to the construction and implementation of the improvements described hereafter.

TABLE III: CAPACITY ANALYSIS RESULTS

INTERSECTION	2022 EXISTING BASE CONDITIONS		2025 BACKGROUND CONDITIONS		2025 PHASE 1 CONDITIONS		2029 PHASE 2 CONDITIONS		2032 PHASE 3 CONDITIONS		2032 PHASE 3 CONDITIONS (MITIGATION)	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. NY-77/NYS Thruway Exit 48A (S)												
EB Left - NYS Thruway	C 23.4	C 24.8	C 25.4	C 26.7	C 25.8	C 27.9	C 26.0	C 28.7	C 27.2	C 30.1		
EB Right - NYS Thruway	A 2.0	A 2.1	A 2.0	A 2.1	A 2.1	A 2.1	A 2.2	A 2.2	A 2.4	A 2.2		
NB Left - NY-77	B 10.2	B 12.0	B 12.1	B 12.9	B 12.6	B 14.4	B 13.6	B 15.4	B 15.2	B 18.0	NO MITIGATION RECOMMENDED	
NB Thru - NY-77	A 4.5	A 6.9	A 4.9	A 6.9	A 4.9	A 7.0	A 5.0	A 7.2	A 5.1	A 7.5		
SB - NY-77	B 11.5	B 12.8	B 12.4	B 13.8	B 13.2	B 14.6	B 13.3	B 15.3	B 14.4	B 16.2		
Overall LOS	**A 9.9**	**B 11.2**	**B 11.0**	**B 11.9**	**B 11.1**	**B 12.5**	**B 11.4**	**B 12.9**	**B 12.0**	**B 14.0**		
Volume-to-Capacity (v/c) Ratio	**0.52**	**0.59**	**0.56**	**0.62**	**0.58**	**0.62**	**0.60**	**0.63**	**0.63**	**0.66**		
2. NY-77/Flying J Truck Access												
EB Left - Flying J Truck Access	C 21.4	D 25.3	C 22.7	D 29.8	D 26.6	E 35.3	D 30.1	E 41.4	E 38.9	F 55.9		
EB Right - Flying J Truck Access	B 10.6	B 11.6	B 10.6	B 11.9	B 11.0	B 12.0	B 11.2	B 12.2	B 11.7	B 12.5	NO MITIGATION RECOMMENDED	
NB Left - NY-77	A 9.4	A 9.7	A 9.5	A 9.9	A 9.9	B 10.1	B 10.1	B 10.2	B 10.6	B 10.4		
3. NY-77/Proposed Northerly Dwy (U)												
EB Left - Proposed Northerly Access							C 17.0	C 21.0	C 19.2	C 24.4		
EB Right - Proposed Northerly Access	NA	NA	NA	NA	NA	NA	A 9.4	A 9.9	A 9.6	B 10.1	NO MITIGATION RECOMMENDED	
NB Left - NY-77							A 8.0	A 8.5	A 8.3	A 8.6		
4. NY-77/Vision Parkway/Proposed Southerly Access (U)												
EB Left - Proposed Southerly Access	NA	NA	NA	NA	C 17.8	C 22.6	C 18.7	C 24.3	C 22.8	E 38.0	C 21.0	E 36.6
EB Thru/Right - Proposed Southerly Access					A 9.3	A 9.9	A 9.3	A 9.9	A 9.6	B 10.2	A 9.2	B 10.1
WB - Vision Parkway	B 10.4	A 9.8	B 10.8	B 10.7	B 11.0	B 11.0	B 11.2	B 11.2	B 11.5	B 11.6	B 11.5	B 11.6
NB Left - NY-77	NA	NA	NA	NA	A 8.0	A 8.4	A 8.0	A 8.4	A 8.3	A 8.6	A 8.3	A 8.6
SB Left - NY-77	A 8.0	A 0.0	A 8.1	A 7.9	A 8.1	A 8.0	A 8.2	A 8.0	A 8.2	A 8.1	A 8.2	A 8.1

TABLE III: CAPACITY ANALYSIS RESULTS

INTERSECTION	2022 EXISTING BASE CONDITIONS		2025 BACKGROUND CONDITIONS		2025 PHASE 1 CONDITIONS		2029 PHASE 2 CONDITIONS		2032 PHASE 3 CONDITIONS		2032 PHASE 3 CONDITIONS (MITIGATION)	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
5. NY-5/NY-77 (S)												
EB Left - NY-5	B 16.4	B 15.2	B 17.1	B 16.3	B 18.8	B 18.1	B 19.8	B 18.8	C 24.5	C 21.7	C 23.8	B 19.8
EB Thru/Right - NY-5	B 14.6	B 15.9	B 15.2	B 17.4	B 16.3	B 18.5	B 17.3	B 19.8	B 19.3	C 22.9	B 18.8	C 20.5
WB Left - NY-5	B 17.7	B 14.1	B 18.5	B 15.5	B 19.5	B 16.2	C 21.1	B 17.2	C 24.8	B 19.0	C 24.1	B 17.2
WB Thru/Right - NY-5	B 14.0	B 13.9	B 14.6	B 14.9	B 16.3	B 15.2	B 17.4	B 15.7	C 20.4	B 16.6	B 19.8	B 15.1
NB Left - NY-77	B 11.6	B 10.1	B 12.0	B 11.1	B 13.5	B 12.5	B 14.4	B 13.4	B 17.3	B 14.9	B 17.7	B 16.6
NB Thru/Right - NY-77	B 13.2	B 10.2	B 13.8	B 11.0	B 14.0	B 11.8	B 14.5	B 12.3	B 14.8	B 12.8	B 15.1	B 14.1
SB Left - NY-77	B 10.7	B 10.3	B 11.2	B 10.6	B 11.5	B 11.6	B 11.7	B 12.2	B 11.9	B 12.6	B 12.2	B 13.9
SB Thru/Right - NY-77	B 13.3	B 12.8	B 13.8	B 13.9	B 14.9	B 15.2	B 15.1	B 15.9	B 16.2	B 17.1	B 16.5	B 19.0
Overall LOS	**B 14.1**	**B 13.1**	**B 14.7**	**B 14.1**	**B 15.7**	**B 15.2**	**B 16.4**	**B 16.0**	**B 18.3**	**B 17.7**	**B 18.3**	**B 17.6**
Volume-to-Capacity (v/c) Ratio	**0.51**	**0.55**	**0.53**	**0.59**	**0.55**	**0.60**	**0.56**	**0.62**	**0.60**	**0.70**	**0.60**	**0.67**
6. NY-5/Brickhouse Road/Proposed Access (U)												
EB Left - NY-5	NA	NA	NA	NA	A 8.1	A 8.1	A 8.2	A 8.1	A 8.5	A 8.2	A 8.5	A 8.2
WB Left - NY-5	A 8.1	A 7.9	A 8.2	A 8.0	A 8.2	A 8.0	A 8.2	A 8.0	A 8.2	A 8.0	A 8.2	A 8.0
NB Left - Brickhouse Road	C 16.5	B 14.0	C 16.9	B 14.7	C 21.5	C 17.5	C 23.2	C 18.6	D 28.6	C 20.9	D 28.6	C 20.9
NB Thru/Right - Brickhouse Road	NA	NA	NA	NA	B 11.8	B 10.3	B 12.0	B 10.4	B 12.1	B 10.5	B 12.1	B 10.5
NB Right - Brickhouse Road	B 11.7	B 10.1	B 11.8	B 10.3	NA	NA	NA	NA	NA	NA	NA	NA
SB Left - Proposed Access	NA	NA	NA	NA	C 18.5	C 21.3	C 19.7	C 23.7	D 25.5	E 36.1	D 22.9	D 34.2
SB Thru/Right - Proposed Access					B 10.0	B 10.7	B 10.1	B 10.9	B 10.5	B 11.3	B 10.0	B 11.2

Notes:

1. A (0.0) = Level of Service (Delay in seconds per vehicle)
2. EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound
3. (S) = Signalized; (U) = Unsignalized
4. N/A = Approach does not exist and/or was not analyzed during this condition
5. Green shaded cells indicate low delays, yellow shaded cells indicate moderate delays, red shaded cells indicate long delays.
6. 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. A v/c ratio between 0.85 and 0.95 generally indicates an intersection is nearing capacity. Intersections with a v/c ratio of 1.0 or greater generally indicate conditions at or above capacity.

1. NY-77/NYS Thruway (Exit 48A)

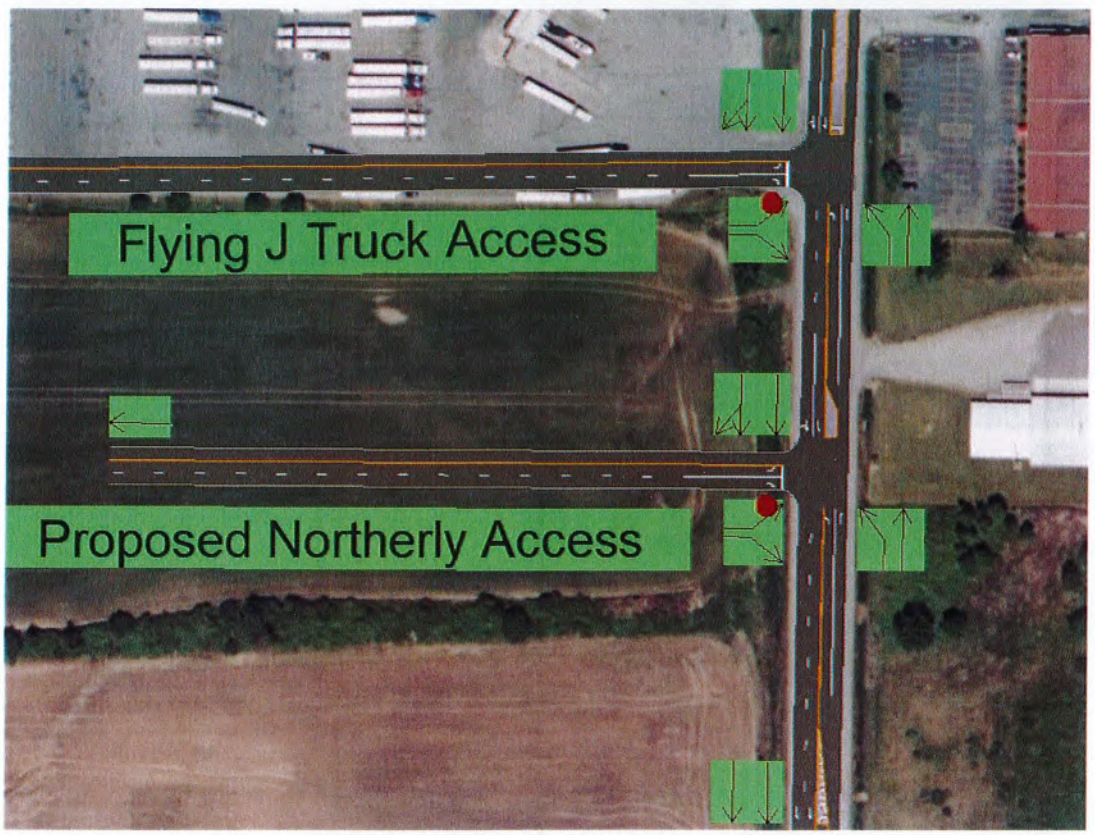
All movements generally operate at LOS "C" or better under all conditions during both peak hours. There is no change in LOS based upon the projected impacts associated with the proposed project. The intersection can accommodate the projected new traffic volumes; thus, no capacity improvements are warranted nor recommended.

2. NY-77/Flying J Truck Access

All movements generally operate at LOS "D" or better under existing and projected background conditions during both peak hours. Between background and Phase 1 conditions, the eastbound left approach changes from LOS "D" to "E" during the PM peak hour. However, the change is borderline as the threshold is 35.0 seconds of delay per vehicle between LOS "D" and "E" and the projected increase in delay is less than six seconds of delay per vehicle. Between Phase 1 and Phase 3 conditions, the eastbound left movement changes from LOS "E" to "F". There are 45 projected left-turn movements under Phase 3, which equates to one vehicle every 1.3 minutes. Despite this change, no capacity improvements are recommended at this time. This intersection should be studied prior to Phase 3 to reassess the projected conditions.

3. NY-77/Proposed Northerly Access

All movements generally operate at LOS "C" or better under projected Phase 2 and Phase 3 conditions during both peak hours. No capacity improvements are recommended. The northbound left-turn lane should be restriped between this intersection and the Flying J Truck Access intersection to accommodate the new movements.



Proposed geometry at Flying J and Proposed Northerly Access intersections

4. NY-77/Vision Parkway/Proposed Southerly Access

All movements generally operate at LOS "C" or better under existing, projected background, Phase 1, and Phase 2 conditions during both peak hours. Between Phase 2 and Phase 3 conditions, the eastbound left movement during the PM peak hour changes from LOS "C" to "E". This level of service is characteristic of stop-controlled approaches at unsignalized intersections along arterials with high-volume movements, such as the exiting eastbound left movement. Based upon the signal warrant investigation, a traffic signal is not warranted. Under Phase 3, proposed mitigation consists of installing a southbound right-turn lane based upon the projected right-turn traffic volumes during the AM peak hour. No additional capacity improvements are recommended.

5. NY-77/NY-5

All movements generally operate at LOS "B" or better under existing, projected background, and Phase 1 conditions during both peak hours. Between Phase 1 and Phase 2, the westbound left movement changes from LOS "B" to "C" during the AM peak hour. However, this change is borderline as the threshold is 20.0 seconds per vehicle. Between Phase 2 and Phase 3, the eastbound left (AM and PM), eastbound thru/right (PM), and westbound thru/right (AM) movements change from LOS "B" to "C". Signal timing modifications are recommended to increase the green time given to the eastbound and westbound approaches. These signal timing changes may be implemented automatically by the existing controller since the signal is fully actuated. No other capacity improvements are recommended.

6. NY-5/Brickhouse Road/Proposed Access

All movements generally operate at LOS "C" or better under existing, projected background, Phase 1, and Phase 2 conditions during both peak hours. With construction of Phase 1, a westbound left-turn lane should be constructed to facilitate the new movements onto the site. The westbound left-turn lane should be 450 feet in length, including a 75-foot taper.
Between Phase 2 and Phase 3, the northbound left and southbound left movements change from LOS "C" to "D" during the AM peak hour. The southbound left movement during the PM peak hour changes from LOS "C" to "E" during the PM peak hour between Phase 2 and Phase 3 conditions.

Under Phase 3, proposed mitigation consists of installing a westbound right-turn lane based upon the projected right-turn traffic volumes during the AM peak hour. No additional capacity improvements are recommended.

IX. AUXILIARY LANE WARRANT INVESTIGATION

Volume warrants for left turn treatments at the NY-77/Vision Parkway/Proposed Southerly Access intersection were investigated using NCHRP Report 279: Intersection Channelization Design Guide (1985) published by the Transportation Research Board (TRB). 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 analyzes warrants during the peak hours of study. All supporting calculations are included in the Appendices.

Given that the NY-77/Proposed Northerly Access intersection has an existing northbound left-turn lane as part of the Flying J Truck Access, no analysis was performed. The NY-5/Brickhouse Road/Proposed Access intersection will be required to construct an eastbound left-turn lane given the existing westbound left-turn lane at the same intersection; thus, no analysis was performed. This is shown in **Figure 9.**

The warrants are based, in part, on the design speed for a given section of roadway. Generally, the design speed is the posted speed limit plus 5 MPH. In this case, the posted speed limit is 45 MPH along NY-77 and NY-5.

The warrants are summarized in **Table IV** and consider the combination of traffic volumes at each development phase and the design speed for the subject roadways.

TABLE IV: LEFT TURN WARRANT ANALYSIS

INTERSECTION	TRAFFIC PHASE	APPROACH	WARRANT SATISFIED
NY-77/Proposed Southerly Driveway	1	Northbound	NO (NO)
	2	Northbound	NO (NO)
	3	Northbound	YES (NO)

Note:
1. AM (PM) peak hours

The warrants are not satisfied during either peak hour under Phase 1 or Phase 2 conditions. During the AM peak hour under Phase 3, the warrant is satisfied, while the PM peak hour warrant is not satisfied.

Consideration should be given to installing a northbound left-turn lane under Phase 3. However, a future traffic analysis at the driveway prior to Phase 3 will determine its justification based upon updated trip generation estimates.

Volume warrants for a right-turn lane at the proposed access intersections along NY-77 and NY-5 were evaluated under Phase 3 conditions given the volume of right-turn traffic entering the project site at that point. The evaluation showed that the warrants are satisfied during the AM peak hour at the NY-77/Vision Parkway/Proposed Access and NY-5/Brickhouse Road/Proposed Access intersections. Right-turn lanes should be installed at both locations under Phase 3 development and be 450 feet in length, including a 75-foot taper.

X. SIGHT DISTANCE EVALUATION

Sight distance was investigated at the proposed site access locations along NY-77 and NY-5. Sight distance is provided at intersections to allow drivers to perceive the presence of potentially conflicting vehicles. This should occur in sufficient time for a motorist to stop or adjust their speed, as appropriate, to avoid a collision at the intersection.

Sight distance is also provided at intersections to allow the drivers of stopped vehicles a sufficient view of the intersecting highway to anticipate and avoid potential incidents. If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate Stopping Sight Distance (SSD) for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions. To enhance traffic operations, Intersection Sight Distances (ISD) that exceed SSD are desirable along the major road.

A Policy on Geometric Design of Highways and Streets published by the American Association of State Highway and Transportation Officials (AASHTO) in 2011 was used as a reference to establish the required SSD and desirable ISD.

The required SSD and desirable ISD for a left turn from a stop are based on the design speed (posted plus 5 MPH) for a given section of roadway. **Table V** depicts the results.

TABLE V: SIGHT DISTANCE REQUIREMENT AND MEASUREMENTS

INTERSECTION	POSTED SPEED	DESIGN SPEED	REQUIRED SSD	DESIRABLE ISD	AVAILABLE SIGHT DISTANCE TO THE:	
					LEFT	RIGHT
NY-77/Proposed Northerly Driveway	45	50	425	555	ISD: >555 SSD: >425	ISD: >555 SSD: >425
NY-77/Proposed Southerly Driveway	45	50	425	555	ISD: >555 SSD: >425	ISD: >555 SSD: >425
NY-5/Proposed Driveway	45	50	425	555	ISD: >555 SSD: >425	ISD: <555 SSD: <425

Notes:
1. Speeds are in miles per hour (MPH).
2. Distances are in feet.

The available sight distances along NY-77 at the proposed site driveways exceed the required SSD and desirable ISD. Any landscaping should be maintained to ensure maximum visibility at the site driveways.

Intersection Warning Sign

The available sight distances along NY-5 at the proposed site driveway exceeds the ISD and SSD to the left, but not to the right. Given this condition, advance intersection warning signage (MUTCD W2-2L) is recommended for installation in the eastbound direction. A supplemental speed plaque beneath the sign should be considered and posted at 35 mph. This speed is chosen as the ISD and SSD will be satisfied at this speed for eastbound drivers. The sign should be installed facing eastbound drivers and at 250 to 325 feet in advance of the intersection.

XI. TRAFFIC SIGNAL WARRANT INVESTIGATION

This study performed a traffic signal warrant analysis at the proposed NY-77/Vision Parkway/Proposed Southerly Driveway intersection. The need for a traffic signal is determined by comprehensive investigation of existing traffic conditions and physical characteristics at the location. The Standard Specifications Update for the adoption of the National MUTCD (FHWA) and the New York State Supplement were reviewed to investigate the need for a traffic control signal at this location. There are nine (9) warrants, and they are as follows:

- Warrant 1 Eight-Hour Vehicular Volume
- Warrant 2 Four-Hour Vehicular Volume
- Warrant 3 Peak Hour Vehicular Volume
- Warrant 4 Pedestrian Volume
- Warrant 5 School Crossing
- Warrant 6 Coordinated Signal System
- Warrant 7 Crash Experience

- Warrant 8 Roadway Network
- Warrant 9 Intersection Near a Grade Crossing

Prior to applying warrants, the MUTCD suggests consideration of the effects of right-turn volumes on the minor street approach, and a reduction taken in the number of right turning vehicles, where appropriate. A certain number of right-turn vehicles will execute a right-turn on the red (RTOR) indication without actuating a traffic signal (if one were in place). For purposes of this analysis, it is assumed that 20% of the right-turning vehicles exiting the proposed driveway would execute a RTOR and should be subtracted for the warrant analysis. The ITE was used to project the hourly distribution of traffic exiting the proposed access. The posted speed limit on NY-77 is 45 MPH, thus 70% thresholds in Table 4C-1, Figure 4C-2, and Figure 4C-4 are used as a basis for analysis.

1. Warrant 1 is subdivided into Condition A and Condition B. The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal. The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street. These conditions are satisfied when, for each of any eight hours of an average day, anticipated volumes on the artery and side road are more than the minimum values presented in Tables 4C-1 in the MUTCD. **Under Phase 1, Conditions A (0 hours) and B (0 hours) are not met. Under Phase 1, Conditions A (0 hours) and B (1 hour) are not met.**

2. Warrant 2, the Four-Hour Vehicular Volume signal warrant conditions, are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. This warrant stipulates that for any four hours of a day, minimum threshold volumes are met on the artery and side road. **Under Phase 1, the warrant is not met (0/4 hours). Under Phase 3, the warrant is not met (1/4 hours).**

3. Warrant 3 is intended for application where minor street traffic suffers undue delay in entering or crossing the major street for one hour of the day. It stipulates that the warrant shall be applied in unusual cases (high-occupancy vehicle facilities – i.e., shopping centers, office parks) where a large number of vehicles discharge over a short period of time. **Under Phase 1, the warrant is not met (0/1 hour). Under Phase 3, the warrant is met (1/1 hour).**

4. Warrant 4 is met when pedestrians experience excessive delay in crossing the major street because the traffic volumes are so heavy. The intersection currently has low pedestrian activity and is not likely to increase significantly under future development phases. **This warrant is not met.**

5. Warrant 5 is met when a sufficient number of gaps in traffic do not exist for certain size and frequency of school children to cross the major roadway. **This warrant is not met.**

6. Warrant 6 is met when a traffic signal is needed to maintain progressive movement and vehicle platooning in a coordinated signal system. The intersection would not likely be coordinated with adjacent signals, if warranted. **Therefore, this warrant is not met.**

7. Warrant 7 is intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal. The need for a traffic control signal shall be considered if *all* of the following criteria are met:

    a. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce crash frequency.

    b. Five (5) or more reported crashes, of types susceptible to correction by a traffic signal, to have occurred within a 12-month period, each crash involving a personal injury or property damage.

    This warrant was not met.

8. Warrant 8 is met when a traffic signal might encourage concentration and organization of traffic flow on a roadway network. This warrant primarily focuses on two major intersecting roadways, which is not the case at the study intersection. **This warrant is not met.**

9. Warrant 9 is applicable when an intersection is located near an at-grade rail crossing. **This warrant is not met.**

TABLE VI: TRAFFIC SIGNAL WARRANT SUMMARY

WARRANT	SATISFACTION OF WARRANTS	
	PHASE 1	PHASE 3
1A – Eight-Hour Condition A	NO (0/8 hours)	NO (0/8 hours)
1B – Eight-Hour Condition B	NO (0/8 hours)	NO (1/8 hours)
2 – Four-Hour	NO (0/4 hours)	NO (1/4 hours)
3 – Peak-Hour	NO (0/1 hour)	YES (1/1 hour)
4 – Pedestrian Volume	NO	NO
5 – School Crossing	NO	NO
6 – Coordinated Signal System	NO	NO
7 – Crash Experience	NO	NO
8 – Roadway Network	NO	NO
9 – Intersection Near a Grade Crossing	NO	NO

Table VI summarizes the signal warrant findings at the study intersection under Phase 1 and Phase 3. Based upon the results, a traffic signal is not warranted under either development phase.

XII. CONCLUSIONS & RECOMMENDATIONS

This Traffic Impact Study identified and evaluated the potential traffic impacts that can be expected from the proposed Pembroke Industrial Park in the Town of Pembroke, New York. 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. Phase 1 of the proposed project is expected to generate approximately 154 entering/36 exiting vehicle trips during the AM peak hour and 41 entering/149 exiting vehicle trips during the PM peak hour based upon the ITE Trip Generation Manual. Under full development of all phases, the project is expected to generate approximately 354 entering/83 exiting vehicle trips during the AM peak hour and 106 entering/335 exiting vehicle trips during the PM peak hour.

2. Generally, all movements at the study intersections operate at level of service "C" or better during the AM and PM peak hours under existing, projected background, Phase 1, Phase 2, and Phase 3 conditions.

3. The study evaluated the available sight distances at the proposed access intersections along NY-77 and NY-5. The available sight distances along NY-77 at the proposed site driveways exceed the required SSD and desirable ISD. The available sight distances along NY-5 at the proposed site driveway exceeds the ISD and SSD to the left, but not to the right.

4. The warrants for a northbound left-turn lane were evaluated during both peak hours at the NY-77/Vision Parkway/Proposed Southerly Access intersection. The warrants were not satisfied during either peak hour under Phase 1 or Phase 2 conditions. During the AM peak hour under Phase 3, the warrant is satisfied, while the PM peak hour warrant is not satisfied.

5. Volume warrants for a right-turn lane at the proposed access intersections along NY-77 and NY-5 were evaluated under Phase 3 conditions given the volume of right-turn traffic entering the project site at that point. The evaluation showed that the warrants are satisfied during the AM peak hour at the NY-77/Vision Parkway/Proposed Southerly Access and NY-5/Brickhouse Road/Proposed Access intersections.

6. The warrant for a traffic signal was evaluated at the NY-77/Vision Parkway/Proposed Access intersection. The warrants were not satisfied.

Recommendations

7. Periodic snapshots of actual traffic operations at the proposed access intersections and adjacent study intersections are recommended as part of a Monitoring and Mitigation Plan to determine if/when the identified improvement strategies are justified prior to each phase of development.

8. Minor signal timing adjustments are recommended at the NY-77/NY-5 intersection during the AM and PM peak hours under Phase 3 conditions.
9. The northbound left-turn lane at the NY-77/Flying J Truck Access intersection should be restriped to accommodate the northbound left-turn lane at the NY-77/Proposed Northerly Access intersection. The lane should be 450 feet in length with a 75-foot taper.

10. A southbound right-turn lane should be constructed at the NY-77/Vision Parkway/Proposed Southerly Access intersection under Phase 3 conditions. The lane should be 450 feet in length with a 75-foot taper.

11. An eastbound left-turn lane should be constructed at the NY-5/Brickhouse Road/Proposed Access intersection. The lane should be 450 feet in length with a 75-foot taper. This can be accomplished via restriping and minor roadway widening.

12. A westbound right-turn lane should be constructed at the NY-5/Brickhouse Road/Proposed Access intersection under Phase 3 conditions. The lane should be 450 feet in length with a 75-foot taper.

13. Advance intersection warning signage (MUTCD W2-2L) is recommended for installation in the eastbound direction at the NY-5/Brickhouse Road/Proposed Access intersection. A supplemental speed plaque beneath the sign should be considered and posted at 35 mph. This speed is chosen as the Intersection Sight Distance and Stopping Sight Distance will be satisfied at this speed for eastbound drivers. The sign should be installed facing eastbound drivers and at 250 to 325 feet in advance of the intersection.

14. No significant adverse traffic impacts are projected as a result of the proposed project at any of the study area intersections.

15. Based upon the expected delays under each development phase, the following traffic mitigation plan is recommended.

INTERSECTION	MITIGATION MEASURE AND IMPLEMENTATION TIMEFRAME
NY-77/NYS Thruway (Exit 48A)	**Phase 1**: No improvements recommended **Phase 2**: Monitor **Phase 3**: Monitor
NY-77/Flying J Truck Access	**Phase 1**: No improvements recommended **Phase 2**: Monitor, restripe northbound left-turn lane **Phase 3**: Monitor
NY-77/Proposed Northerly Access	**Phase 1**: No improvements recommended **Phase 2**: Install northbound left-turn lane as part of restriping at Flying J Truck Access **Phase 3**: Monitor
NY-77/Vision Parkway/Proposed Southerly Access	**Phase 1**: No improvements recommended **Phase 2**: Monitor **Phase 3**: Monitor, construct southbound right-turn lane
NY-5/NY-77	**Phase 1**: No improvements recommended **Phase 2**: Monitor **Phase 3**: Monitor, perform signal timing adjustments during the AM and PM peak hours
NY-5/Brickhouse Road/Proposed Access	**Phase 1**: Construct eastbound left-turn lane **Phase 2**: Monitor **Phase 3**: Monitor, construct westbound right-turn lane

XIII. FIGURES

Figures 1 through 9 are included on the following pages.

FIGURE 1: SITE LOCATION AND STUDY AREA

Key

- Study Intersection
- Proposed Intersection
- Study/Proposed Intersection
- Study Area
- Site Location

PROPOSED PEMBROKE INDUSTRIAL PARK

TOWN OF PEMBROKE, GENESEE COUNTY, NEW YORK

N

0 800 1600

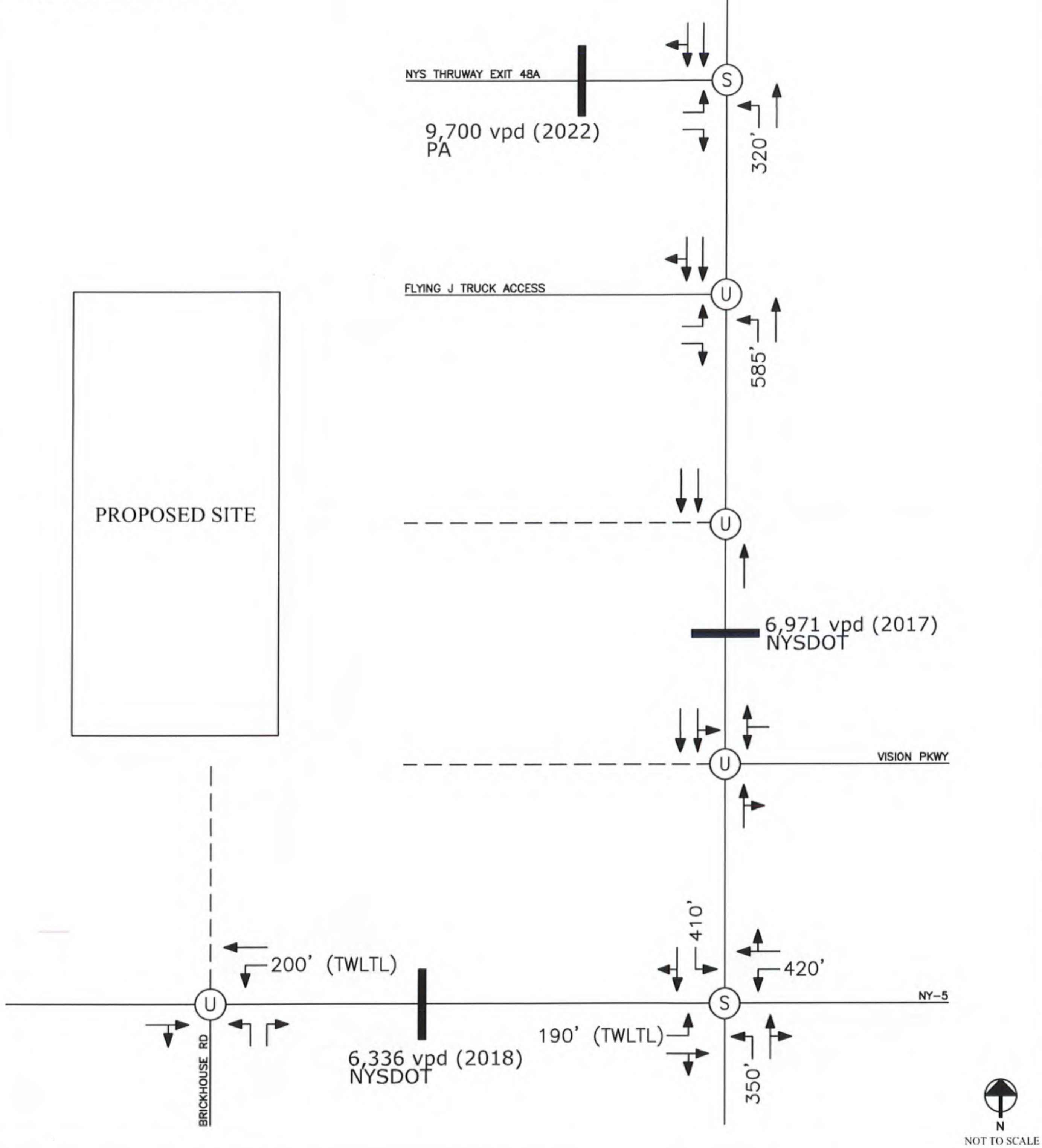
FEET

SRF ASSOCIATES

PA

Project No: 42072

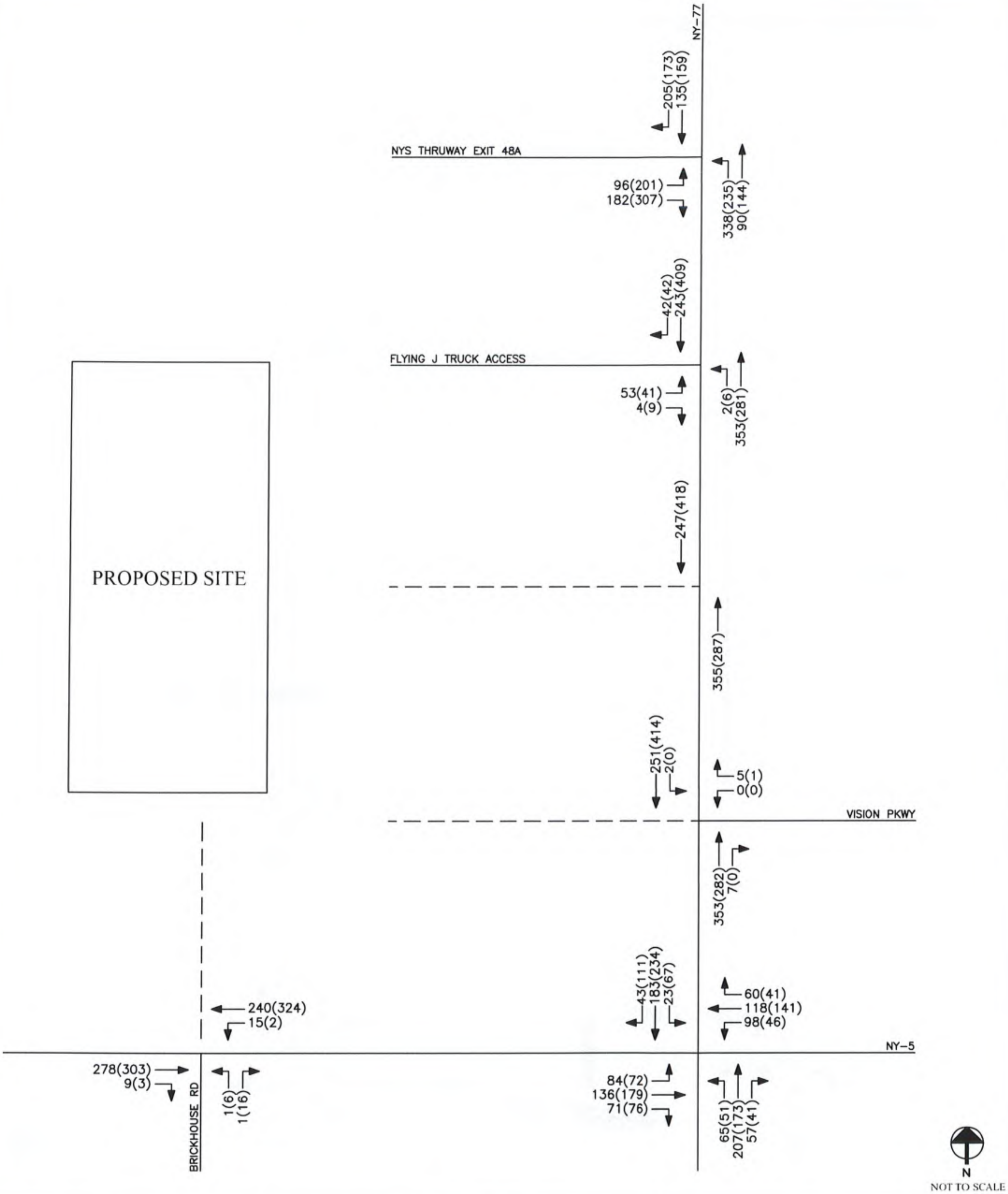
Notes:
1. All AADT volumes by those noted:
   1.1. NYSDOT = New York State Department of Transportation
   1.2. PA = Passero Associates
2. vpd = Vehicles per Day
3. Turn lane lengths shown, including taper



KEY	FIGURE 2
----- PROPOSED DWY	LANE GEOMETRY & AVERAGE DAILY TRAFFIC
TRAFFIC CONTROL U = Unsignalized S = Signalized	PROPOSED PEMBROKE INDUSTRIAL PARK TOWN OF PEMBROKE, NY
PROJECT NO: 42072	

SRF ASSOCIATES

PA



KEY

----- PROPOSED DWY

00(00) = AM(PM)

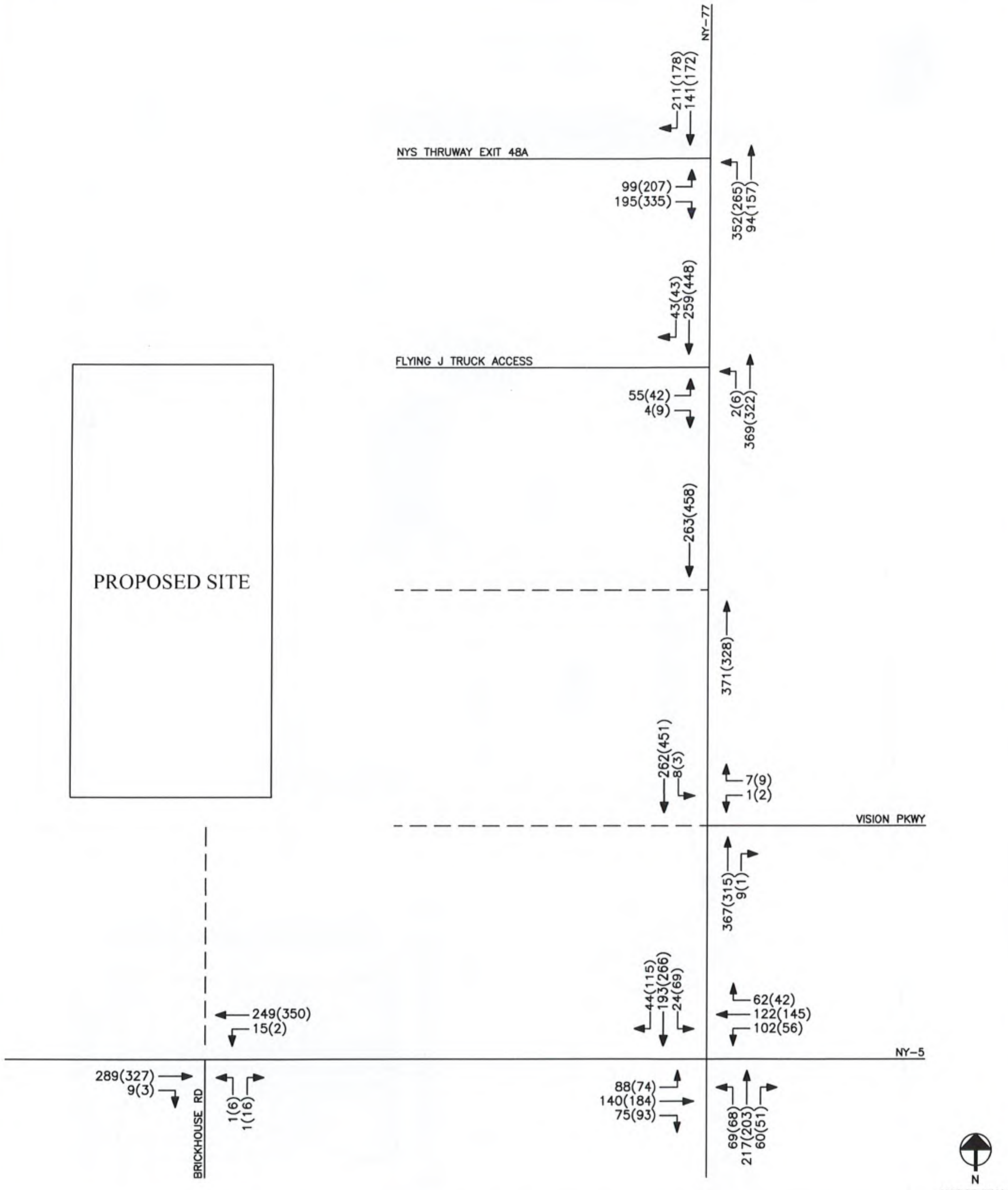
FIGURE 3

PEAK HOUR VOLUMES
2022 EXISTING CONDITIONS

PROPOSED
PEMBROKE INDUSTRIAL PARK
TOWN OF PEMBROKE, NY

SRF ASSOCIATES

PROJECT NO: 20224272.0001



KEY

----- PROPOSED DWY
00(00) = AM(PM)

FIGURE 4

PEAK HOUR VOLUMES
2025 BACKGROUND CONDITIONS

PROPOSED
PEMBROKE INDUSTRIAL PARK
TOWN OF PEMBROKE, NY

PROJECT NO: 20224272.0001

SRF ASSOCIATES

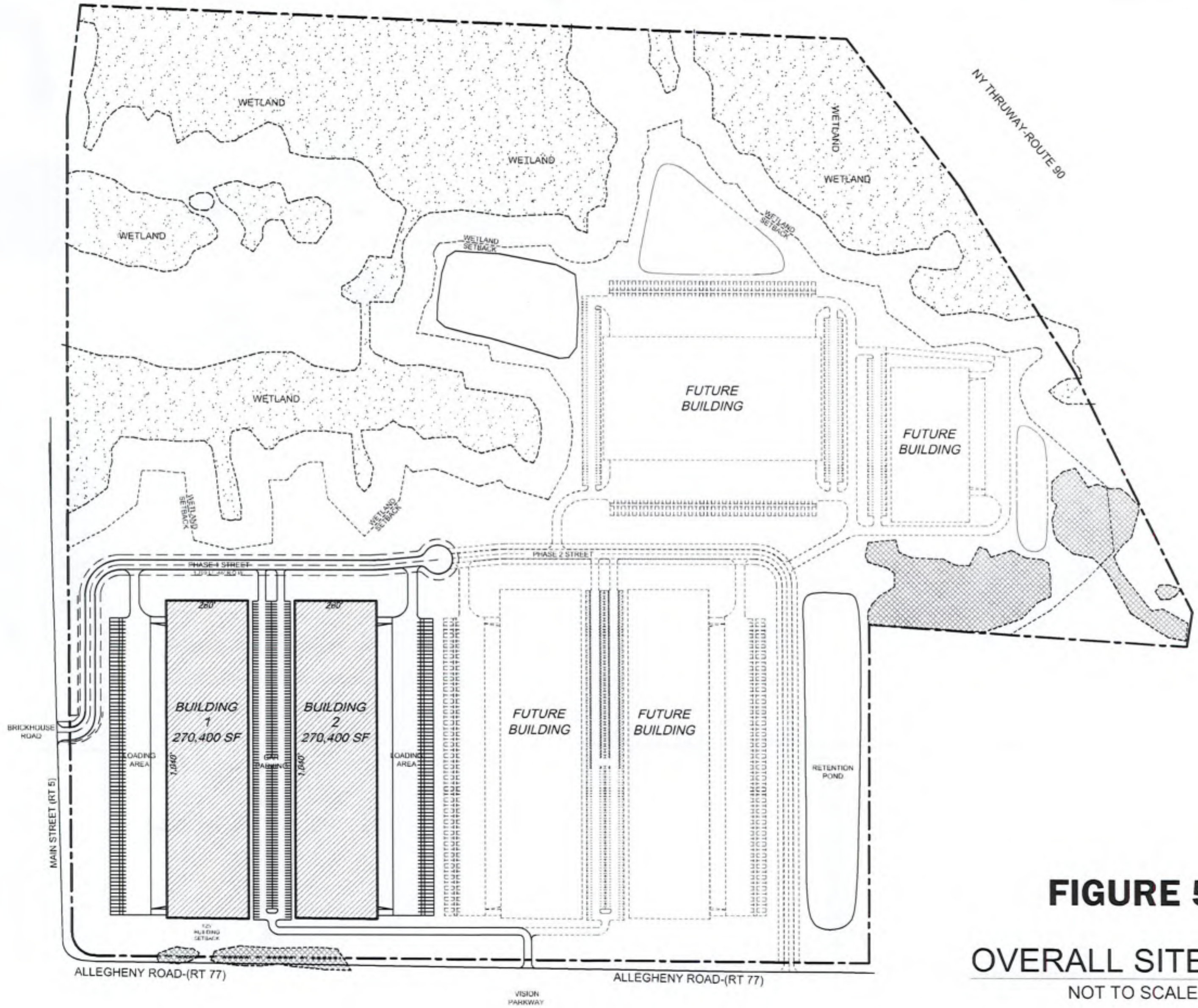


FIGURE 5

OVERALL SITE PLAN

NOT TO SCALE

GEIS COMPANIES

DATES AND REVISIONS

21 OCTOBER 2022

NOTICE

Distribution Center 90

Site Study

Pembroke, New York

Drawn By

Checked By

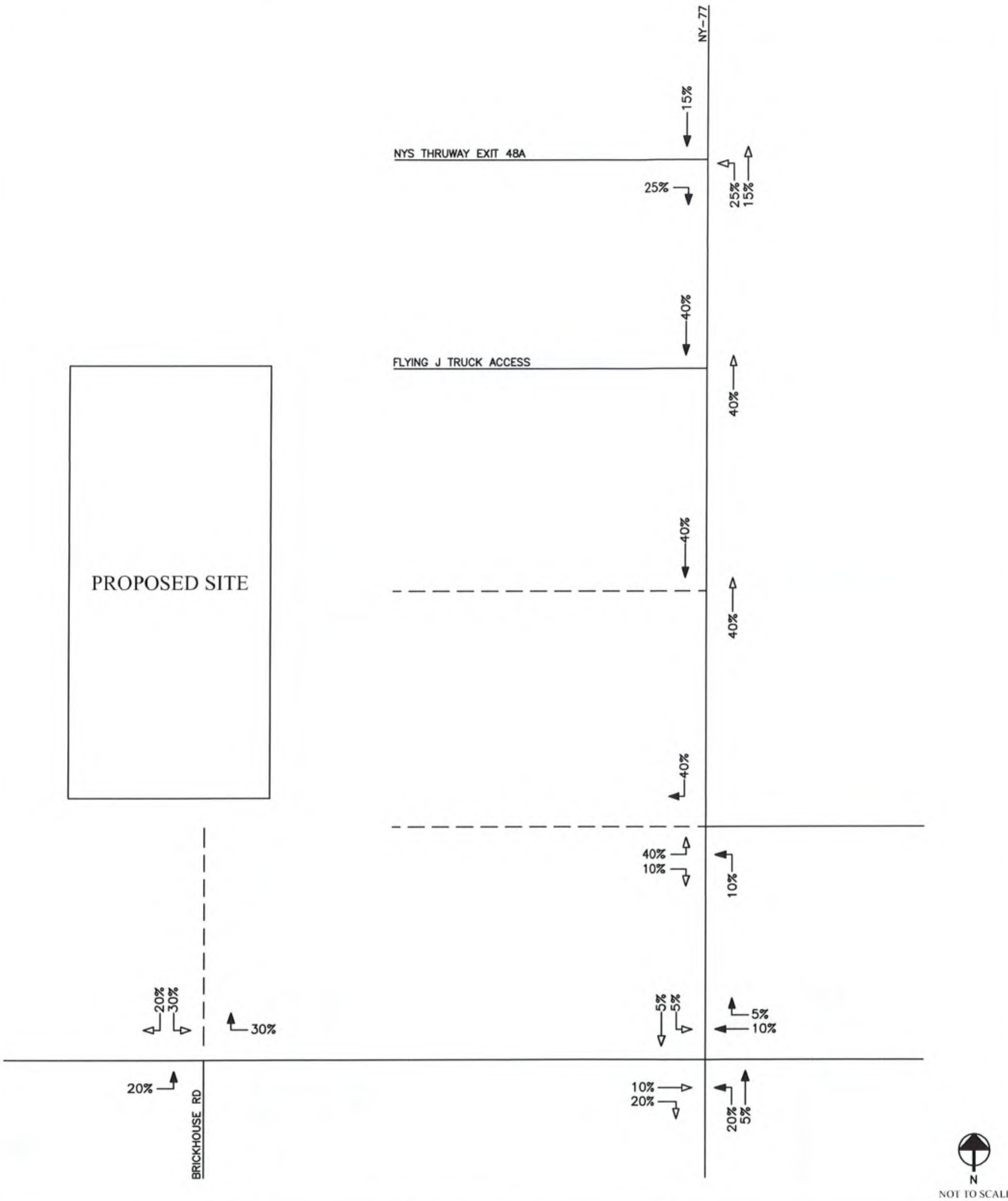
Project Number

NORTH

SITE PLAN

DRAWING NO

A.1.1 overall



KEY

----- PROPOSED DWY
00(00) = AM(PM)
ENTERING TRIPS ⟶
EXITING TRIPS ⟶

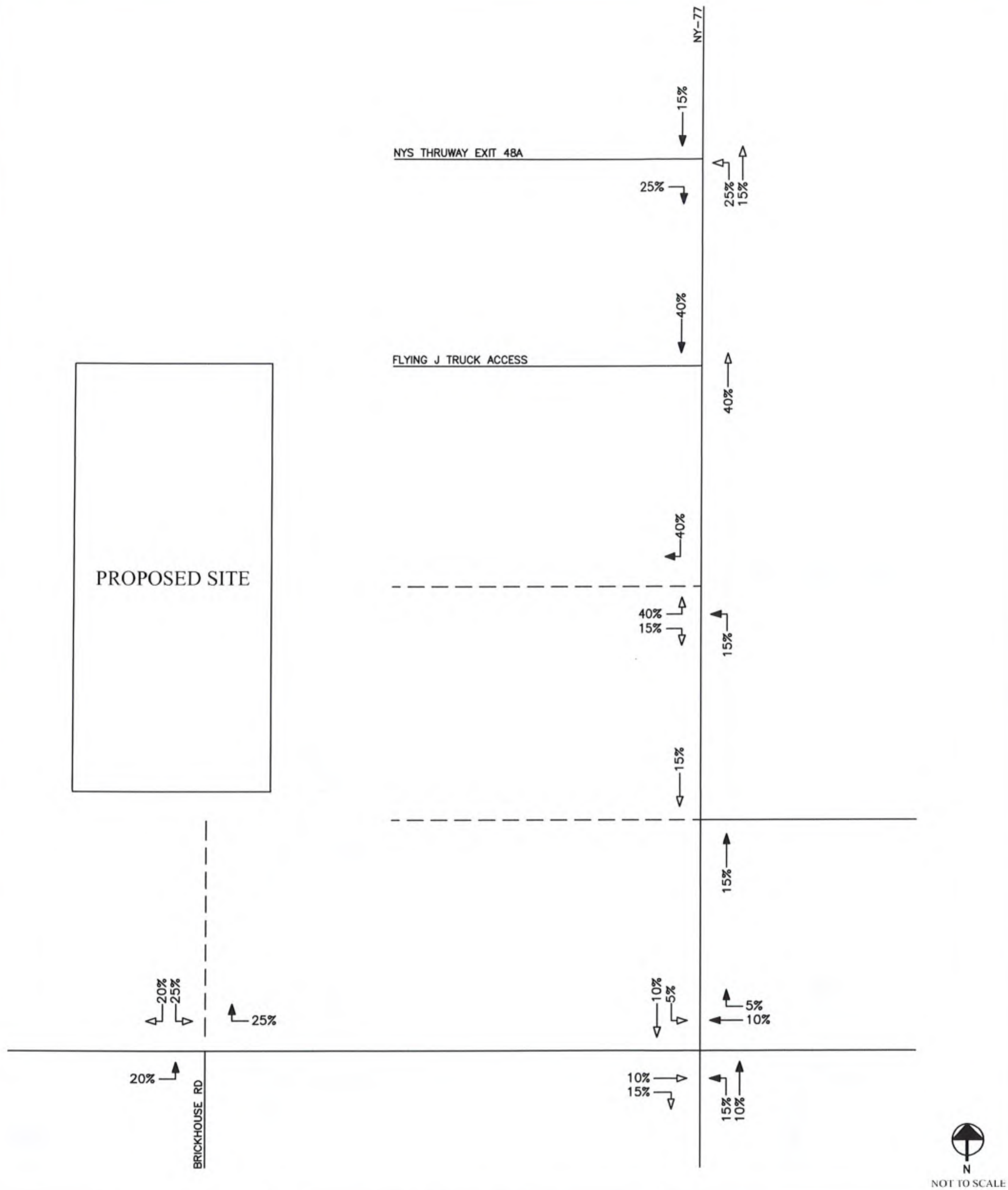
PROJECT NO: 20224272.0001

FIGURE 6A

TRIP DISTRIBUTION
PHASE 1 AND 3 CARS

PROPOSED
PEMBROKE INDUSTRIAL PARK
TOWN OF PEMBROKE, NY

SRF ASSOCIATES



KEY

----- PROPOSED DWY
00(00) = AM(PM)
ENTERING TRIPS
EXITING TRIPS

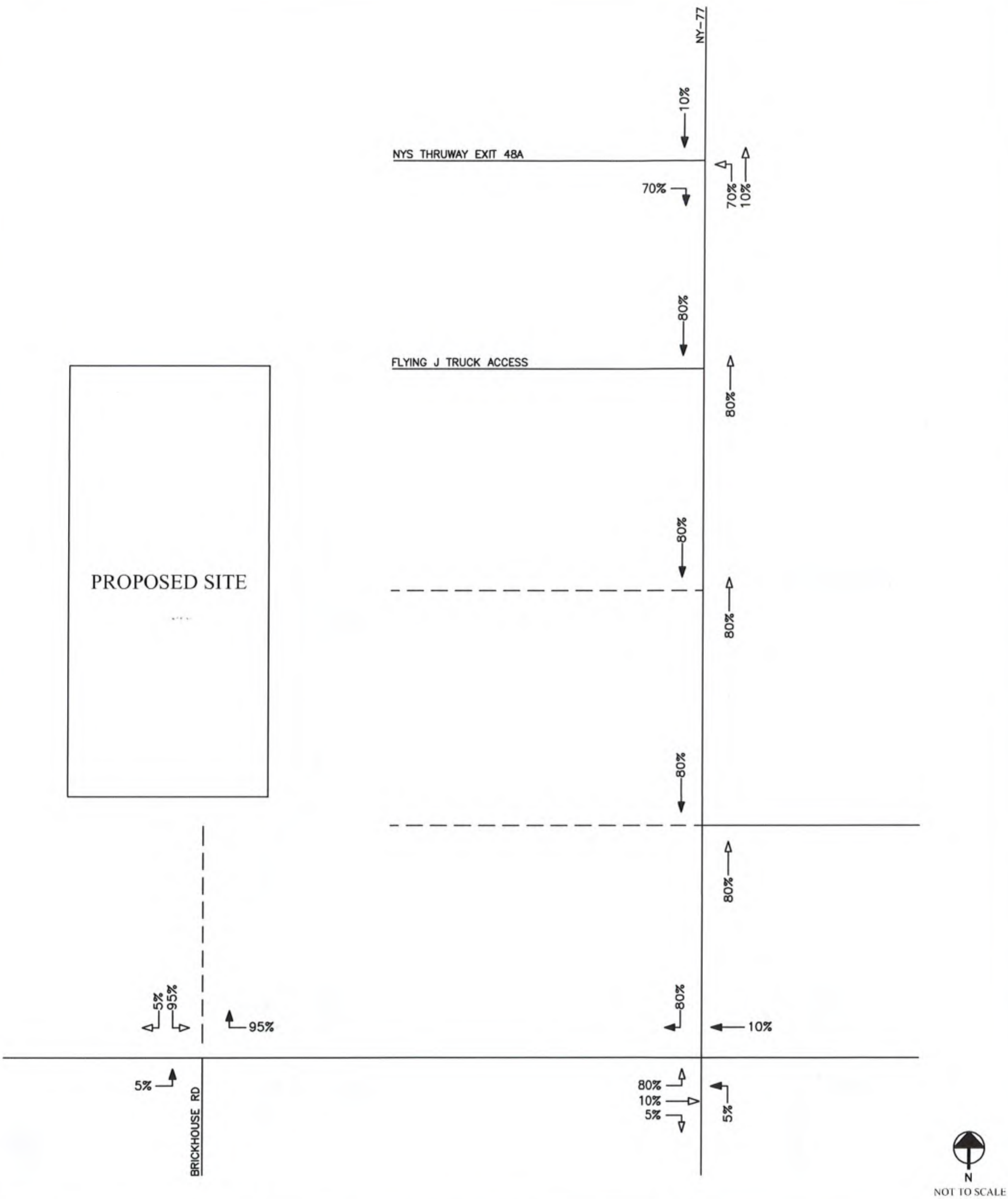
PROJECT NO: 20224272.0001

FIGURE 6B

TRIP DISTRIBUTION
PHASE 2 CARS

PROPOSED
PEMBROKE INDUSTRIAL PARK
TOWN OF PEMBROKE, NY

SRF ASSOCIATES



KEY

----- PROPOSED DWY
00(00) = AM(PM)
ENTERING TRIPS
EXITING TRIPS

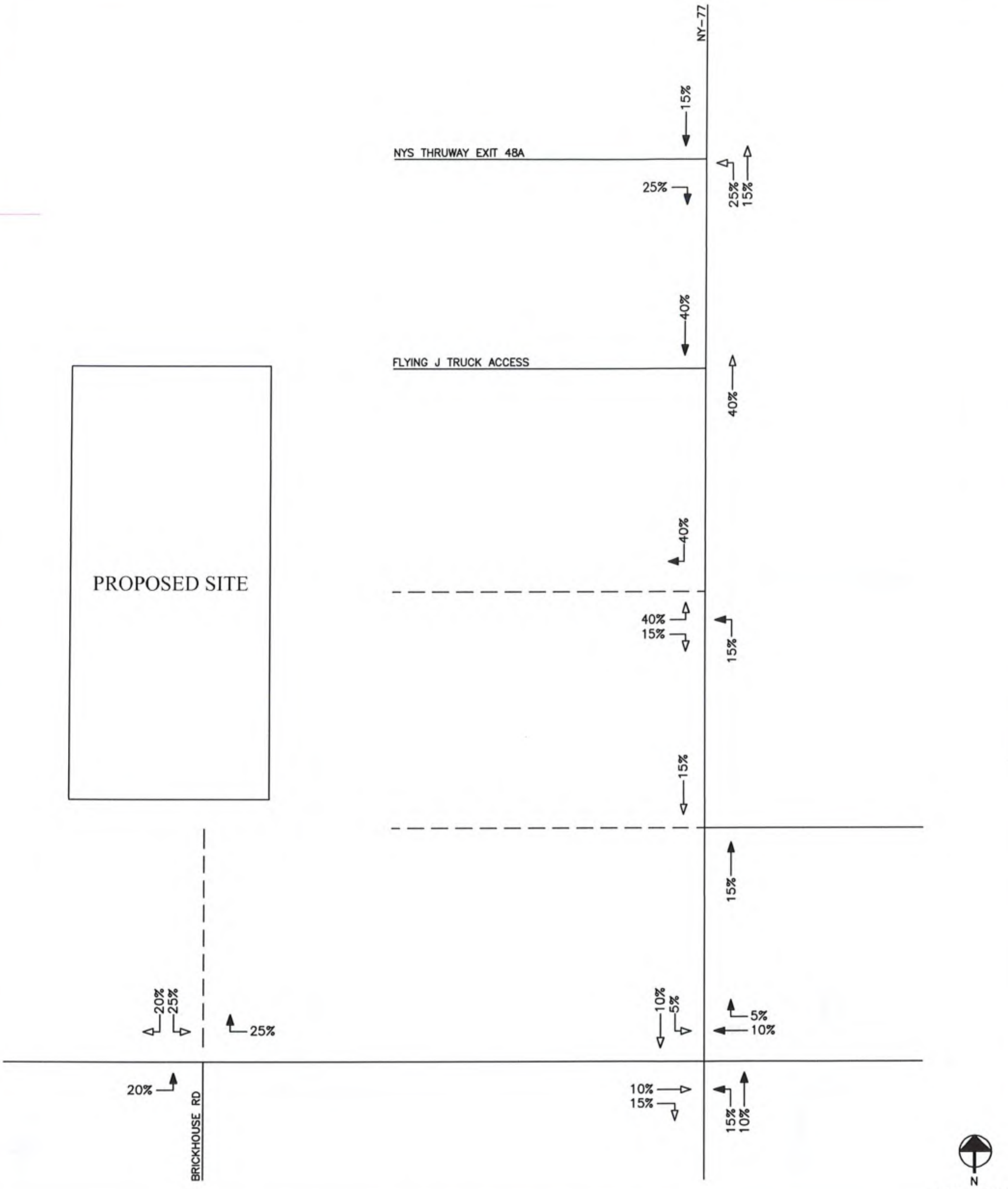
PROJECT NO: 20224272.0001

FIGURE 6C

TRIP DISTRIBUTION
PHASE 1 AND 3 TRUCKS

PROPOSED
PEMBROKE INDUSTRIAL PARK
TOWN OF PEMBROKE, NY

SRF ASSOCIATES



KEY

----- PROPOSED DWY
00(00) = AM(PM)
ENTERING TRIPS
EXITING TRIPS

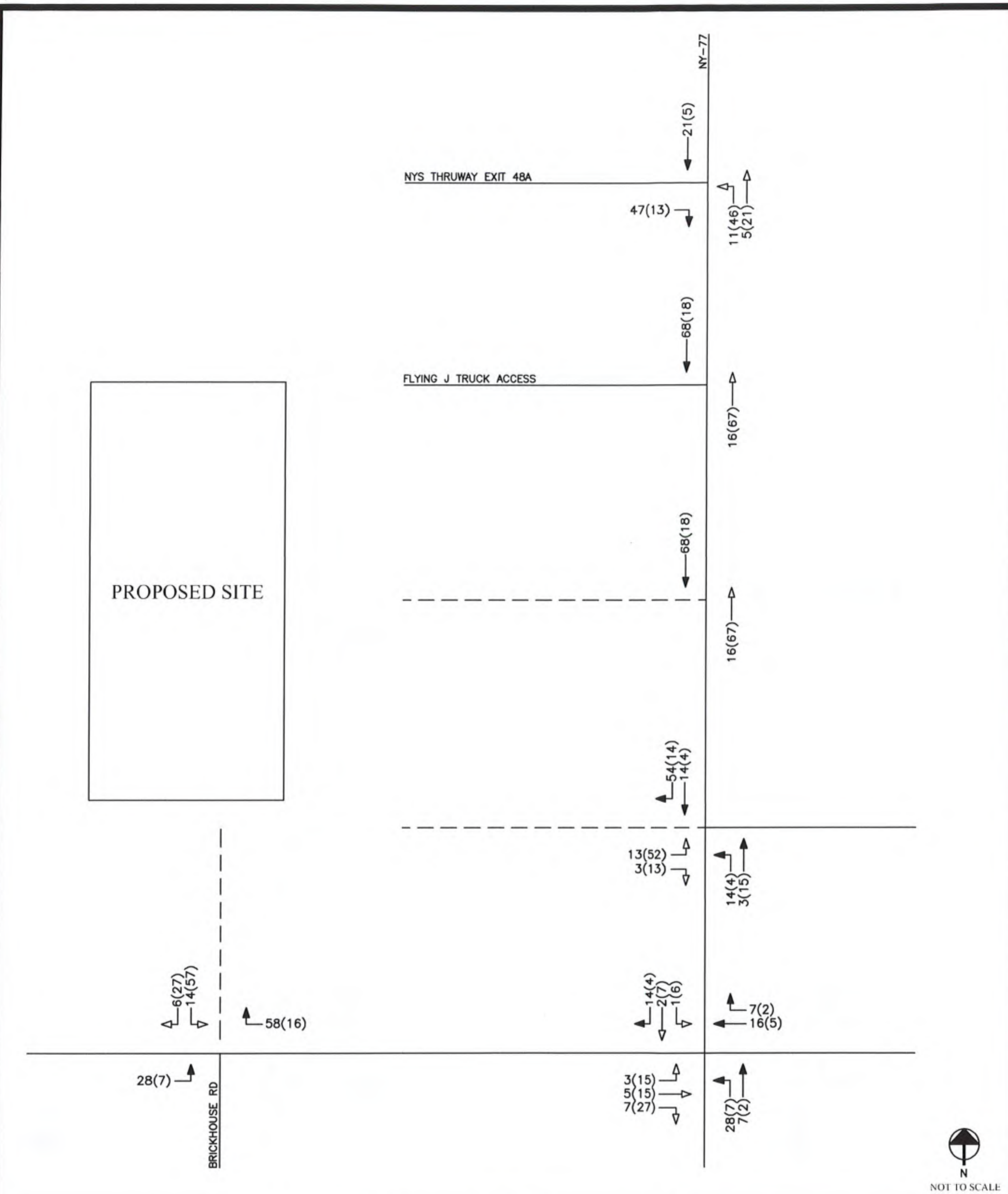
PROJECT NO: 20224272.0001

FIGURE 6D

TRIP DISTRIBUTION
PHASE 2 TRUCKS

PROPOSED
PEMBROKE INDUSTRIAL PARK
TOWN OF PEMBROKE, NY

SRF ASSOCIATES PA



KEY

----- PROPOSED DWY
00(00) = AM(PM)

ENTERING TRIPS
EXITING TRIPS

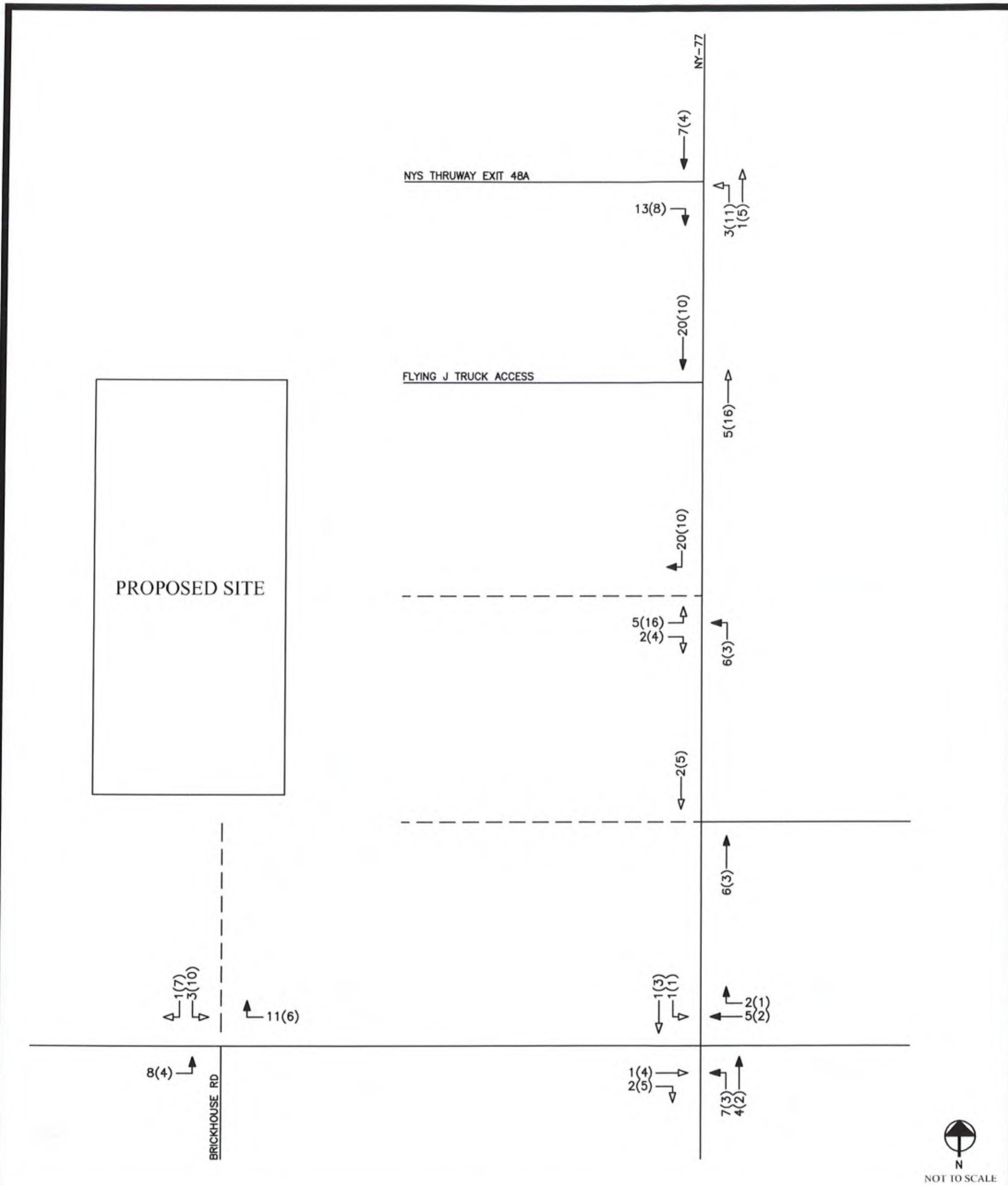
PROJECT NO: 20224272.0001

FIGURE 7A

PHASE 1 SITE GENERATED TRIPS

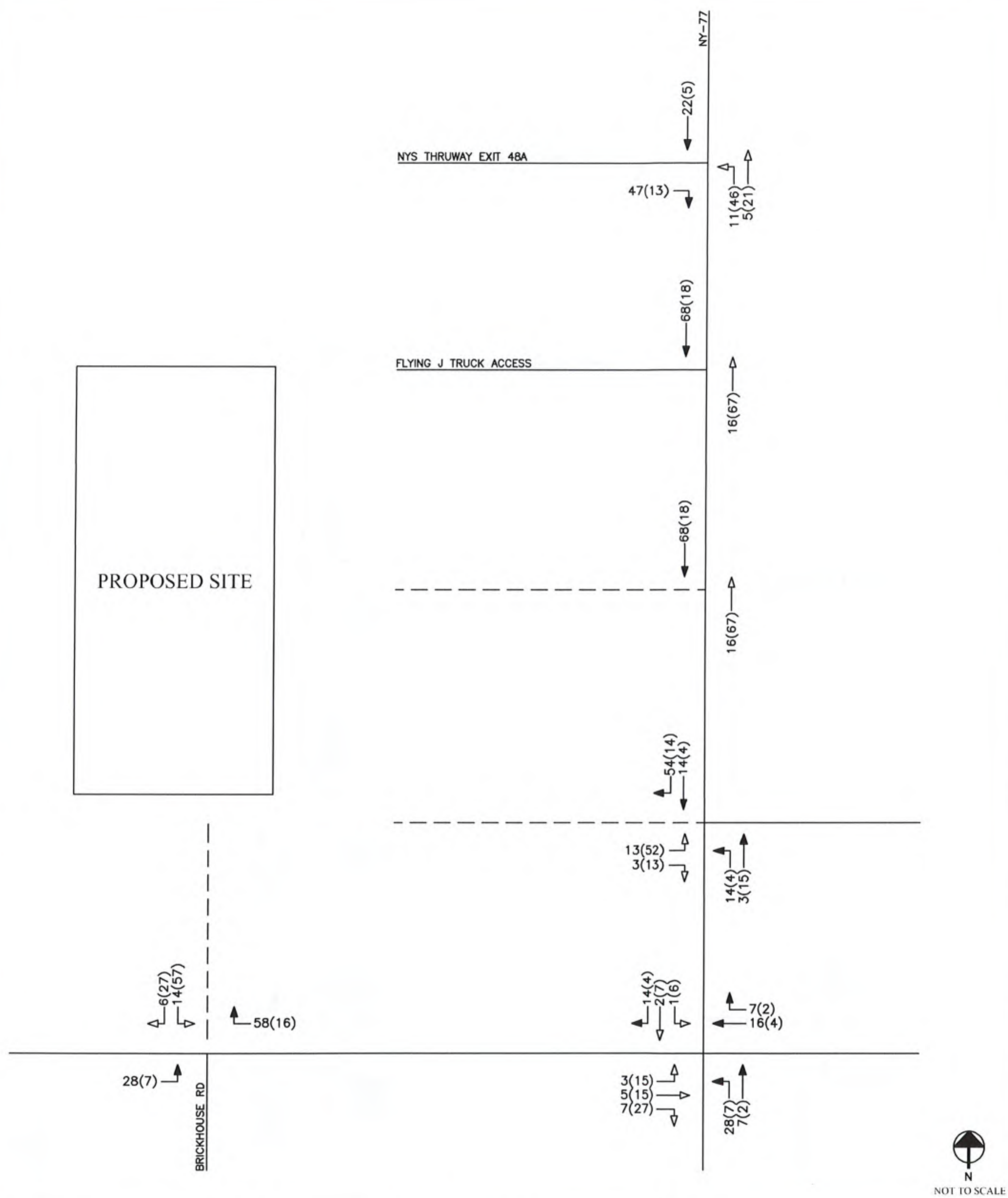
PROPOSED
PEMBROKE INDUSTRIAL PARK
TOWN OF PEMBROKE, NY

SRF ASSOCIATES



KEY	FIGURE 7B
----- PROPOSED DWY 00(00) = AM(PM) ENTERING TRIPS EXITING TRIPS	PHASE 2 SITE GENERATED TRIPS
PROJECT NO: 20224272.0001	PROPOSED PEMBROKE INDUSTRIAL PARK TOWN OF PEMBROKE, NY

SRF ASSOCIATES



KEY

----- PROPOSED DWY
00(00) = AM(PM)

ENTERING TRIPS
EXITING TRIPS

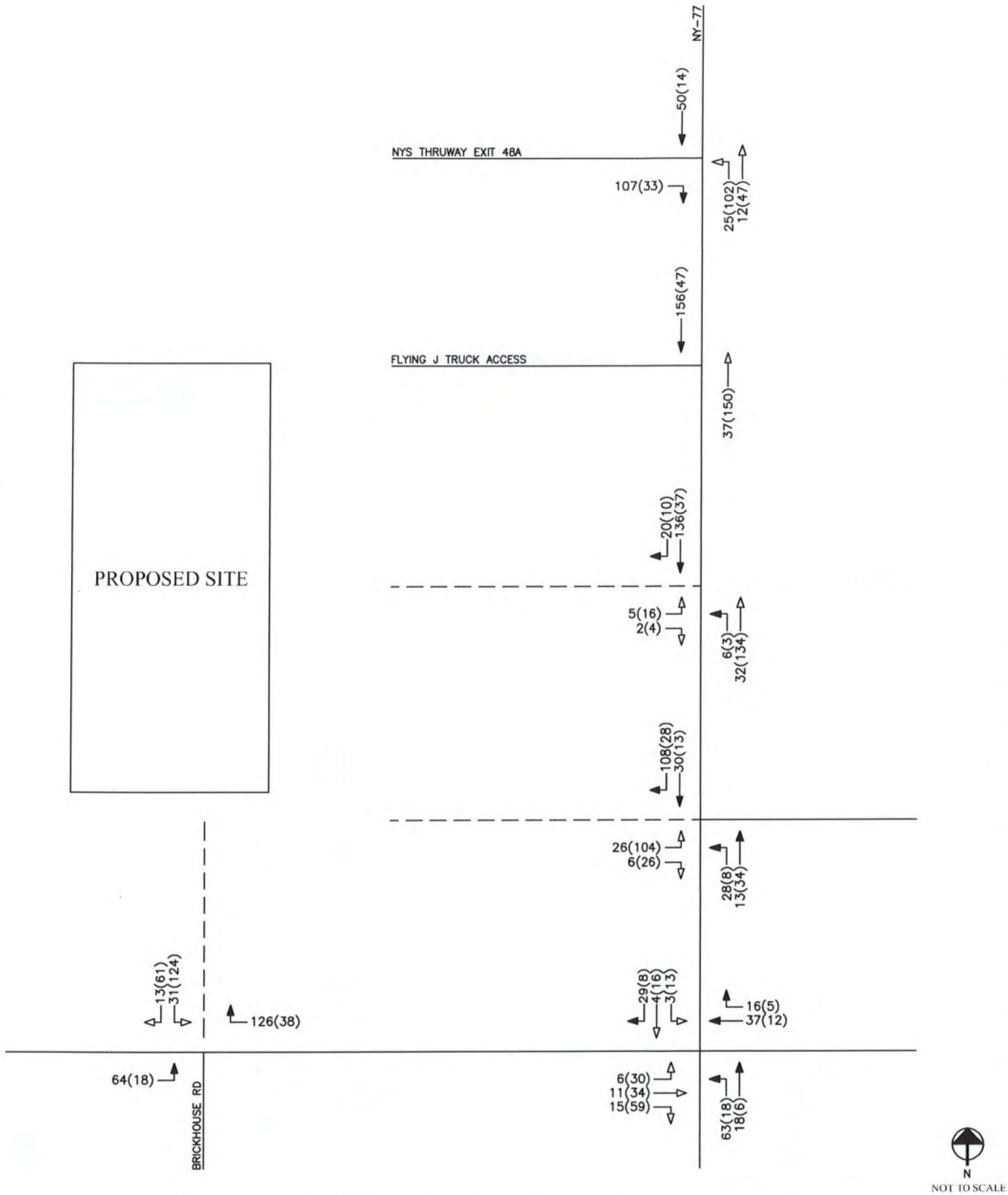
PROJECT NO: 20224272.0001

FIGURE 7C

PHASE 3 SITE GENERATED TRIPS

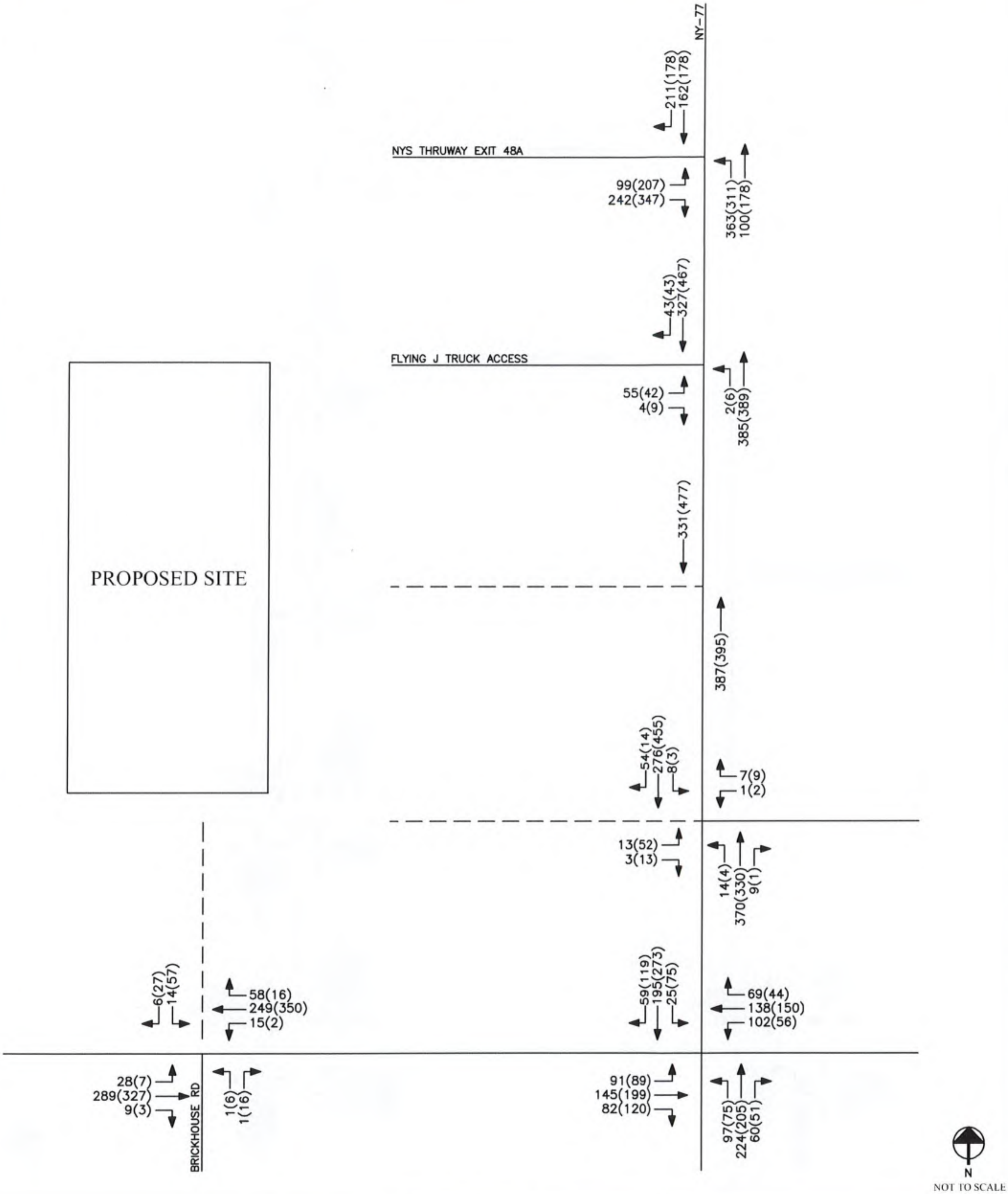
PROPOSED
PEMBROKE INDUSTRIAL PARK
TOWN OF PEMBROKE, NY

SRF ASSOCIATES



KEY	FIGURE 7D
----- PROPOSED DWY 00(00) = AM(PM) ENTERING TRIPS EXITING TRIPS	TOTAL SITE GENERATED TRIPS
PROJECT NO: 20224272.0001	PROPOSED PEMBROKE INDUSTRIAL PARK TOWN OF PEMBROKE, NY

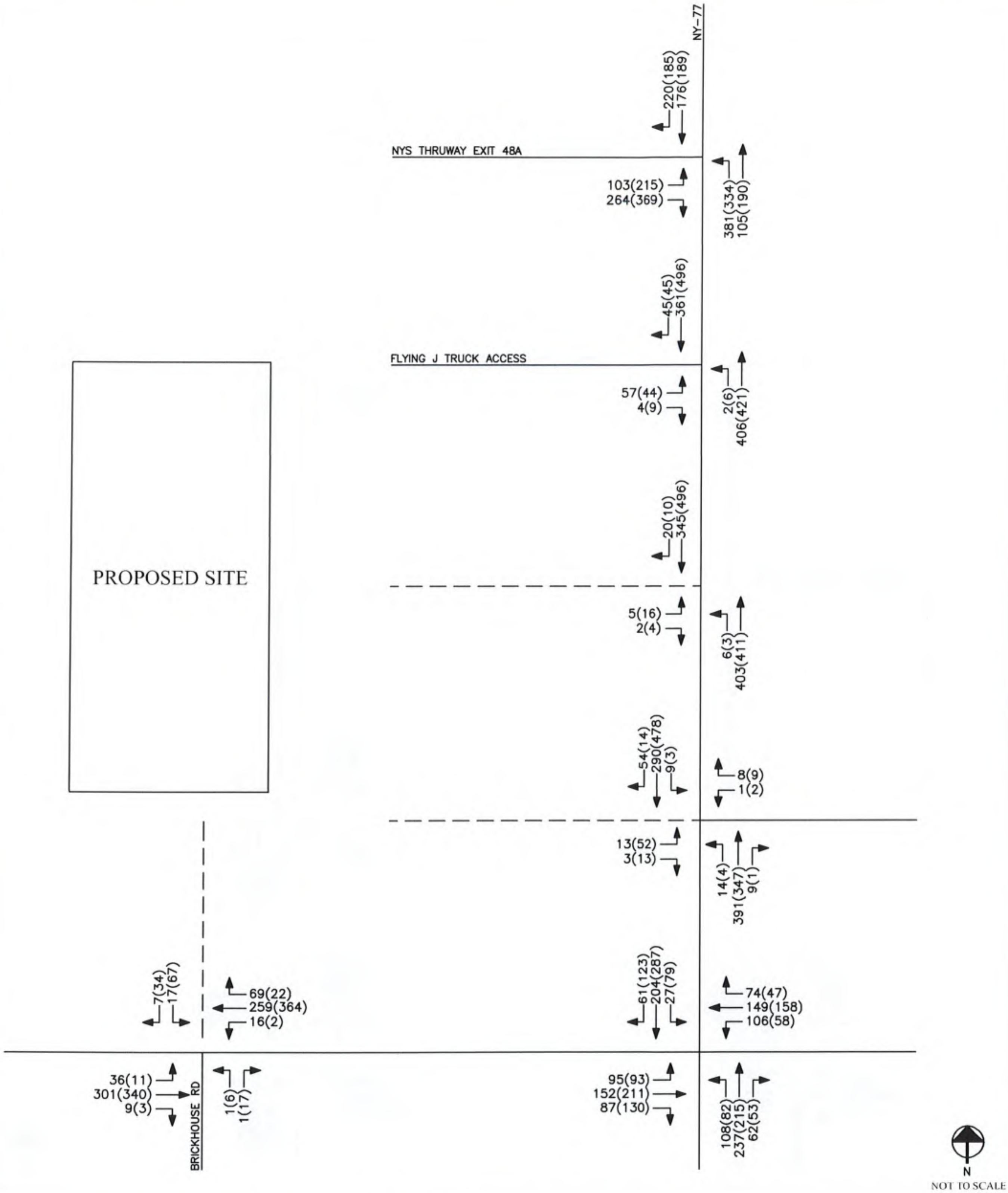
SRF ASSOCIATES



KEY	FIGURE 8A
----- PROPOSED DWY 00(00) = AM(PM)	PEAK HOUR VOLUMES PHASE 1 DEVELOPMENT CONDITIONS
PROJECT NO: 20224272.0001	PROPOSED PEMBROKE INDUSTRIAL PARK TOWN OF PEMBROKE, NY

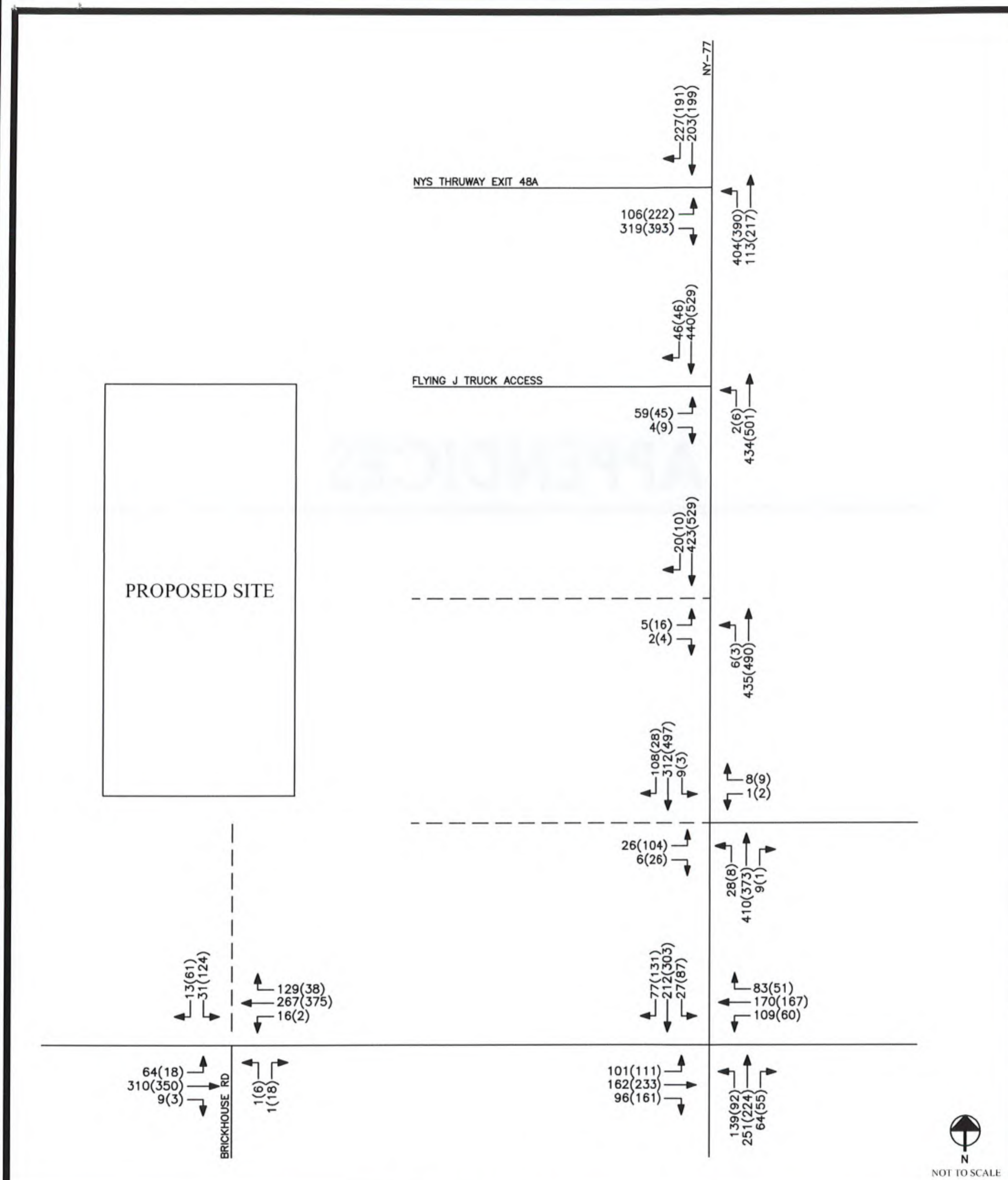
SRF ASSOCIATES

PA



KEY	FIGURE 8B
----- PROPOSED DWY 00(00) = AM(PM)	PEAK HOUR VOLUMES PHASE 2 DEVELOPMENT CONDITIONS
PROJECT NO: 20224272.0001	PROPOSED PEMBROKE INDUSTRIAL PARK TOWN OF PEMBROKE, NY

SRF ASSOCIATES



KEY	FIGURE 8C
----- PROPOSED DWY 00(00) = AM(PM)	PEAK HOUR VOLUMES PHASE 3 DEVELOPMENT CONDITIONS
PROJECT NO: 20224272.0001	PROPOSED PEMBROKE INDUSTRIAL PARK TOWN OF PEMBROKE, NY

SRF ASSOCIATES

APPENDICES

A1

Collected Traffic Volume Data

Pembroke, NY
September 7, 2022

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 5 / Brickhouse Dr
Site Code:
Start Date: 09/07/2022

Turning Movement Data

Start Time	NY 5 Westbound					Brickhouse Dr Northbound					NY 5 Eastbound					
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
6:00 AM	42	3	0	0	45	1	0	0	0	1	1	33	0	0	34	80
6:15 AM	30	1	0	0	31	1	0	0	0	1	0	36	0	0	36	68
6:30 AM	57	2	0	0	59	1	1	0	0	2	2	49	0	0	51	112
6:45 AM	45	1	0	0	46	1	0	0	0	1	1	55	0	0	56	103
Hourly Total	174	7	0	0	181	4	1	0	0	5	4	173	0	0	177	363
7:00 AM	50	5	0	0	55	0	0	0	0	0	3	75	0	0	78	133
7:15 AM	79	1	0	0	80	0	1	0	0	1	1	74	0	0	75	156
7:30 AM	57	4	0	0	61	0	0	0	0	0	3	77	0	0	80	141
7:45 AM	54	5	0	0	59	1	0	0	0	1	2	52	0	0	54	114
Hourly Total	240	15	0	0	255	1	1	0	0	2	9	278	0	0	287	544
8:00 AM	49	4	0	0	53	1	0	0	0	1	0	51	0	0	51	105
8:15 AM	40	4	0	0	44	1	1	0	0	2	0	68	0	0	68	114
8:30 AM	51	1	0	0	52	0	1	0	0	1	2	68	0	0	70	123
8:45 AM	31	1	0	0	32	0	1	0	0	1	1	44	0	0	45	78
Hourly Total	171	10	0	0	181	2	3	0	0	5	3	231	0	0	234	420
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	72	2	0	0	74	3	1	0	0	4	1	68	0	0	69	147
3:15 PM	63	4	0	0	67	11	2	0	0	13	0	68	0	0	68	148
3:30 PM	75	2	0	0	77	13	3	0	0	16	0	60	0	0	60	153
3:45 PM	59	1	0	0	60	7	2	0	0	9	0	76	0	0	76	145
Hourly Total	269	9	0	0	278	34	8	0	0	42	1	272	0	0	273	593
4:00 PM	91	0	0	0	91	3	0	0	0	3	0	62	0	0	62	156
4:15 PM	84	1	0	0	85	0	2	0	0	2	2	85	0	0	87	174
4:30 PM	79	0	0	0	79	11	5	0	0	16	1	79	0	0	80	175
4:45 PM	70	1	0	0	71	2	2	0	0	4	0	77	0	0	77	152
Hourly Total	324	2	0	0	326	16	9	0	0	25	3	303	0	0	306	657
5:00 PM	75	0	0	0	75	5	1	0	0	6	1	66	0	0	67	148
5:15 PM	65	1	0	0	66	4	2	0	0	6	0	58	0	0	58	130
5:30 PM	62	0	1	0	63	2	1	0	0	3	0	63	0	0	63	129
5:45 PM	48	1	0	0	49	2	2	0	0	4	0	49	0	0	49	102
Hourly Total	250	2	1	0	253	13	6	0	0	19	1	236	0	0	237	509
6:00 PM	48	0	0	0	48	1	0	0	2	1	0	68	0	0	68	117
6:15 PM	36	0	0	0	36	0	1	0	0	1	0	49	0	0	49	86
6:30 PM	29	0	0	0	29	0	0	0	0	0	0	31	0	0	31	60
6:45 PM	34	0	0	0	34	1	0	0	0	1	0	34	0	0	34	69
Hourly Total	147	0	0	0	147	2	1	0	2	3	0	182	0	0	182	332

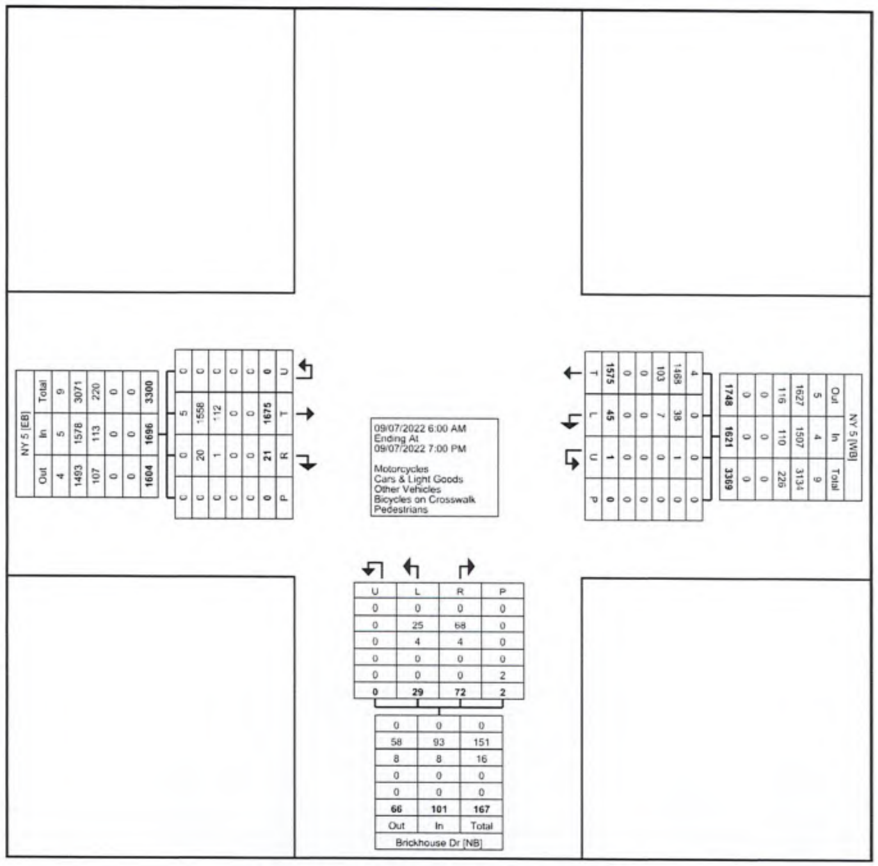
Grand Total	1575	45	1	0	1621	72	29	0	2	101	21	1675	0	0	1696	3418
Approach %	97.2	2.8	0.1	-	-	71.3	28.7	0.0	-	-	1.2	98.8	0.0	-	-	-
Total %	46.1	1.3	0.0	-	47.4	2.1	0.8	0.0	-	3.0	0.6	49.0	0.0	-	49.6	-
Motorcycles	4	0	0	-	4	0	0	0	-	0	0	5	0	-	5	9
% Motorcycles	0.3	0.0	0.0	-	0.2	0.0	0.0	-	-	0.0	0.0	0.3	-	-	0.3	0.3
Cars & Light Goods	1468	38	1	-	1507	68	25	0	-	93	20	1558	0	-	1578	3178
% Cars & Light Goods	93.2	84.4	100.0	-	93.0	94.4	86.2	-	-	92.1	95.2	93.0	-	-	93.0	93.0
Other Vehicles	103	7	0	-	110	4	4	0	-	8	1	112	0	-	113	231
% Other Vehicles	6.5	15.6	0.0	-	6.8	5.6	13.8	-	-	7.9	4.8	6.7	-	-	6.7	6.8
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-

Pembroke, NY
September 7, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 5 / Brickhouse Dr
Site Code:
Start Date: 09/07/2022
Page No: 3



NY 5 [EB]

Out	In	Total
4	5	9
1493	1578	3071
107	113	220
0	0	0
0	0	0
1604	**1696**	**3300**

U	T	R	P
0	5	0	0
0	1558	20	0
0	112	1	0
0	0	0	0
0	0	0	0
0	**1675**	**21**	**0**

NY 5 [WB]

Out	In	Total
5	4	9
1627	1507	3134
116	110	226
0	0	0
0	0	0
1748	**1621**	**3369**

T	L	U	P
4	0	0	0
1468	38	1	0
103	7	0	0
0	0	0	0
0	0	0	0
1575	**45**	**1**	**0**

U	L	R	P
0	0	0	0
0	25	68	0
0	4	4	0
0	0	0	0
0	0	0	2
0	**29**	**72**	**2**

Out	In	Total
0	0	0
58	93	151
8	8	16
0	0	0
0	0	0
66	**101**	**167**

Brickhouse Dr [NB]

Turning Movement Data Plot

TRI-STATE TRAFFIC DATA
Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Pembroke, NY
September 7, 2022

Count Name: NY 5 / Brickhouse Dr
Site Code:
Start Date: 09/07/2022

Turning Movement Peak Hour Data (7:00 AM)

Start Time	NY 5 Westbound					Brickhouse Dr Northbound					NY 5 Eastbound					
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
7:00 AM	50	5	0	0	55	0	0	0	0	0	3	75	0	0	78	133
7:15 AM	79	1	0	0	80	0	1	0	0	1	1	74	0	0	75	156
7:30 AM	57	4	0	0	61	0	0	0	0	0	3	77	0	0	80	141
7:45 AM	54	5	0	0	59	1	0	0	0	1	2	52	0	0	54	114
Total	240	15	0	0	255	1	1	0	0	2	9	278	0	0	287	544
Approach %	94.1	5.9	0.0	-	-	50.0	50.0	0.0	-	-	3.1	96.9	0.0	-	-	-
Total %	44.1	2.8	0.0	-	46.9	0.2	0.2	0.0	-	0.4	1.7	51.1	0.0	-	52.8	-
PHF	0.759	0.750	0.000	-	0.797	0.250	0.250	0.000	-	0.500	0.750	0.903	0.000	-	0.897	0.872
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	-	-	0.0	0.0
Cars & Light Goods	218	13	0	-	231	0	0	0	-	0	9	260	0	-	269	500
% Cars & Light Goods	90.8	86.7	-	-	90.6	0.0	0.0	-	-	0.0	100.0	93.5	-	-	93.7	91.9
Other Vehicles	22	2	0	-	24	1	1	0	-	2	0	18	0	-	18	44
% Other Vehicles	9.2	13.3	-	-	9.4	100.0	100.0	-	-	100.0	0.0	6.5	-	-	6.3	8.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Pembroke, NY
September 7, 2022

Count Name: NY 5 / Brickhouse Dr
Site Code:
Start Date: 09/07/2022
Page No: 5

Peak Hour Data

09/07/2022 7:00 AM
Ending At
09/07/2022 8:00 AM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

NY 5 [EB]

Out	In	Total
0	0	0
218	269	487
23	18	41
0	0	0
0	0	0
241	**287**	**528**

U	T	R	P
0	0	0	0
0	260	9	0
0	18	0	0
0	0	0	0
0	0	0	0
0	**278**	**9**	**0**

NY 5 [WB]

T	L	U	P
0	0	0	0
218	13	0	0
22	2	0	0
0	0	0	0
0	0	0	0
240	**15**	**0**	**0**

Out	In	Total
0	0	0
260	231	491
19	24	43
0	0	0
0	0	0
279	**255**	**534**

Brickhouse Dr [NB]

U	L	R	P
0	0	0	0
0	0	0	0
0	1	1	0
0	0	0	0
0	0	0	0
0	**1**	**1**	**0**

Out	In	Total
0	0	0
22	0	22
2	2	4
0	0	0
0	0	0
24	**2**	**26**

Turning Movement Peak Hour Data Plot (7:00 AM)

Pembroke, NY
September 7, 2022

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY 5 / Brickhouse Dr
Site Code:
Start Date: 09/07/2022

Turning Movement Peak Hour Data (4:00 PM)

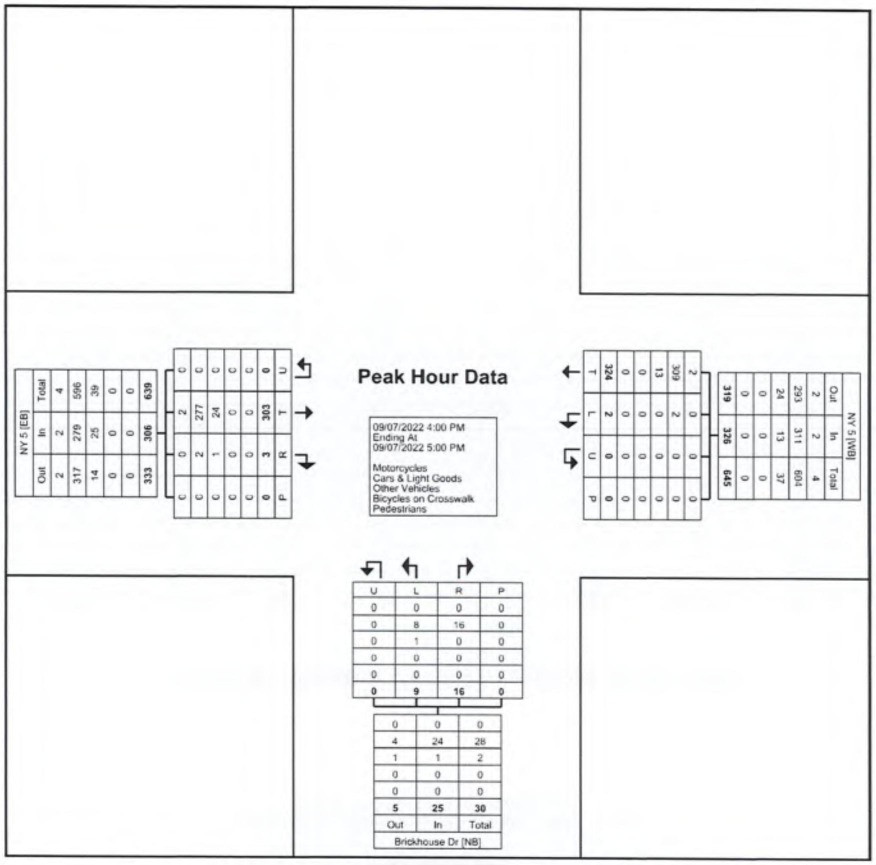
Start Time	NY 5 Westbound					Brickhouse Dr Northbound					NY 5 Eastbound					
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
4:00 PM	91	0	0	0	91	3	0	0	0	3	0	62	0	0	62	156
4:15 PM	84	1	0	0	85	0	2	0	0	2	2	85	0	0	87	174
4:30 PM	79	0	0	0	79	11	5	0	0	16	1	79	0	0	80	175
4:45 PM	70	1	0	0	71	2	2	0	0	4	0	77	0	0	77	152
Total	324	2	0	0	326	16	9	0	0	25	3	303	0	0	306	657
Approach %	99.4	0.6	0.0	-	-	64.0	36.0	0.0	-	-	1.0	99.0	0.0	-	-	-
Total %	49.3	0.3	0.0	-	49.6	2.4	1.4	0.0	-	3.8	0.5	46.1	0.0	-	46.6	-
PHF	0.890	0.500	0.000	-	0.896	0.364	0.450	0.000	-	0.391	0.375	0.891	0.000	-	0.879	0.939
Motorcycles	2	0	0	-	2	0	0	0	-	0	0	2	0	-	2	4
% Motorcycles	0.6	0.0	-	-	0.6	0.0	0.0	-	-	0.0	0.0	0.7	-	-	0.7	0.6
Cars & Light Goods	309	2	0	-	311	16	8	0	-	24	2	277	0	-	279	614
% Cars & Light Goods	95.4	100.0	-	-	95.4	100.0	88.9	-	-	96.0	66.7	91.4	-	-	91.2	93.5
Other Vehicles	13	0	0	-	13	0	1	0	-	1	1	24	0	-	25	39
% Other Vehicles	4.0	0.0	-	-	4.0	0.0	11.1	-	-	4.0	33.3	7.9	-	-	8.2	5.9
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

Pembroke, NY
September 7, 2022

Count Name: NY 5 / Brickhouse Dr
Site Code:
Start Date: 09/07/2022



NY 5 [EB]

Out	In	Total
2	2	4
317	279	596
14	25	39
0	0	0
0	0	0
333	306	639

U	T	R	P
0	2	0	0
0	277	2	0
0	24	1	0
0	0	0	0
0	0	0	0
0	303	3	0

NY 5 [WB]

Out	In	Total
2	2	4
293	311	604
24	13	37
0	0	0
0	0	0
319	326	645

T	L	U	P
2	0	0	0
309	2	0	0
13	0	0	0
0	0	0	0
0	0	0	0
324	2	0	0

U	L	R	P
0	0	0	0
0	8	16	0
0	1	0	0
0	0	0	0
0	0	0	0
0	9	16	0

0	0	0
4	24	28
1	1	2
0	0	0
0	0	0
5	25	30
Out	In	Total

Brickhouse Dr [NB]

Turning Movement Peak Hour Data Plot (4:00 PM)

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Pembroke, NY
September 7, 2022

Count Name: NY-77 (Alleghany Road/NYS Thruway Exit 48A
Site Code:
Start Date: 09/07/2022
Page No: 1

Turning Movement Data

	NY-77 Southbound						(Alleghany Road/NYS Thruway Exit 48A Westbound						NY-77 Northbound						(Alleghany Road/NYS Thruway Exit 48A Eastbound						
Start Time	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
6:00 AM	15	25	0	0	0	40	0	0	0	0	0	0	0	16	55	0	0	71	15	0	17	1	0	33	144
6:15 AM	38	19	0	0	0	57	0	0	0	0	0	0	0	20	67	0	0	87	33	0	12	0	0	45	189
6:30 AM	35	21	0	0	0	56	0	0	1	0	0	1	0	21	67	0	0	88	32	0	16	0	0	48	193
6:45 AM	32	21	0	0	0	53	0	0	0	0	0	0	0	26	78	0	0	104	52	0	20	1	0	73	230
Hourly Total	120	86	0	0	0	206	0	0	1	0	0	1	0	83	267	0	0	350	132	0	65	2	0	199	756
7:00 AM	44	35	0	0	0	79	0	0	0	0	0	0	0	20	83	1	0	104	48	0	20	0	0	68	251
7:15 AM	48	43	0	0	0	91	0	0	0	0	0	0	0	24	80	0	0	104	46	0	19	1	0	66	261
7:30 AM	62	30	0	0	0	92	0	0	0	0	0	0	0	30	95	0	0	125	46	0	21	0	0	67	284
7:45 AM	48	27	0	0	0	75	0	0	0	0	0	0	0	16	80	0	0	96	42	0	36	0	0	78	249
Hourly Total	202	135	0	0	0	337	0	0	0	0	0	0	0	90	338	1	0	429	182	0	96	1	0	279	1045
8:00 AM	42	25	0	0	0	67	0	0	0	0	0	0	0	29	61	0	0	90	32	0	16	1	0	49	206
8:15 AM	37	31	0	0	0	68	0	0	0	0	0	0	0	15	68	0	0	83	38	0	23	0	0	61	212
8:30 AM	46	16	0	0	0	62	0	0	0	0	0	0	0	22	74	0	0	96	32	0	29	0	0	61	219
8:45 AM	39	19	0	0	0	58	0	0	0	0	0	0	0	23	54	0	0	77	27	0	25	0	0	52	187
Hourly Total	164	91	0	0	0	255	0	0	0	0	0	0	0	89	257	0	0	346	129	0	93	1	0	223	824
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
3:00 PM	27	31	0	0	0	58	0	0	0	0	0	0	0	36	65	0	0	101	52	0	34	0	0	86	245
3:15 PM	37	39	0	0	0	76	0	0	0	0	0	0	0	37	63	0	0	100	74	0	39	0	0	113	289
3:30 PM	53	37	0	0	0	90	0	0	0	0	0	0	0	33	55	0	0	88	67	0	34	0	0	101	279
3:45 PM	45	34	0	0	0	79	0	0	0	0	0	0	0	45	69	0	0	114	69	0	46	0	0	115	308
Hourly Total	162	141	0	0	0	303	0	0	0	0	0	0	0	151	252	0	0	403	262	0	153	0	0	415	1121
4:00 PM	38	35	0	0	0	73	0	0	0	0	0	0	0	32	62	0	0	94	82	0	56	1	0	139	306
4:15 PM	45	46	0	0	0	91	0	0	0	0	0	0	0	30	50	0	0	80	79	0	52	1	0	132	303
4:30 PM	45	44	0	0	0	89	0	0	0	0	0	0	0	37	54	0	0	91	77	0	47	0	0	124	304
4:45 PM	32	38	0	0	0	70	0	0	0	0	0	0	0	40	59	0	0	99	74	0	50	0	1	124	293
Hourly Total	160	163	0	0	0	323	0	0	0	0	0	0	0	139	225	0	0	364	312	0	205	2	1	519	1206
5:00 PM	41	29	0	0	0	70	0	0	0	0	2	0	0	39	59	0	0	98	81	0	51	0	0	132	300
5:15 PM	46	32	0	0	0	78	0	0	0	0	1	0	0	43	32	0	0	75	54	0	56	0	0	110	263
5:30 PM	39	51	0	0	0	90	0	0	0	0	0	0	0	27	60	0	0	87	90	0	46	0	0	136	313
5:45 PM	26	44	0	0	0	70	0	0	0	0	0	0	0	35	40	0	0	75	78	0	37	0	0	115	260
Hourly Total	152	156	0	0	0	308	0	0	0	0	3	0	0	144	191	0	0	335	303	0	190	0	0	493	1136
6:00 PM	29	28	0	0	0	57	0	0	0	0	0	0	0	27	56	0	0	83	67	0	32	1	0	100	240
6:15 PM	23	30	0	0	0	53	0	0	0	0	0	0	0	41	42	0	0	83	52	0	29	0	0	81	217

6:30 PM	28	33	0	0	0	61	0	0	0	0	1	0	0	26	30	0	0	56	55	0	37	0	0	92	209
6:45 PM	15	25	0	0	0	40	0	0	0	0	0	0	0	15	43	0	0	58	48	0	36	0	0	84	182
Hourly Total	95	116	0	0	0	211	0	0	0	0	1	0	0	109	171	0	0	280	222	0	134	1	0	357	848
7:00 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
Grand Total	1055	888	0	0	0	1943	0	0	1	0	4	1	0	805	1701	1	0	2507	1542	0	936	7	1	2485	6936
Approach %	54.3	45.7	0.0	0.0	-	-	0.0	0.0	100.0	0.0	-	-	0.0	32.1	67.9	0.0	-	-	62.1	0.0	37.7	0.3	-	-	-
Total %	15.2	12.8	0.0	0.0	-	28.0	0.0	0.0	0.0	0.0	-	0.0	0.0	11.6	24.5	0.0	-	36.1	22.2	0.0	13.5	0.1	-	35.8	-
Motorcycles	1	5	0	0	-	6	0	0	0	0	-	0	0	0	3	0	-	3	2	0	3	0	-	5	14
% Motorcycles	0.1	0.6	-	-	-	0.3	-	-	0.0	-	-	0.0	-	0.0	0.2	0.0	-	0.1	0.1	-	0.3	0.0	-	0.2	0.2
Cars & Light Goods	842	808	0	0	-	1650	0	0	0	0	-	0	0	737	1206	1	-	1944	1059	0	745	5	-	1809	5403
% Cars & Light Goods	79.8	91.0	-	-	-	84.9	-	-	0.0	-	-	0.0	-	91.6	70.9	100.0	-	77.5	68.7	-	79.6	71.4	-	72.8	77.9
Other Vehicles	212	75	0	0	-	287	0	0	1	0	-	1	0	68	492	0	-	560	481	0	188	2	-	671	1519
% Other Vehicles	20.1	8.4	-	-	-	14.8	-	-	100.0	-	-	100.0	-	8.4	28.9	0.0	-	22.3	31.2	-	20.1	28.6	-	27.0	21.9
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Pembroke, NY
September 7, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77 (Alleghany Road/NYS Thruway Exit 48A
Site Code:
Start Date: 09/07/2022

NY-77 [SB]

Out	In	Total
3	6	9
1482	1650	3132
256	287	543
0	0	0
0	0	0
1741	**1943**	**3684**

R	T	L	U	P
1	5	0	0	0
842	808	0	0	0
212	75	0	0	0
0	0	0	0	0
0	0	0	0	0
1055	**888**	**0**	**0**	**0**

(Alleghany Road/NYS Thru

Out	In	Total
4	5	9
2053	1809	3862
706	671	1377
0	0	0
0	0	0
2763	**2485**	**5248**

U	L	T	R	P
0	3	0	2	0
5	745	0	1059	0
2	188	0	481	0
0	0	0	0	0
0	0	0	0	1
7	**936**	**0**	**1542**	**1**

09/07/2022 6:00 AM
Ending At
09/07/2022 7:15 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

(Alleghany Road/NYS Thru

Out	In	Total
0	0	0
0	0	0
0	1	1
0	0	0
0	0	0
0	**1**	**1**

R	T	L	U	P
0	0	0	0	0
0	0	0	0	0
0	0	1	0	0
0	0	0	0	0
0	0	0	0	4
0	**0**	**1**	**0**	**4**

U	L	T	R	P
0	3	0	0	0
1	1206	737	0	0
0	492	68	0	0
0	0	0	0	0
0	0	0	0	0
1	**1701**	**805**	**0**	**0**

Out	In	Total
7	3	10
1868	1944	3812
557	560	1117
0	0	0
0	0	0
2432	**2507**	**4939**

NY-77 [NB]

Turning Movement Data Plot

Pembroke, NY
September 7, 2022

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77 (Alleghany Road/NYS Thruway Exit 48A
Site Code:
Start Date: 09/07/2022
Page No: 4

Turning Movement Peak Hour Data (7:00 AM)

Start Time	NY-77 Southbound						(Alleghany Road/NYS Thruway Exit 48A Westbound						NY-77 Northbound						(Alleghany Road/NYS Thruway Exit 48A 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
7:00 AM	44	35	0	0	0	79	0	0	0	0	0	0	0	20	83	1	0	104	48	0	20	0	0	68	251
7:15 AM	48	43	0	0	0	91	0	0	0	0	0	0	0	24	80	0	0	104	46	0	19	1	0	66	261
7:30 AM	62	30	0	0	0	92	0	0	0	0	0	0	0	30	95	0	0	125	46	0	21	0	0	67	284
7:45 AM	48	27	0	0	0	75	0	0	0	0	0	0	0	16	80	0	0	96	42	0	36	0	0	78	249
Total	202	135	0	0	0	337	0	0	0	0	0	0	0	90	338	1	0	429	182	0	96	1	0	279	1045
Approach %	59.9	40.1	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	21.0	78.8	0.2	-	-	65.2	0.0	34.4	0.4	-	-	-
Total %	19.3	12.9	0.0	0.0	-	32.2	0.0	0.0	0.0	0.0	-	0.0	0.0	8.6	32.3	0.1	-	41.1	17.4	0.0	9.2	0.1	-	26.7	-
PHF	0.815	0.785	0.000	0.000	-	0.916	0.000	0.000	0.000	0.000	-	0.000	0.000	0.750	0.889	0.250	-	0.858	0.948	0.000	0.667	0.250	-	0.894	0.920
Motorcycles	1	0	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Motorcycles	0.5	0.0	-	-	-	0.3	-	-	-	-	-	-	-	0.0	0.0	0.0	-	0.0	0.0	-	0.0	0.0	-	0.0	0.1
Cars & Light Goods	165	124	0	0	-	289	0	0	0	0	-	0	0	79	241	1	-	321	119	0	75	1	-	195	805
% Cars & Light Goods	81.7	91.9	-	-	-	85.8	-	-	-	-	-	-	-	87.8	71.3	100.0	-	74.8	65.4	-	78.1	100.0	-	69.9	77.0
Other Vehicles	36	11	0	0	-	47	0	0	0	0	-	0	0	11	97	0	-	108	63	0	21	0	-	84	239
% Other Vehicles	17.8	8.1	-	-	-	13.9	-	-	-	-	-	-	-	12.2	28.7	0.0	-	25.2	34.6	-	21.9	0.0	-	30.1	22.9
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Pembroke, NY
September 7, 2022

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77 (Alleghany Road/NYS Thruway Exit 48A
Site Code:
Start Date: 09/07/2022
Page No: 5

NY-77 [SB]

Out	In	Total
0	1	1
154	289	443
32	47	79
0	0	0
0	0	0
186	**337**	**523**

R	T	L	U	P
1	0	0	0	0
165	124	0	0	0
36	11	0	0	0
0	0	0	0	0
0	0	0	0	0
202	**135**	**0**	**0**	**0**

(Alleghany Road/NYS Thru

Out	In	Total
1	0	1
407	195	602
133	84	217
0	0	0
0	0	0
541	**279**	**820**

U	L	T	R	P
0	0	0	0	0
1	75	0	119	0
0	21	0	63	0
0	0	0	0	0
0	0	0	0	0
1	**96**	**0**	**182**	**0**

Peak Hour Data

09/07/2022 7:00 AM
Ending At
09/07/2022 8:00 AM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

(Alleghany Road/NYS Thru

Out	In	Total
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	**0**	**0**

R	T	L	U	P
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	**0**	**0**	**0**	**0**

U	L	T	R	P
0	0	0	0	0
1	241	79	0	0
0	97	11	0	0
0	0	0	0	0
0	0	0	0	0
1	**338**	**90**	**0**	**0**

Out	In	Total
0	0	0
244	321	565
74	108	182
0	0	0
0	0	0
318	**429**	**747**

NY-77 [NB]

Turning Movement Peak Hour Data Plot (7:00 AM)

Pembroke, NY
September 7, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77 (Alleghany Road/NYS Thruway Exit 48A
Site Code:
Start Date: 09/07/2022

Turning Movement Peak Hour Data (3:45 PM)

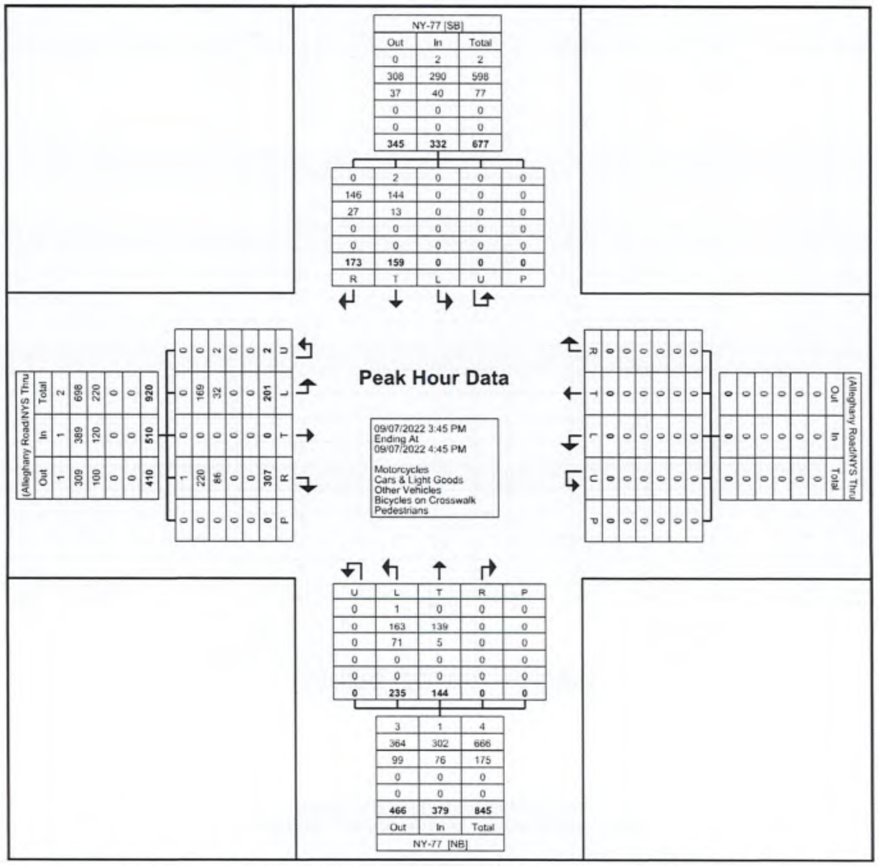
Start Time	NY-77 Southbound						(Alleghany Road/NYS Thruway Exit 48A Westbound						NY-77 Northbound						(Alleghany Road/NYS Thruway Exit 48A Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
3:45 PM	45	34	0	0	0	79	0	0	0	0	0	0	0	45	69	0	0	114	69	0	46	0	0	115	308
4:00 PM	38	35	0	0	0	73	0	0	0	0	0	0	0	32	62	0	0	94	82	0	56	1	0	139	306
4:15 PM	45	46	0	0	0	91	0	0	0	0	0	0	0	30	50	0	0	80	79	0	52	1	0	132	303
4:30 PM	45	44	0	0	0	89	0	0	0	0	0	0	0	37	54	0	0	91	77	0	47	0	0	124	304
Total	173	159	0	0	0	332	0	0	0	0	0	0	0	144	235	0	0	379	307	0	201	2	0	510	1221
Approach %	52.1	47.9	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	38.0	62.0	0.0	-	-	60.2	0.0	39.4	0.4	-	-	-
Total %	14.2	13.0	0.0	0.0	-	27.2	0.0	0.0	0.0	0.0	-	0.0	0.0	11.8	19.2	0.0	-	31.0	25.1	0.0	16.5	0.2	-	41.8	-
PHF	0.961	0.864	0.000	0.000	-	0.912	0.000	0.000	0.000	0.000	-	0.000	0.000	0.800	0.851	0.000	-	0.831	0.936	0.000	0.897	0.500	-	0.917	0.991
Motorcycles	0	2	0	0	-	2	0	0	0	0	-	0	0	0	1	0	-	1	1	0	0	0	-	1	4
% Motorcycles	0.0	1.3	-	-	-	0.6	-	-	-	-	-	-	-	0.0	0.4	-	-	0.3	0.3	-	0.0	0.0	-	0.2	0.3
Cars & Light Goods	146	144	0	0	-	290	0	0	0	0	-	0	0	139	163	0	-	302	220	0	169	0	-	389	981
% Cars & Light Goods	84.4	90.6	-	-	-	87.3	-	-	-	-	-	-	-	96.5	69.4	-	-	79.7	71.7	-	84.1	0.0	-	76.3	80.3
Other Vehicles	27	13	0	0	-	40	0	0	0	0	-	0	0	5	71	0	-	76	86	0	32	2	-	120	236
% Other Vehicles	15.6	8.2	-	-	-	12.0	-	-	-	-	-	-	-	3.5	30.2	-	-	20.1	28.0	-	15.9	100.0	-	23.5	19.3
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Pembroke, NY
September 7, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77 (Alleghany Road/NYS Thruway Exit 48A
Site Code:
Start Date: 09/07/2022
Page No: 7



Turning Movement Peak Hour Data Plot (3:45 PM)

Pembroke, NY
September 7, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77/Flying J Truck Access
Site Code:
Start Date: 09/07/2022
Page No: 1

Turning Movement Data

Start Time	NY-77 Southbound						Flying J Truck Access Westbound						NY-77 Northbound						Flying J Truck Access 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
6:00 AM	1	32	0	0	0	33	0	0	0	0	0	0	0	55	2	0	0	57	0	0	7	0	0	7	97
6:15 AM	5	37	0	0	0	42	0	0	0	0	0	0	0	67	1	0	0	68	1	0	11	0	0	12	122
6:30 AM	4	41	0	0	0	45	0	0	0	0	0	0	0	69	0	0	0	69	1	0	10	0	0	11	125
6:45 AM	14	55	0	0	0	69	0	0	0	0	0	0	0	81	0	0	0	81	1	0	10	0	0	11	161
Hourly Total	24	165	0	0	0	189	0	0	0	0	0	0	0	272	3	0	0	275	3	0	38	0	0	41	505
7:00 AM	9	65	0	0	0	74	0	0	0	0	0	0	0	79	0	0	0	79	0	0	21	0	0	21	174
7:15 AM	12	68	0	0	0	80	0	0	0	0	0	0	0	85	2	0	0	87	2	0	12	0	0	14	181
7:30 AM	7	55	0	0	0	62	0	0	0	0	0	0	0	108	0	0	0	108	1	0	10	0	0	11	181
7:45 AM	8	62	0	0	0	70	0	0	0	0	0	0	0	63	0	0	0	63	2	0	16	0	0	18	151
Hourly Total	36	250	0	0	0	286	0	0	0	0	0	0	0	335	2	0	0	337	5	0	59	0	0	64	687
8:00 AM	7	42	0	0	0	49	0	0	0	0	0	0	0	83	1	0	0	84	1	0	5	0	0	6	139
8:15 AM	12	49	0	0	0	61	0	0	0	0	0	0	0	69	0	0	0	69	0	0	15	0	0	15	145
8:30 AM	6	44	0	0	0	50	0	0	0	0	0	0	0	70	0	0	0	70	1	0	8	0	0	9	129
8:45 AM	9	33	0	0	0	42	0	0	0	0	0	0	0	63	3	0	0	66	0	0	7	0	0	7	115
Hourly Total	34	168	0	0	0	202	0	0	0	0	0	0	0	285	4	0	0	289	2	0	35	0	0	37	528
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
3:00 PM	11	71	0	0	0	82	0	0	0	0	0	0	0	79	2	0	0	81	0	0	19	0	0	19	182
3:15 PM	20	90	0	0	0	110	0	0	0	0	0	0	0	79	0	0	0	79	0	0	13	0	0	13	202
3:30 PM	13	84	0	0	1	97	0	0	0	0	0	0	0	72	1	0	0	73	1	0	11	0	1	12	182
3:45 PM	19	74	0	0	0	93	0	0	0	0	0	0	0	85	1	0	0	86	3	0	18	0	0	21	200
Hourly Total	63	319	0	0	1	382	0	0	0	0	0	0	0	315	4	0	0	319	4	0	61	0	1	65	766
4:00 PM	11	100	0	0	1	111	0	0	0	0	0	0	0	67	1	0	0	68	2	0	10	0	0	12	191
4:15 PM	8	101	0	0	1	109	0	0	0	0	0	0	0	62	2	0	0	64	1	0	9	0	0	10	183
4:30 PM	10	105	0	0	0	115	0	0	0	0	0	0	0	73	1	0	0	74	1	0	12	0	0	13	202
4:45 PM	13	103	0	0	1	116	0	0	0	0	0	0	0	79	2	0	0	81	5	0	10	0	0	15	212
Hourly Total	42	409	0	0	3	451	0	0	0	0	0	0	0	281	6	0	0	287	9	0	41	0	0	50	788
5:00 PM	17	90	0	0	0	107	0	0	0	0	0	0	0	66	0	0	0	66	0	0	7	0	0	7	180
5:15 PM	11	70	0	0	0	81	0	0	0	0	0	0	0	60	1	0	0	61	0	0	10	0	0	10	152
5:30 PM	19	112	0	0	0	131	0	0	0	0	0	0	0	59	1	0	0	60	0	0	15	0	0	15	206
5:45 PM	13	97	0	0	0	110	0	0	0	0	0	0	0	58	0	0	0	58	1	0	13	0	0	14	182
Hourly Total	60	369	0	0	0	429	0	0	0	0	0	0	0	243	2	0	0	245	1	0	45	0	0	46	720
6:00 PM	13	76	0	0	0	89	0	0	0	0	0	0	0	72	0	0	0	72	1	0	10	0	0	11	172
6:15 PM	8	68	0	0	0	76	0	0	0	0	0	0	0	60	0	0	0	60	0	0	16	0	0	16	152

6:30 PM	17	59	0	0	0	76	0	0	0	0	0	0	0	41	1	0	0	42	1	0	3	0	0	4	122
6:45 PM	16	49	0	0	0	65	0	0	0	0	0	0	0	38	1	0	0	39	1	0	10	0	0	11	115
Hourly Total	54	252	0	0	0	306	0	0	0	0	0	0	0	211	2	0	0	213	3	0	39	0	0	42	561
7:00 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	314	1932	0	0	4	2246	0	0	0	0	0	0	0	1942	23	0	0	1965	27	0	318	0	1	345	4556
Approach %	14.0	86.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	98.8	1.2	0.0	-	-	7.8	0.0	92.2	0.0	-	-	-
Total %	6.9	42.4	0.0	0.0	-	49.3	0.0	0.0	0.0	0.0	-	0.0	0.0	42.6	0.5	0.0	-	43.1	0.6	0.0	7.0	0.0	-	7.6	-
Motorcycles	1	5	0	0	-	6	0	0	0	0	-	0	0	4	0	0	-	4	0	0	1	0	-	1	11
% Motorcycles	0.3	0.3	-	-	-	0.3	-	-	-	-	-	-	-	0.2	0.0	-	-	0.2	0.0	-	0.3	-	-	0.3	0.2
Cars & Light Goods	12	1714	0	0	-	1726	0	0	0	0	-	0	0	1746	2	0	-	1748	2	0	16	0	-	18	3492
% Cars & Light Goods	3.8	88.7	-	-	-	76.8	-	-	-	-	-	-	-	89.9	8.7	-	-	89.0	7.4	-	5.0	-	-	5.2	76.6
Other Vehicles	301	213	0	0	-	514	0	0	0	0	-	0	0	192	21	0	-	213	25	0	301	0	-	326	1053
% Other Vehicles	95.9	11.0	-	-	-	22.9	-	-	-	-	-	-	-	9.9	91.3	-	-	10.8	92.6	-	94.7	-	-	94.5	23.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Pembroke, NY
September 7, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77/Flying J Truck Access
Site Code:
Start Date: 09/07/2022
Page No: 3

NY-77 [SB]

Out	In	Total
5	6	11
1762	1726	3488
493	514	1007
0	0	0
0	0	0
2260	**2246**	**4506**

R	T	L	U	P
1	5	0	0	0
12	1714	0	0	0
301	213	0	0	0
0	0	0	0	0
0	0	0	0	4
314	**1932**	**0**	**0**	**4**

Flying J Truck Access [EB]

Out	In	Total
1	1	2
14	18	32
322	326	648
0	0	0
0	0	0
337	**345**	**682**

U	L	T	R	P
0	1	0	0	0
0	16	0	2	0
0	301	0	25	0
0	0	0	0	0
0	0	0	0	1
0	**318**	**0**	**27**	**1**

09/07/2022 6:00 AM
Ending At
09/07/2022 7:15 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

Flying J Truck Access [WB]

Out	In	Total
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	**0**	**0**

R	T	L	U	P
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	**0**	**0**	**0**	**0**

U	L	T	R	P
0	0	4	0	0
0	2	1746	0	0
0	21	192	0	0
0	0	0	0	0
0	0	0	0	0
0	**23**	**1942**	**0**	**0**

Out	In	Total
5	4	9
1716	1748	3464
238	213	451
0	0	0
0	0	0
1959	**1965**	**3924**

NY-77 [NB]

Turning Movement Data Plot

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Pembroke, NY
September 7, 2022

Count Name: NY-77/Flying J Truck Access
Site Code:
Start Date: 09/07/2022

Turning Movement Peak Hour Data (6:45 AM)

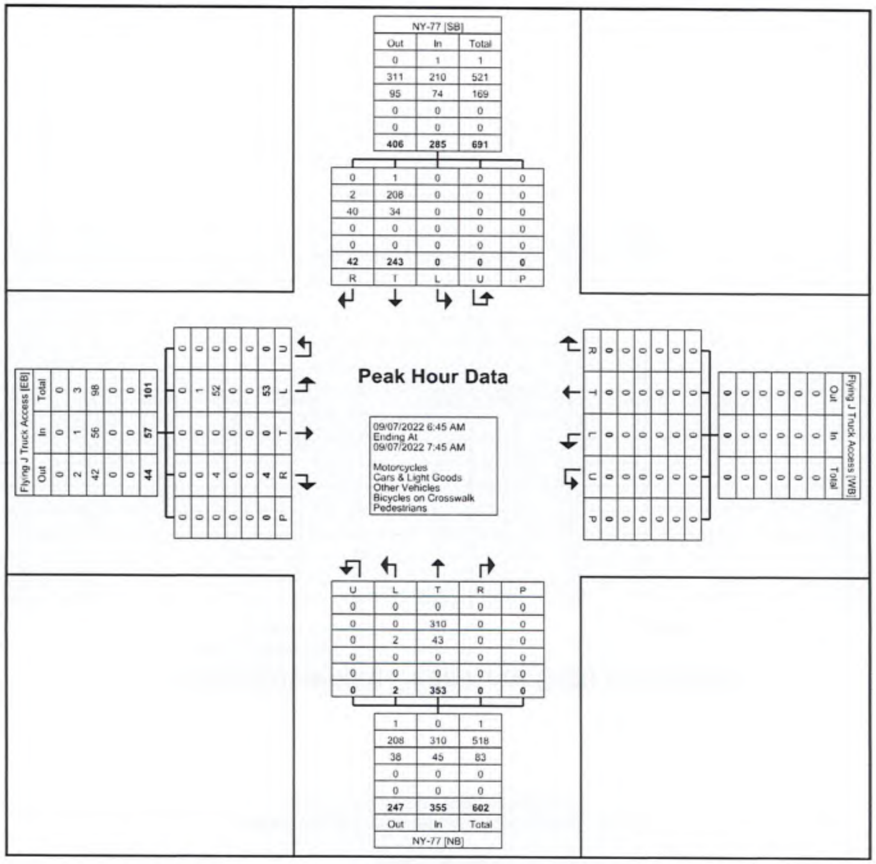
Start Time	NY-77 Southbound						Flying J Truck Access Westbound						NY-77 Northbound						Flying J Truck Access Eastbound						
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Int. Total
6:45 AM	14	55	0	0	0	69	0	0	0	0	0	0	0	81	0	0	0	81	1	0	10	0	0	11	161
7:00 AM	9	65	0	0	0	74	0	0	0	0	0	0	0	79	0	0	0	79	0	0	21	0	0	21	174
7:15 AM	12	68	0	0	0	80	0	0	0	0	0	0	0	85	2	0	0	87	2	0	12	0	0	14	181
7:30 AM	7	55	0	0	0	62	0	0	0	0	0	0	0	108	0	0	0	108	1	0	10	0	0	11	181
Total	42	243	0	0	0	285	0	0	0	0	0	0	0	353	2	0	0	355	4	0	53	0	0	57	697
Approach %	14.7	85.3	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	99.4	0.6	0.0	-	-	7.0	0.0	93.0	0.0	-	-	-
Total %	6.0	34.9	0.0	0.0	-	40.9	0.0	0.0	0.0	0.0	-	0.0	0.0	50.6	0.3	0.0	-	50.9	0.6	0.0	7.6	0.0	-	8.2	-
PHF	0.750	0.893	0.000	0.000	-	0.891	0.000	0.000	0.000	0.000	-	0.000	0.000	0.817	0.250	0.000	-	0.822	0.500	0.000	0.631	0.000	-	0.679	0.963
Motorcycles	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Motorcycles	0.0	0.4	-	-	-	0.4	-	-	-	-	-	-	-	0.0	0.0	-	-	0.0	0.0	-	0.0	-	-	0.0	0.1
Cars & Light Goods	2	208	0	0	-	210	0	0	0	0	-	0	0	310	0	0	-	310	0	0	1	0	-	1	521
% Cars & Light Goods	4.8	85.6	-	-	-	73.7	-	-	-	-	-	-	-	87.8	0.0	-	-	87.3	0.0	-	1.9	-	-	1.8	74.7
Other Vehicles	40	34	0	0	-	74	0	0	0	0	-	0	0	43	2	0	-	45	4	0	52	0	-	56	175
% Other Vehicles	95.2	14.0	-	-	-	26.0	-	-	-	-	-	-	-	12.2	100.0	-	-	12.7	100.0	-	98.1	-	-	98.2	25.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Pembroke, NY
September 7, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77/Flying J Truck Access
Site Code:
Start Date: 09/07/2022
Page No: 5



Turning Movement Peak Hour Data Plot (6:45 AM)

Turning Movement Peak Hour Data (4:00 PM)

	NY-77 Southbound						Flying J Truck Access Westbound						NY-77 Northbound						Flying J Truck Access Eastbound						
Start Time	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
4:00 PM	11	100	0	0	1	111	0	0	0	0	0	0	0	67	1	0	0	68	2	0	10	0	0	12	191
4:15 PM	8	101	0	0	1	109	0	0	0	0	0	0	0	62	2	0	0	64	1	0	9	0	0	10	183
4:30 PM	10	105	0	0	0	115	0	0	0	0	0	0	0	73	1	0	0	74	1	0	12	0	0	13	202
4:45 PM	13	103	0	0	1	116	0	0	0	0	0	0	0	79	2	0	0	81	5	0	10	0	0	15	212
Total	42	409	0	0	3	451	0	0	0	0	0	0	0	281	6	0	0	287	9	0	41	0	0	50	788
Approach %	9.3	90.7	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	97.9	2.1	0.0	-	-	18.0	0.0	82.0	0.0	-	-	-
Total %	5.3	51.9	0.0	0.0	-	57.2	0.0	0.0	0.0	0.0	-	0.0	0.0	35.7	0.8	0.0	-	36.4	1.1	0.0	5.2	0.0	-	6.3	-
PHF	0.808	0.974	0.000	0.000	-	0.972	0.000	0.000	0.000	0.000	-	0.000	0.000	0.889	0.750	0.000	-	0.886	0.450	0.000	0.854	0.000	-	0.833	0.929
Motorcycles	1	3	0	0	-	4	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	5
% Motorcycles	2.4	0.7	-	-	-	0.9	-	-	-	-	-	-	-	0.4	0.0	-	-	0.3	0.0	-	0.0	-	-	0.0	0.6
Cars & Light Goods	2	374	0	0	-	376	0	0	0	0	-	0	0	258	2	0	-	260	0	0	2	0	-	2	638
% Cars & Light Goods	4.8	91.4	-	-	-	83.4	-	-	-	-	-	-	-	91.8	33.3	-	-	90.6	0.0	-	4.9	-	-	4.0	81.0
Other Vehicles	39	32	0	0	-	71	0	0	0	0	-	0	0	22	4	0	-	26	9	0	39	0	-	48	145
% Other Vehicles	92.9	7.8	-	-	-	15.7	-	-	-	-	-	-	-	7.8	66.7	-	-	9.1	100.0	-	95.1	-	-	96.0	18.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

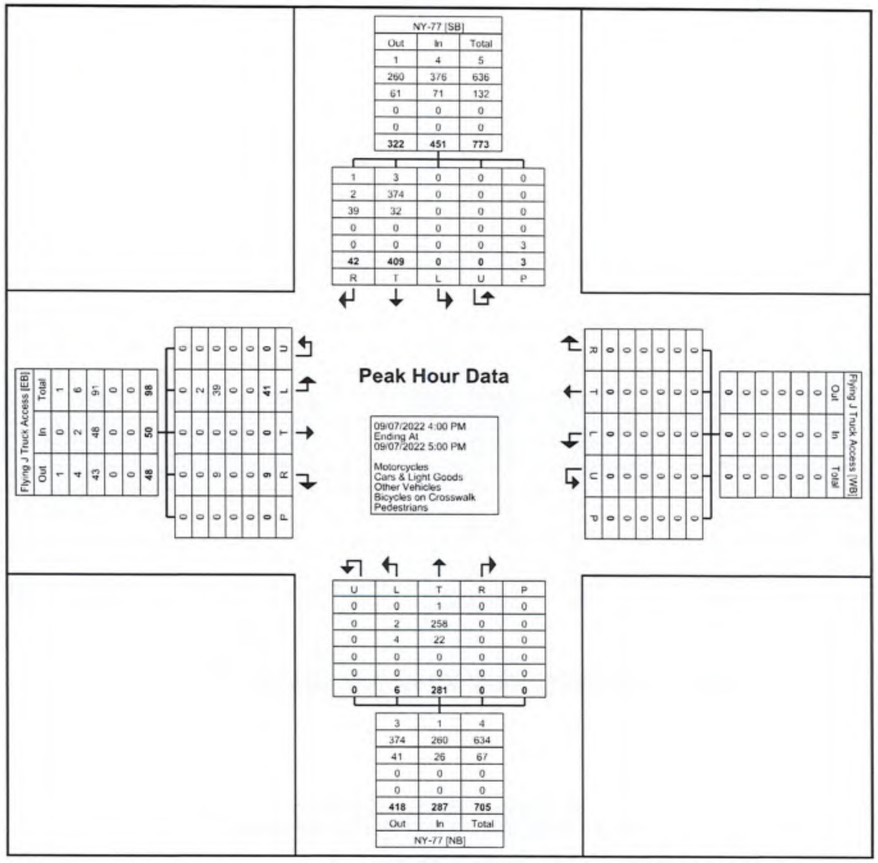
Pembroke, NY
September 7, 2022

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77/Flying J Truck Access
Site Code:
Start Date: 09/07/2022
Page No: 7



Turning Movement Peak Hour Data Plot (4:00 PM)

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Pembroke, NY
September 7, 2022

Count Name: NY-77/NY-5
Site Code:
Start Date: 09/07/2022
Page No: 1

Turning Movement Data

	NY-77 Southbound							NY-5 Westbound							NY-77 Northbound							NY-5 Eastbound							
Start Time	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
6:00 AM	4	0	28	3	0	0	35	6	3	26	4	0	0	39	6	0	27	11	0	0	44	4	4	15	17	0	0	40	158
6:15 AM	7	1	25	2	0	0	35	9	7	10	7	0	0	33	3	3	40	12	0	0	58	5	2	12	16	0	0	35	161
6:30 AM	8	2	25	4	0	0	39	9	10	29	8	0	0	56	6	1	37	14	0	0	58	2	2	24	17	0	0	45	198
6:45 AM	9	0	39	2	0	0	50	13	9	17	16	0	0	55	6	2	41	17	0	0	66	9	3	29	14	0	0	55	226
Hourly Total	28	3	117	11	0	0	159	37	29	82	35	0	0	183	21	6	145	54	0	0	226	20	11	80	64	0	0	175	743
7:00 AM	9	4	42	7	0	0	62	12	2	28	27	0	0	69	6	3	41	10	0	0	60	16	5	33	24	0	0	78	269
7:15 AM	5	3	61	11	0	0	80	11	5	46	45	0	0	107	26	6	58	21	0	0	111	18	9	30	21	0	0	78	376
7:30 AM	11	2	41	3	0	0	57	5	3	27	10	0	0	45	7	1	67	17	0	0	92	10	1	44	25	0	0	80	274
7:45 AM	10	2	35	12	0	0	59	8	1	28	8	0	0	45	9	2	40	8	0	0	59	6	2	29	18	0	0	55	218
Hourly Total	35	11	179	33	0	0	258	36	11	129	90	0	0	266	48	12	206	56	0	0	322	50	17	136	88	0	0	291	1137
8:00 AM	11	1	27	9	0	0	48	12	6	21	13	0	0	52	8	1	50	13	0	0	72	4	3	18	17	0	0	42	214
8:15 AM	7	7	23	11	0	0	48	7	3	21	9	0	0	40	19	2	32	8	0	0	61	10	5	32	24	0	0	71	220
8:30 AM	14	0	28	6	0	0	48	6	5	22	9	0	0	42	15	2	40	14	0	0	71	6	6	35	17	0	0	64	225
8:45 AM	4	2	21	5	0	0	32	7	1	13	14	0	0	35	4	3	32	11	0	0	50	3	3	15	22	0	0	43	160
Hourly Total	36	10	99	31	0	0	176	32	15	77	45	0	0	169	46	8	154	46	0	0	254	23	17	100	80	0	0	220	819
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	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	0	0	0	0
3:00 PM	13	5	39	11	0	0	68	8	2	34	8	0	0	52	24	2	46	15	0	0	87	10	4	33	17	0	0	64	271
3:15 PM	15	1	51	12	0	0	79	5	2	37	7	0	0	51	3	3	41	10	0	0	57	15	4	33	28	0	0	80	267
3:30 PM	19	2	59	11	0	0	91	9	3	40	11	0	0	63	5	0	40	11	0	0	56	11	8	36	18	0	0	73	283
3:45 PM	9	3	45	11	0	0	68	8	0	34	7	0	0	49	4	0	51	13	0	0	68	18	8	39	17	0	0	82	267
Hourly Total	56	11	194	45	0	0	306	30	7	145	33	0	0	215	36	5	178	49	0	0	268	54	24	141	80	0	0	299	1088
4:00 PM	26	4	55	20	0	0	105	13	1	43	8	0	0	65	2	1	42	13	0	0	58	14	3	33	12	0	0	62	290
4:15 PM	22	7	56	18	0	0	103	8	5	44	9	0	0	66	7	1	33	12	0	0	53	8	7	47	17	0	0	79	301
4:30 PM	21	4	61	18	0	0	104	1	5	33	9	0	0	48	11	1	50	17	0	0	79	14	6	52	21	0	0	93	324
4:45 PM	17	8	72	18	0	0	115	10	4	31	12	0	0	57	10	0	40	10	0	0	60	13	12	37	20	0	0	82	314
Hourly Total	86	23	244	74	0	0	427	32	15	151	38	0	0	236	30	3	165	52	0	0	250	49	28	169	70	0	0	316	1229
5:00 PM	24	8	45	13	0	0	90	5	3	33	16	0	0	57	10	1	50	12	0	0	73	12	4	43	14	0	0	73	293
5:15 PM	7	8	36	13	0	0	64	4	2	36	12	0	0	54	8	1	40	12	0	0	61	10	5	33	13	0	0	61	240
5:30 PM	18	3	59	28	0	0	108	11	3	33	14	0	0	61	8	4	36	10	0	0	58	15	2	35	11	0	0	63	290
5:45 PM	18	4	69	11	0	0	102	6	1	17	18	0	0	42	13	1	35	10	0	0	59	7	8	21	18	0	0	54	257
Hourly Total	67	23	209	65	0	0	364	26	9	119	60	0	0	214	39	7	161	44	0	0	251	44	19	132	56	0	0	251	1080
6:00 PM	20	1	50	13	0	0	84	7	5	19	9	0	0	40	9	2	46	11	0	0	68	10	3	38	14	0	0	65	257
6:15 PM	13	2	45	8	0	0	68	2	1	14	10	0	0	27	3	4	37	6	0	0	50	3	3	31	15	0	0	52	197

6:30 PM	6	4	38	5	0	0	53	8	2	11	12	0	0	33	3	0	23	6	0	0	32	9	2	15	8	0	0	34	152
6:45 PM	13	1	36	6	0	0	56	4	2	11	21	0	0	38	2	1	26	9	0	0	38	6	3	16	10	0	0	35	167
Hourly Total	52	8	169	32	0	0	261	21	10	55	52	0	0	138	17	7	132	32	0	0	188	28	11	100	47	0	0	186	773
7:00 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	360	89	1211	291	0	0	1951	214	96	758	353	0	0	1421	237	48	1141	333	0	0	1759	268	127	858	485	0	0	1738	6869
Approach %	18.5	4.6	62.1	14.9	0.0	-	-	15.1	6.8	53.3	24.8	0.0	-	-	13.5	2.7	64.9	18.9	0.0	-	-	15.4	7.3	49.4	27.9	0.0	-	-	-
Total %	5.2	1.3	17.6	4.2	0.0	-	28.4	3.1	1.4	11.0	5.1	0.0	-	20.7	3.5	0.7	16.6	4.8	0.0	-	25.6	3.9	1.8	12.5	7.1	0.0	-	25.3	-
Motorcycles	2	0	4	0	0	-	6	1	0	1	0	0	-	2	0	0	0	0	0	-	0	2	0	1	0	0	-	3	11
% Motorcycles	0.6	0.0	0.3	0.0	-	-	0.3	0.5	0.0	0.1	0.0	-	-	0.1	0.0	0.0	0.0	0.0	-	-	0.0	0.7	0.0	0.1	0.0	-	-	0.2	0.2
Cars & Light Goods	314	79	1056	253	0	-	1702	186	89	713	324	0	-	1312	191	45	1012	321	0	-	1569	249	121	802	437	0	-	1609	6192
% Cars & Light Goods	87.2	88.8	87.2	86.9	-	-	87.2	86.9	92.7	94.1	91.8	-	-	92.3	80.6	93.8	88.7	96.4	-	-	89.2	92.9	95.3	93.5	90.1	-	-	92.6	90.1
Other Vehicles	44	10	151	38	0	-	243	27	7	44	29	0	-	107	46	3	129	12	0	-	190	17	6	55	48	0	-	126	666
% Other Vehicles	12.2	11.2	12.5	13.1	-	-	12.5	12.6	7.3	5.8	8.2	-	-	7.5	19.4	6.3	11.3	3.6	-	-	10.8	6.3	4.7	6.4	9.9	-	-	7.2	9.7
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Pembroke, NY
September 7, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77/NY-5
Site Code:
Start Date: 09/07/2022

NY-77 [SB]

Out	In	Total
1	6	7
1724	1702	3426
211	243	454
0	0	0
0	0	0
1936	**1951**	**3887**

2	4	0	0	0
393	1056	253	0	0
54	151	38	0	0
0	0	0	0	0
0	0	0	0	0
449	**1211**	**291**	**0**	**0**
R	T	L	U	P

NY-5 [EB]

Out	In	Total
3	3	6
1427	1609	3036
110	126	236
0	0	0
0	0	0
1540	**1738**	**3278**

0	0	1	2	0
0	437	802	370	0
0	48	55	23	0
0	0	0	0	0
0	0	0	0	0
0	**485**	**858**	**395**	**0**
U	L	T	R	P

09/07/2022 6:00 AM
Ending At
09/07/2022 7:15 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

NY-5 [WB]

1	1	0	0	0
275	713	324	0	0
34	44	29	0	0
0	0	0	0	0
0	0	0	0	0
310	**758**	**353**	**0**	**0**
R	T	L	U	P

Out	In	Total
1	2	3
1291	1312	2603
142	107	249
0	0	0
0	0	0
1434	**1421**	**2855**

NY-77 [NB]

U	L	T	R	P
0	0	0	0	0
0	321	1012	236	0
0	12	129	49	0
0	0	0	0	0
0	0	0	0	0
0	**333**	**1141**	**285**	**0**

6	0	6
1750	1569	3319
203	190	393
0	0	0
0	0	0
1959	**1759**	**3718**
Out	In	Total

Turning Movement Data Plot

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Pembroke, NY
September 7, 2022

Count Name: NY-77/NY-5
Site Code:
Start Date: 09/07/2022

Turning Movement Peak Hour Data (6:45 AM)

Start Time	NY-77 Southbound							NY-5 Westbound							NY-77 Northbound							NY-5 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
6:45 AM	9	0	39	2	0	0	50	13	9	17	16	0	0	55	6	2	41	17	0	0	66	9	3	29	14	0	0	55	226
7:00 AM	9	4	42	7	0	0	62	12	2	28	27	0	0	69	6	3	41	10	0	0	60	16	5	33	24	0	0	78	269
7:15 AM	5	3	61	11	0	0	80	11	5	46	45	0	0	107	26	6	58	21	0	0	111	18	9	30	21	0	0	78	376
7:30 AM	11	2	41	3	0	0	57	5	3	27	10	0	0	45	7	1	67	17	0	0	92	10	1	44	25	0	0	80	274
Total	34	9	183	23	0	0	249	41	19	118	98	0	0	276	45	12	207	65	0	0	329	53	18	136	84	0	0	291	1145
Approach %	13.7	3.6	73.5	9.2	0.0	-	-	14.9	6.9	42.8	35.5	0.0	-	-	13.7	3.6	62.9	19.8	0.0	-	-	18.2	6.2	46.7	28.9	0.0	-	-	-
Total %	3.0	0.8	16.0	2.0	0.0	-	21.7	3.6	1.7	10.3	8.6	0.0	-	24.1	3.9	1.0	18.1	5.7	0.0	-	28.7	4.6	1.6	11.9	7.3	0.0	-	25.4	-
PHF	0.773	0.563	0.750	0.523	0.000	-	0.778	0.788	0.528	0.641	0.544	0.000	-	0.645	0.433	0.500	0.772	0.774	0.000	-	0.741	0.736	0.500	0.773	0.840	0.000	-	0.909	0.761
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	0.5	0.0	-	-	0.4	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.1
Cars & Light Goods	28	8	155	16	0	-	207	35	16	105	86	0	-	242	38	12	181	63	0	-	294	51	18	127	72	0	-	268	1011
% Cars & Light Goods	82.4	88.9	84.7	69.6	-	-	83.1	85.4	84.2	89.0	87.8	-	-	87.7	84.4	100.0	87.4	96.9	-	-	89.4	96.2	100.0	93.4	85.7	-	-	92.1	88.3
Other Vehicles	6	1	27	7	0	-	41	6	3	13	12	0	-	34	7	0	26	2	0	-	35	2	0	9	12	0	-	23	133
% Other Vehicles	17.6	11.1	14.8	30.4	-	-	16.5	14.6	15.8	11.0	12.2	-	-	12.3	15.6	0.0	12.6	3.1	-	-	10.6	3.8	0.0	6.6	14.3	-	-	7.9	11.6
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Pembroke, NY
September 7, 2022

TRI-STATE TRAFFIC DATA
Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77/NY-5
Site Code:
Start Date: 09/07/2022

Peak Hour Data

09/07/2022 6:45 AM
Ending At
09/07/2022 7:45 AM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

NY-77 [SB]

Out	In	Total
0	1	1
304	207	511
47	41	88
0	0	0
0	0	0
351	**249**	**600**

R	T	L	U	P
0	1	0	0	0
36	155	16	0	0
7	27	7	0	0
0	0	0	0	0
0	0	0	0	0
43	**183**	**23**	**0**	**0**

NY-5 [EB]

Out	In	Total
0	0	0
204	268	472
22	23	45
0	0	0
0	0	0
226	**291**	**517**

U	L	T	R	P
0	0	0	0	0
0	72	127	69	0
0	12	9	2	0
0	0	0	0	0
0	0	0	0	0
0	**84**	**136**	**71**	**0**

NY-5 [WB]

Out	In	Total
0	0	0
193	242	435
23	34	57
0	0	0
0	0	0
216	**276**	**492**

R	T	L	U	P
0	0	0	0	0
51	105	88	0	0
9	13	12	0	0
0	0	0	0	0
0	0	0	0	0
60	**118**	**98**	**0**	**0**

U	L	T	R	P
0	0	0	0	0
0	63	181	50	0
0	2	26	7	0
0	0	0	0	0
0	0	0	0	0
0	**65**	**207**	**57**	**0**

Out	In	Total
1	0	1
310	294	604
41	35	76
0	0	0
0	0	0
352	**329**	**681**

NY-77 [NB]

Turning Movement Peak Hour Data Plot (6:45 AM)

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Pembroke, NY
September 7, 2022

Count Name: NY-77/NY-5
Site Code:
Start Date: 09/07/2022

Turning Movement Peak Hour Data (4:15 PM)

Start Time	NY-77 Southbound							NY-5 Westbound							NY-77 Northbound							NY-5 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
4:15 PM	22	7	56	18	0	0	103	8	5	44	9	0	0	66	7	1	33	12	0	0	53	8	7	47	17	0	0	79	301
4:30 PM	21	4	61	18	0	0	104	1	5	33	9	0	0	48	11	1	50	17	0	0	79	14	6	52	21	0	0	93	324
4:45 PM	17	8	72	18	0	0	115	10	4	31	12	0	0	57	10	0	40	10	0	0	60	13	12	37	20	0	0	82	314
5:00 PM	24	8	45	13	0	0	90	5	3	33	16	0	0	57	10	1	50	12	0	0	73	12	4	43	14	0	0	73	293
Total	84	27	234	67	0	0	412	24	17	141	46	0	0	228	38	3	173	51	0	0	265	47	29	179	72	0	0	327	1232
Approach %	20.4	6.6	56.8	16.3	0.0	-	-	10.5	7.5	61.8	20.2	0.0	-	-	14.3	1.1	65.3	19.2	0.0	-	-	14.4	8.9	54.7	22.0	0.0	-	-	-
Total %	6.8	2.2	19.0	5.4	0.0	-	33.4	1.9	1.4	11.4	3.7	0.0	-	18.5	3.1	0.2	14.0	4.1	0.0	-	21.5	3.8	2.4	14.5	5.8	0.0	-	26.5	-
PHF	0.875	0.844	0.813	0.931	0.000	-	0.896	0.600	0.850	0.801	0.719	0.000	-	0.864	0.864	0.750	0.865	0.750	0.000	-	0.839	0.839	0.604	0.861	0.857	0.000	-	0.879	0.951
Motorcycles	2	0	1	0	0	-	3	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	1	0	0	-	1	4
% Motorcycles	2.4	0.0	0.4	0.0	-	-	0.7	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.6	0.0	-	-	0.3	0.3
Cars & Light Goods	74	26	210	61	0	-	371	23	17	137	46	0	-	223	37	3	157	49	0	-	246	45	28	167	65	0	-	305	1145
% Cars & Light Goods	88.1	96.3	89.7	91.0	-	-	90.0	95.8	100.0	97.2	100.0	-	-	97.8	97.4	100.0	90.8	96.1	-	-	92.8	95.7	96.6	93.3	90.3	-	-	93.3	92.9
Other Vehicles	8	1	23	6	0	-	38	1	0	4	0	0	-	5	1	0	16	2	0	-	19	2	1	11	7	0	-	21	83
% Other Vehicles	9.5	3.7	9.8	9.0	-	-	9.2	4.2	0.0	2.8	0.0	-	-	2.2	2.6	0.0	9.2	3.9	-	-	7.2	4.3	3.4	6.1	9.7	-	-	6.4	6.7
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Pembroke, NY
September 7, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77/NY-5
Site Code:
Start Date: 09/07/2022

Peak Hour Data

09/07/2022 4:15 PM
Ending At
09/07/2022 5:15 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

NY-77 [SB]

Out	In	Total
0	3	3
262	371	633
24	38	62
0	0	0
0	0	0
286	**412**	**698**

R	T	L	U	P
2	1	0	0	0
100	210	61	0	0
9	23	6	0	0
0	0	0	0	0
0	0	0	0	0
111	**234**	**67**	**0**	**0**

NY-5 [EB]

Out	In	Total
2	1	3
286	305	591
15	21	36
0	0	0
0	0	0
303	**327**	**630**

U	L	T	R	P
0	0	1	0	0
0	65	167	73	0
0	7	11	3	0
0	0	0	0	0
0	0	0	0	0
0	**72**	**179**	**76**	**0**

NY-5 [WB]

Out	In	Total
1	0	1
268	223	491
18	5	23
0	0	0
0	0	0
287	**228**	**515**

R	T	L	U	P
0	0	0	0	0
40	137	46	0	0
1	4	0	0	0
0	0	0	0	0
0	0	0	0	0
41	**141**	**46**	**0**	**0**

NY-77 [NB]

U	L	T	R	P
0	0	0	0	0
0	49	157	40	0
0	2	16	1	0
0	0	0	0	0
0	0	0	0	0
0	**51**	**173**	**41**	**0**

Out	In	Total
1	0	1
329	246	575
26	19	45
0	0	0
0	0	0
356	**265**	**621**

Turning Movement Peak Hour Data Plot (4:15 PM)

Pembroke, NY
September 7, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77/Vision Parkway
Site Code:
Start Date: 09/07/2022
Page No: 1

Turning Movement Data

Start Time	NY-77 Southbound					Vision Parkway Westbound					NY-77 Northbound					
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
6:00 AM	32	0	0	0	32	0	0	0	0	0	0	55	0	0	55	87
6:15 AM	38	0	0	0	38	0	0	0	0	0	2	69	0	0	71	109
6:30 AM	40	2	0	0	42	0	0	0	0	0	0	69	0	0	69	111
6:45 AM	57	0	0	0	57	0	0	0	0	0	4	83	0	0	87	144
Hourly Total	167	2	0	0	169	0	0	0	0	0	6	276	0	0	282	451
7:00 AM	64	1	0	0	65	2	0	0	0	2	1	79	0	0	80	147
7:15 AM	73	0	0	0	73	0	0	0	0	0	2	89	0	0	91	164
7:30 AM	57	1	0	0	58	3	0	0	0	3	0	102	0	0	102	163
7:45 AM	65	0	0	1	65	0	0	0	0	0	0	66	0	0	66	131
Hourly Total	259	2	0	1	261	5	0	0	0	5	3	336	0	0	339	605
8:00 AM	44	0	0	0	44	0	0	0	0	0	1	85	0	0	86	130
8:15 AM	50	0	0	0	50	0	1	0	0	1	0	70	0	0	70	121
8:30 AM	44	0	0	0	44	0	0	0	0	0	0	68	0	0	68	112
8:45 AM	34	0	0	0	34	1	1	0	0	2	0	66	0	0	66	102
Hourly Total	172	0	0	0	172	1	2	0	0	3	1	289	0	0	290	465
9:00 AM	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
3:00 PM	72	0	0	0	72	0	0	0	0	0	0	78	0	0	78	150
3:15 PM	90	0	1	0	91	1	0	0	0	1	0	77	0	0	77	169
3:30 PM	84	1	0	0	85	3	3	0	0	6	0	75	0	0	75	166
3:45 PM	78	0	0	0	78	0	1	0	0	1	0	83	0	0	83	162
Hourly Total	324	1	1	0	326	4	4	0	0	8	0	313	0	0	313	647
4:00 PM	102	0	1	0	103	0	0	0	0	0	0	67	0	0	67	170
4:15 PM	102	0	0	0	102	1	0	0	0	1	0	62	0	0	62	165
4:30 PM	103	0	1	0	104	0	0	0	0	0	0	76	0	0	76	180
4:45 PM	107	0	2	0	109	0	0	0	0	0	0	77	0	0	77	186
Hourly Total	414	0	4	0	418	1	0	0	0	1	0	282	0	0	282	701
5:00 PM	91	0	0	0	91	0	1	0	0	1	0	71	0	0	71	163
5:15 PM	68	0	1	0	69	0	0	0	0	0	0	62	0	0	62	131
5:30 PM	112	0	0	0	112	0	0	0	0	0	0	60	0	0	60	172
5:45 PM	100	1	0	0	101	0	1	0	0	1	0	61	0	0	61	163
Hourly Total	371	1	1	0	373	0	2	0	0	2	0	254	0	0	254	629
6:00 PM	76	0	1	0	77	1	0	0	0	1	0	76	0	0	76	154
6:15 PM	71	0	0	0	71	0	0	0	0	0	0	55	0	0	55	126
6:30 PM	61	0	0	0	61	0	0	0	0	0	0	43	0	0	43	104

6:45 PM	51	0	0	0	51	0	0	0	0	0	0	38	0	0	38	89
Hourly Total	259	0	1	0	260	1	0	0	0	1	0	212	0	0	212	473
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1966	6	7	1	1979	12	8	0	0	20	10	1962	0	0	1972	3971
Approach %	99.3	0.3	0.4	-	-	60.0	40.0	0.0	-	-	0.5	99.5	0.0	-	-	-
Total %	49.5	0.2	0.2	-	49.8	0.3	0.2	0.0	-	0.5	0.3	49.4	0.0	-	49.7	-
Motorcycles	8	0	0	-	8	0	0	0	-	0	0	4	0	-	4	12
% Motorcycles	0.4	0.0	0.0	-	0.4	0.0	0.0	-	-	0.0	0.0	0.2	-	-	0.2	0.3
Cars & Light Goods	1711	6	4	-	1721	12	7	0	-	19	10	1745	0	-	1755	3495
% Cars & Light Goods	87.0	100.0	57.1	-	87.0	100.0	87.5	-	-	95.0	100.0	88.9	-	-	89.0	88.0
Other Vehicles	247	0	3	-	250	0	1	0	-	1	0	213	0	-	213	464
% Other Vehicles	12.6	0.0	42.9	-	12.6	0.0	12.5	-	-	5.0	0.0	10.9	-	-	10.8	11.7
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

Pembroke, NY
September 7, 2022

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77/Vision Parkway
Site Code:
Start Date: 09/07/2022
Page No: 3

NY-77 [SB]

Out	In	Total
4	8	12
1761	1721	3482
216	250	466
0	0	0
0	0	0
1981	**1979**	**3960**

8	0	0	0
1711	6	4	0
247	0	3	0
0	0	0	0
0	0	0	1
1966	**6**	**7**	**1**
T	L	U	P

Vision Parkway [WB]

Out	In	Total
0	0	0
16	19	35
0	1	1
0	0	0
0	0	0
16	**20**	**36**

R	L	U	P
0	0	0	0
12	7	0	0
0	1	0	0
0	0	0	0
0	0	0	0
12	**8**	**0**	**0**

09/07/2022 6:00 AM
Ending At
09/07/2022 7:15 PM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

U	T	R	P
0	4	0	0
0	1745	10	0
0	213	0	0
0	0	0	0
0	0	0	0
0	**1962**	**10**	**0**

8	4	12
1718	1755	3473
248	213	461
0	0	0
0	0	0
1974	**1972**	**3946**
Out	In	Total

NY-77 [NB]

Turning Movement Data Plot

Pembroke, NY
September 7, 2022

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77/Vision Parkway
Site Code:
Start Date: 09/07/2022

Turning Movement Peak Hour Data (6:45 AM)

Start Time	NY-77 Southbound					Vision Parkway Westbound					NY-77 Northbound					
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
6:45 AM	57	0	0	0	57	0	0	0	0	0	4	83	0	0	87	144
7:00 AM	64	1	0	0	65	2	0	0	0	2	1	79	0	0	80	147
7:15 AM	73	0	0	0	73	0	0	0	0	0	2	89	0	0	91	164
7:30 AM	57	1	0	0	58	3	0	0	0	3	0	102	0	0	102	163
Total	251	2	0	0	253	5	0	0	0	5	7	353	0	0	360	618
Approach %	99.2	0.8	0.0	-	-	100.0	0.0	0.0	-	-	1.9	98.1	0.0	-	-	-
Total %	40.6	0.3	0.0	-	40.9	0.8	0.0	0.0	-	0.8	1.1	57.1	0.0	-	58.3	-
PHF	0.860	0.500	0.000	-	0.866	0.417	0.000	0.000	-	0.417	0.438	0.865	0.000	-	0.882	0.942
Motorcycles	1	0	0	-	1	0	0	0	-	0	0	0	0	-	0	1
% Motorcycles	0.4	0.0	-	-	0.4	0.0	-	-	-	0.0	0.0	0.0	-	-	0.0	0.2
Cars & Light Goods	208	2	0	-	210	5	0	0	-	5	7	305	0	-	312	527
% Cars & Light Goods	82.9	100.0	-	-	83.0	100.0	-	-	-	100.0	100.0	86.4	-	-	86.7	85.3
Other Vehicles	42	0	0	-	42	0	0	0	-	0	0	48	0	-	48	90
% Other Vehicles	16.7	0.0	-	-	16.6	0.0	-	-	-	0.0	0.0	13.6	-	-	13.3	14.6
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Pembroke, NY
September 7, 2022

TRI-STATE TRAFFIC DATA

Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77/Vision Parkway
Site Code:
Start Date: 09/07/2022

NY-77 [SB]

Out	In	Total
0	1	1
310	210	520
48	42	90
0	0	0
0	0	0
358	**253**	**611**

T	L	U	P
1	0	0	0
208	2	0	0
42	0	0	0
0	0	0	0
0	0	0	0
251	**2**	**0**	**0**

Peak Hour Data

09/07/2022 6:45 AM
Ending At
09/07/2022 7:45 AM

Motorcycles
Cars & Light Goods
Other Vehicles
Bicycles on Crosswalk
Pedestrians

Vision Parkway [WB]

R	L	U	P
0	0	0	0
5	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
5	**0**	**0**	**0**

Out	In	Total
0	0	0
9	5	14
0	0	0
0	0	0
0	0	0
9	**5**	**14**

U	T	R	P
0	0	0	0
0	305	7	0
0	48	0	0
0	0	0	0
0	0	0	0
0	**353**	**7**	**0**

Out	In	Total
1	0	1
208	312	520
42	48	90
0	0	0
0	0	0
251	**360**	**611**

NY-77 [NB]

Turning Movement Peak Hour Data Plot (6:45 AM)

Pembroke, NY
September 7, 2022

TRI-STATE TRAFFIC DATA
Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77/Vision Parkway
Site Code:
Start Date: 09/07/2022

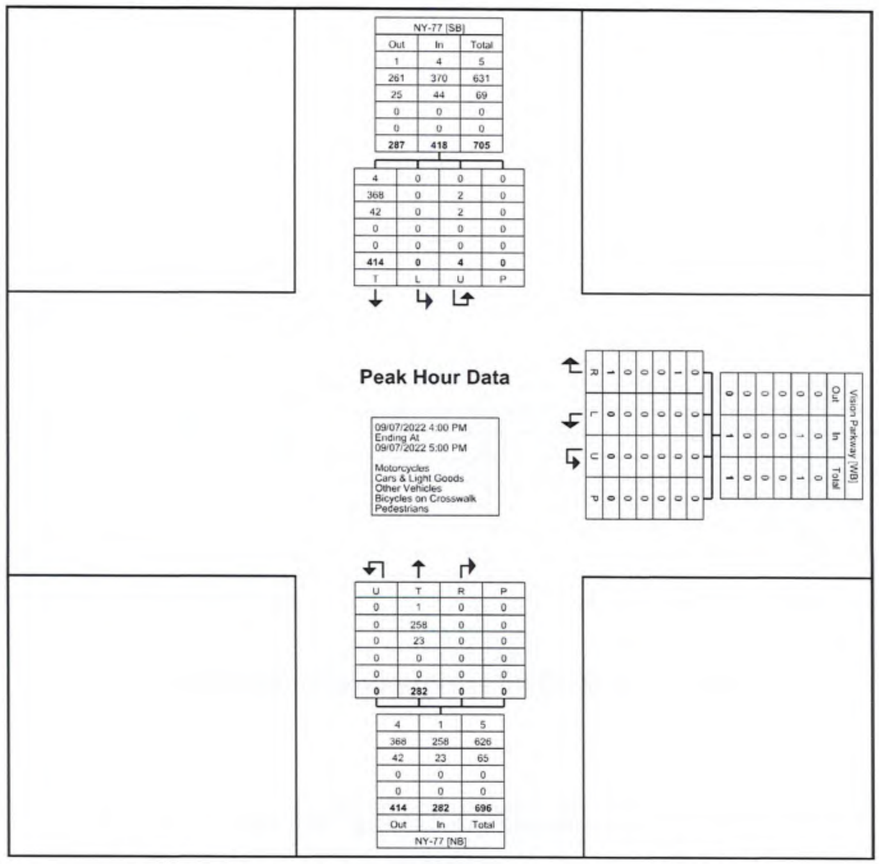
Turning Movement Peak Hour Data (4:00 PM)

Start Time	NY-77 Southbound					Vision Parkway Westbound					NY-77 Northbound					
	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
4:00 PM	102	0	1	0	103	0	0	0	0	0	0	67	0	0	67	170
4:15 PM	102	0	0	0	102	1	0	0	0	1	0	62	0	0	62	165
4:30 PM	103	0	1	0	104	0	0	0	0	0	0	76	0	0	76	180
4:45 PM	107	0	2	0	109	0	0	0	0	0	0	77	0	0	77	186
Total	414	0	4	0	418	1	0	0	0	1	0	282	0	0	282	701
Approach %	99.0	0.0	1.0	-	-	100.0	0.0	0.0	-	-	0.0	100.0	0.0	-	-	-
Total %	59.1	0.0	0.6	-	59.6	0.1	0.0	0.0	-	0.1	0.0	40.2	0.0	-	40.2	-
PHF	0.967	0.000	0.500	-	0.959	0.250	0.000	0.000	-	0.250	0.000	0.916	0.000	-	0.916	0.942
Motorcycles	4	0	0	-	4	0	0	0	-	0	0	1	0	-	1	5
% Motorcycles	1.0	-	0.0	-	1.0	0.0	-	-	-	0.0	-	0.4	-	-	0.4	0.7
Cars & Light Goods	368	0	2	-	370	1	0	0	-	1	0	258	0	-	258	629
% Cars & Light Goods	88.9	-	50.0	-	88.5	100.0	-	-	-	100.0	-	91.5	-	-	91.5	89.7
Other Vehicles	42	0	2	-	44	0	0	0	-	0	0	23	0	-	23	67
% Other Vehicles	10.1	-	50.0	-	10.5	0.0	-	-	-	0.0	-	8.2	-	-	8.2	9.6
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

TRI-STATE TRAFFIC DATA
Tri-State Traffic Data: New York Division
184 Baker Rd

Coatesville , Pennsylvania, United States 19320
610-517-2338 bkarz@tstdata.com

Count Name: NY-77/Vision Parkway
Site Code:
Start Date: 09/07/2022
Page No: 7



Turning Movement Peak Hour Data Plot (4:00 PM)

A2

Miscellaneous Traffic Data and Calculations

Proposed Pembroke Industrian Park, Town of Pembroke, Genesee County, NY

Documentation of Ambient Traffic Volume Growth

Roadway	Segment starts at	Segment end at	2011	2014	2015	2017	2018	2019	Annual Growth
NY-77	NYS Thruway	NY-5		8,831		6,971			-7.58%
NY-77	NY-5	NY-33	6,345	5,601		5,771			-1.57%
NY-5	NY-77	Erie/Gen Co Line			5,997		6,336		1.85%
NY-5	NY-77	CR-30		5,402		4,820		4,997	-1.55%
								AVERAGE	**-2.43%**

SRF ASSOCIATES PA

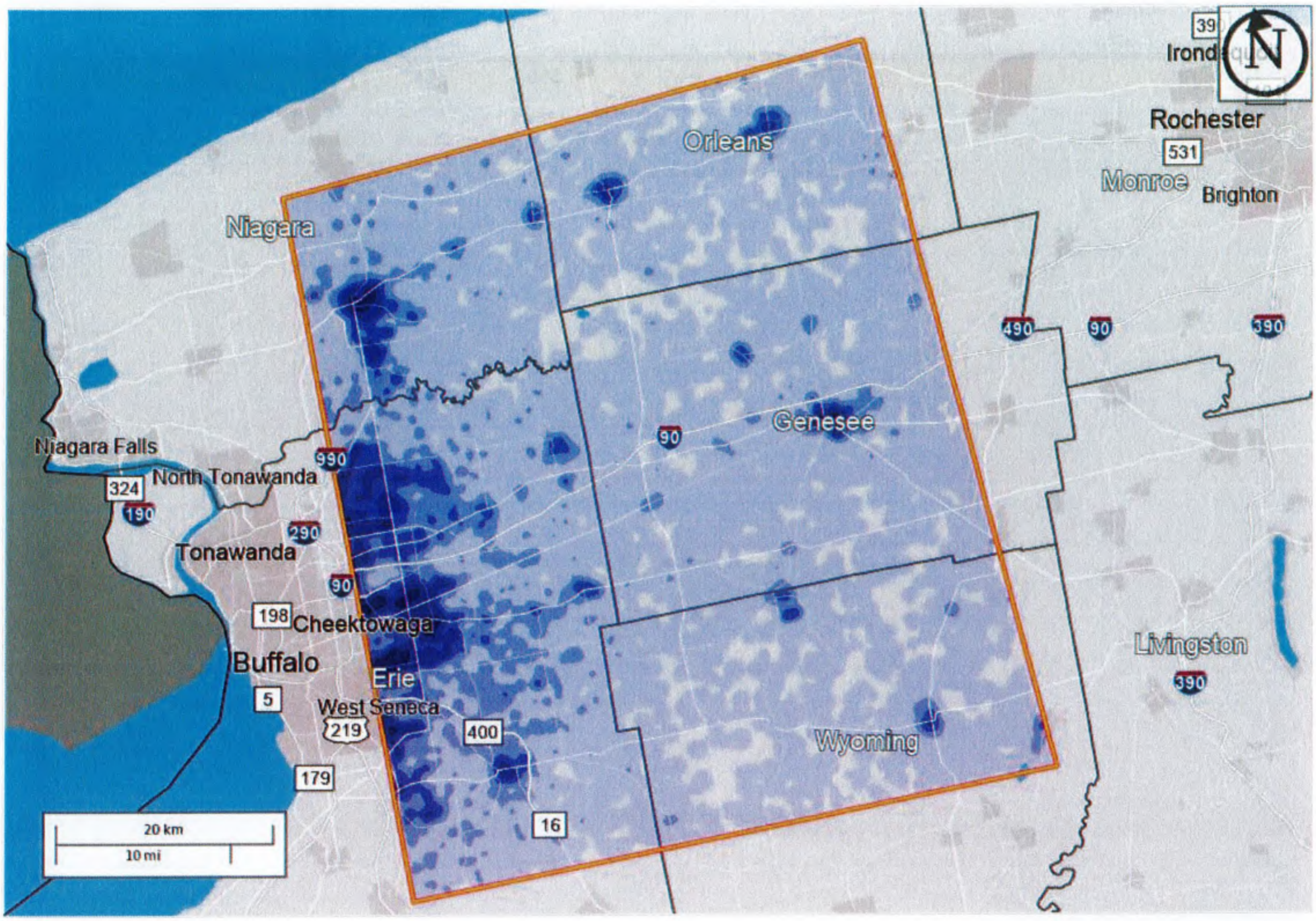
Home Area Profile Report

All Jobs for All Workers in 2019

Created by the U.S. Census Bureau's OnTheMap https://onthemap.ces.census.gov on 10/18/2022

Density of All Jobs in Home Selection Area in 2019

All Workers



Map Legend

Job Density [Jobs/Sq. Mile]

- 5 - 142
- 143 - 554
- 555 - 1,240
- 1,241 - 2,202
- 2,203 - 3,438

Selection Areas

- Analysis Selection

PHASE	DESCRIPTION	ITE LUC	SIZE	AM PEAK HOUR		PM PEAK HOUR	
				ENTER	EXIT	ENTER	EXIT
1	**Industrial Park**	**130**	**560**	**154**	**36**	**41**	**149**
	Cars			*136*	*32*	*36*	*130*
	Trucks			*18*	*4*	*5*	*19*
2	**High-Cube Fullfillment Center Warehouse**	**155**	**380**	**46**	**11**	**24**	**37**
	Cars			*42*	*10*	*22*	*34*
	Trucks			*4*	*1*	*2*	*3*
3	**Industrial Park**	**130**	**560**	**154**	**36**	**41**	**149**
	Cars			*136*	*32*	*36*	*130*
	Trucks			*18*	*4*	*5*	*19*
Total Trips			**1500**	**354**	**83**	**106**	**335**

SRF ASSOCIATES PA

PROJECT: Pembroke Industrial Park
LOCATION: Town of Pembroke, NY
PEAK HOUR: AM Peak

Figure Number: 3 | 4

Num of yrs: 3 (2025) | 4 (2029) | 3 (2032)

LOCATION NUMBER	INTERSECTION DESCRIPTION	2022 Collected Volumes	2025 Bkgd Vol 1.00%	NEXgistics Enter Dist. %	NEXgistics Exit Dist. %	NEXgistics Trips IN 8	NEXgistics Trips OUT 3	Brickhouse Commons Trips IN 7	Brickhouse Commons Trips OUT 8	Nearby Project Trips	Total Bkgd Volume
1	NY-77 / NYS Thruway (Exit 48A)										
	SR	205	211								211
	ST	136	139	10%		1		1		2	141
	SL										
	WR										
	WT										
	WL										
	NR										
	NT	90	93		10%		0		1	1	94
	NL	338	348		75%		2		2	4	352
	ER	182	186	70%		5		2		7	195
	ET										
	EL	96	99								99
2	NY-77 / Flying J Truck Access										
	SR	40	43								43
	ST	243	250	60%		6		3		9	259
	SL										
	WR										
	WT										
	WL										
	NR										
	NT	353	364		60%		2		3	5	369
	NL	2	2								2
	ER	4	4								4
	ET										
	EL	53	55								55
3	NY-77 / Proposed Northerly Access										
	SR										
	ST	247	254	60%		6		3		9	263
	SL										
	WR										
	WT										
	WL										
	NR										
	NT	355	366		60%		2		3	5	371
	NL										
	ER										
	ET										
	EL										
4	NY-77/[illegible] Parkway / Proposed Southerly Access										
	SR										
	ST	251	259	60%		6		3		3	262
	SL	2	2							6	8
	WR	5	5		60%				2	2	7
	WT										
	WL				20%				1	1	1
	NR	7	7	20%		2				2	9
	NT	353	364					3		3	367
	NL										
	ER										
	ET										
	EL										
5	NY-77 / NY-5										
	SR	43	44		5%		0			0	44
	ST	183	189		53%		1	3		4	193
	SL	23	24		5%		0			0	24
	WR	60	62	5%		0				0	62
	WT	118	122								122
	WL	98	101					1		1	102
	NR	57	59						1	1	60
	NT	207	213	10%		1			3	4	217
	NL	66	67						2	2	69
	ER	71	73					2		2	75
	ET	136	140								140
	EL	84	87	5%		1				1	88
6	NY-5/Brickhouse Road / Proposed Access										
	SR										
	ST										
	SL										
	WR										
	WT	240	247		5%		0		2	2	249
	WL	15	15								15
	NR	1	1								1
	NT										
	NL	1	1								1
	ER	9	9								9
	ET	278	286	5%		1		3		3	289
	EL										

LOCATION NUMBER	INTERSECTION DESCRIPTION	Phase 1 - Cars Enter Dist. %	Phase 1 - Cars Exit Dist. %	Phase 1 - Cars Trips IN 136	Phase 1 - Cars Trips OUT 32	Phase 1 - Trucks Enter Dist. %	Phase 1 - Trucks Exit Dist. %	Phase 1 - Trucks Trips IN 18	Phase 1 - Trucks Trips OUT 4	Phase 1 Site Trips	Phase 1 Build Volumes	2029 Bkgd Vol 1.00%
1	SR										211	220
	ST	15%		20		10%		1		21	162	109
	NT		15%		5		10%		0	5	100	104
	NL		25%		8		70%		3	11	363	378
	ER	25%		34		70%		13		47	242	231
	EL										99	103
2	SR										43	45
	ST	40%		54		80%		14		68	327	341
	NT		40%		13		80%		3	16	385	401
	NL										2	2
	ER										4	4
	EL										56	57
3	ST	40%		54		80%		14		68	331	345
	NT		40%		13		80%		3	16	387	403
4	SR	40%		54						54	54	54
	ST					80%		14		14	276	289
	SL										8	8
	WR										7	8
	WL										1	1
	NR										9	9
	NT						80%		3	3	370	385
	NL		10%		14					14	14	14
	ER		10%		3					3	3	3
	EL		40%		13					13	13	13
5	SR					80%		14		14	58	61
	ST		5%		2					2	195	201
	SL		5%		1					1	25	26
	WR	5%		7						7	69	72
	WT	10%		14		10%		2		16	138	144
	WL										102	106
	NR										60	62
	NT	5%		7						7	224	233
	NL	20%		27		5%		1		28	97	101
	ER		20%		6		5%		0	7	82	85
	ET		10%		4		10%		1	5	145	151
	EL						80%		3	3	91	95
6	SR		20%		6		5%		0	6	6	6
	SL		30%		10		95%		4	14	14	14
	WR	30%		41		95%		17		58	58	58
	WT										248	259
	WL										16	16
	NR										1	1
	NL										1	1
	ER										9	9
	ET	20%		27		5%		1		28	316	301
	EL										28	28

LOCATION NUMBER	INTERSECTION DESCRIPTION	Phase 2 - Cars Enter Dist. %	Phase 2 - Cars Exit Dist. %	Phase 2 - Cars Trips IN 42	Phase 2 - Cars Trips OUT 10	Phase 2 - Trucks Enter Dist. %	Phase 2 - Trucks Exit Dist. %	Phase 2 - Trucks Trips IN 4	Phase 2 - Trucks Trips OUT 1	Phase 2 Site Trips	Phase 2 Build Volumes	2032 Bkgd Vol 1.00%
1	SR										220	227
	ST	15%		6		10%		0		7	170	181
	NT		15%		1		10%		0	1	105	108
	NL		75%		3		70%		1	3	381	393
	ER	25%		11		70%		3		13	264	272
	EL										103	106
2	SR										45	46
	ST	40%		17		80%		3		20	361	372
	NT		40%		4		80%		1	5	406	416
	NL										2	2
	ER										4	4
	EL										57	59
3	SR										20	20
	ST	40%		17		80%		2		20	345	355
	NT									6	403	419
	NL	50%		9							5	6
	ER		15%		2					2	2	2
	EL		40%		4		80%		1	5	5	5
4	SR										54	54
	ST	15%		2						2	290	298
	SL										9	9
	WR										8	8
	WL										1	1
	NR										9	9
	NT		15%		6					6	391	407
	NL										14	14
	ER										3	3
	EL										13	13
5	SR										61	63
	ST		10%		1					1	204	210
	SL		5%		1					1	27	27
	WR	5%		2						2	74	76
	WT	10%		4		10%		1		5	149	154
	WL										104	109
	NR										62	64
	NT	10%		4						4	237	244
	NL	15%		6		5%		0		7	108	111
	ER		15%		2		5%		0	2	87	89
	ET		10%		1		10%		0	1	152	157
	EL										95	98
6	SR		20%		1		5%		0	1	7	7
	SL		30%		3		95%		0	3	17	17
	WR	25%		10		95%		1		11	60	71
	WT										259	267
	WL										16	16
	NR										1	1
	NL										1	1
	ER										9	9
	ET	20%		8		5%		0		8	301	310
	EL										36	36

LOCATION NUMBER	INTERSECTION DESCRIPTION	Phase 3 - Cars Enter Dist. %	Phase 3 - Cars Exit Dist. %	Phase 3 - Cars Trips IN 136	Phase 3 - Cars Trips OUT 32	Phase 3 - Trucks Enter Dist. %	Phase 3 - Trucks Exit Dist. %	Phase 3 - Trucks Trips IN 18	Phase 3 - Trucks Trips OUT 4	Phase 3 Site Trips	Total Site Trips	Phase 3 Build Volumes
1	SR											297
	ST	15%		20		10%		2		22	50	293
	NT		15%		5		10%		0	5	12	113
	NL		25%		8		70%		3	11	25	404
	ER	25%		34		70%		13		47	107	319
	EL											106
2	SR											46
	ST	40%		54		80%		14		68	156	440
	NT		40%		13		60%		3	16	37	434
	NL											2
	ER											4
	EL											59
3	SR										20	20
	ST	40%		54		80%		14		68	104	423
	NT		40%		13		80%		3	16	32	435
	NL										6	6
	ER										2	2
	EL										5	6
4	SR	40%		54						54	108	108
	ST					80%		14		14	32	312
	SL											8
	WR											8
	WL											1
	NR											8
	NT						80%		3	3	13	410
	NL		10%		14					14	28	28
	ER		10%		3					3		6
	EL		40%		13					13		26
5	SR					90%		14		14		77
	ST		5%		2					2	4	212
	SL				1							28
	WR	5%		7						7		83
	WT	10%		14		10%		2		16	37	170
	WL											109
	NR											64
	NT	5%		7						7		251
	NL	20%		27		5%		1		28		139
	ER		20%		6		5%		0	7		96
	ET		10%		4		10%		1	5		162
	EL						80%		1	3		101
6	SR		20%		6		5%		0	6	13	13
	SL		30%		10		95%		4	14		31
	WR	30%		41		95%		17		58	126	126
	WT											267
	WL											16
	NR											1
	NL											1
	ER											9
	ET	20%		27		5%		1		28	64	310
	EL											64

PROJECT: Pembroke Industrial Park
LOCATION: Town of Pembroke, NY
PEAK HOUR: PM Peak

Figure Number 3 4

Num of yrs 3

LOCATION NUMBER	INTERSECTION DESCRIPTION	2022 Collected Volumes	2025 Bkgd Vol 1.00%	NF Xpistics Enter Dist. %	NF Xpistics Exit Dist. %	NF Xpistics Trips IN 4	NF Xpistics Trips OUT 10	Brickhouse Commons Trips IN 60	Brickhouse Commons Trips OUT 59	Nearby Project Trips	Total Bkgd Volume
1	NY-77 NYS Thruway (Exit 48A)										
	SR	173	178								178
	ST	159	164	10%		0		8		8	172
	SL										
	WR										
	WT										
	WL										
	NR										
	NT	144	148		15%		1		8	9	157
	NL	239	247		72%		7		16	23	269
	ER	307	316	70%		3		16		19	335
	ET										
	EL	201	207								207
2	NY-77 Flying J Truck Access										
	SR	42	43								43
	ST	409	421	60%		3		24		27	448
	SL										
	WR										
	WT										
	WL										
	NR										
	NT	281	290		80%		8		24	32	322
	NL	6	6								6
	ER	9	9								9
	ET										
	EL	41	42								42
3	NY-77 Proposed Northerly Access										
	SR										
	ST	418	431	60%		3		24		27	458
	SL										
	WR										
	WT										
	WL										
	NR										
	NT	287	296		80%		8		24	32	328
	NL										
	ER										
	ET										
	EL										
4	NY-77/Vision Parkway Proposed Southerly Access										
	SR										
	ST	414	427					24		24	451
	SL			80%		3				3	3
	WR	1	1		80%		8			8	9
	WT										
	WL				20%		2			2	2
	NR			20%		1				1	1
	NT	282	291						24	24	315
	NL										
	ER										
	ET										
	EL										
5	NY-77 NY-5										
	SR	111	114		5%		1			1	115
	ST	234	241		12%		1	24		25	266
	SL	67	69		5%						69
	WR	41	42	5%		0				0	42
	WT	141	145								145
	WL	46	47					9		9	56
	NR	41	42						9	9	51
	NT	173	178	10%		1			24	25	203
	NL	51	53						15	15	68
	ER	76	78					15		15	93
	ET	179	184								184
	EL	72	74	5%		0				0	74
6	NY-5/Brickhouse Road Proposed Access										
	SR										
	ST										
	SL										
	WR										
	WT	324	334		5%		1		15	16	350
	WL	2	2								2
	NR	16	16								16
	NT										
	NL	6	6								6
	ER	3	3								3
	ET	303	312	5%		0		15		15	327
	EL										

Guideline for determining left-turn Lane at a two-way stop-controlled intersection

TWO LANE ROADWAY

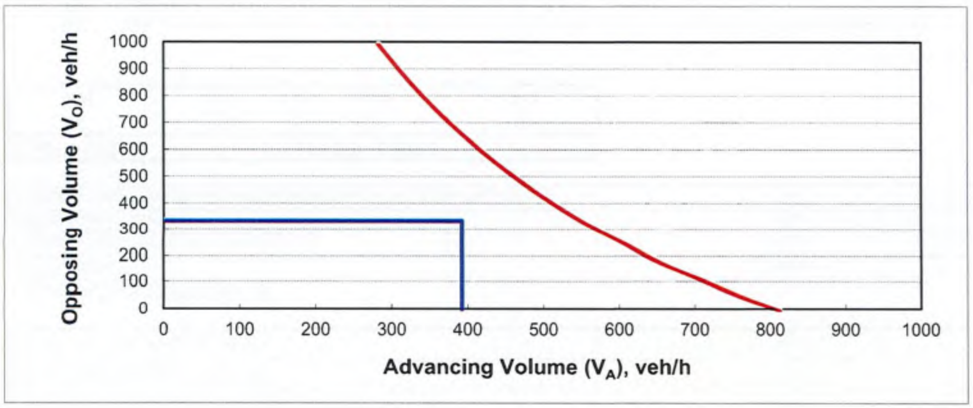
INPUT

Variable	Value
Major Approach	NY-77 @ Proposed Southerly Dwy
Approach	Northbound (AM Peak) - Phase 1
Design Speed Limit - MPH	50
Percent of left-turns in advancing volume (V_A), %:	4%
Advancing volume (V_A), veh/h:	393
Opposing volume (V_O), veh/h:	338

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

PLOT - LINE 1		PLOT - LINE 2	
0	338	393	0
393	338	393	338



OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	551
Guidance for determining the need for a major-road left-turn bay:	
Northbound (AM Peak) - Phase 1 Left-turn treatment NOT warranted at NY-77 @ Proposed Southerly Dw	

ρ	0.015	
f =	0.79	
Wait Time	1.381	s
Service Rate	950	veh/h
Arrival Rate	551	veh/h

Vo	Time_tw
0	0.0
100	0.4
200	0.8
300	1.2
400	1.7
500	2.2
600	2.8
700	3.5
800	4.2
900	5.0
1000	5.8

Vo	Serv_rate
0	1200
100	1121
200	1046
300	976
400	910
500	848
600	789
700	735
800	683
900	635
1000	590

% LT veh.	4%	10%	15%	20%	40%
Vo	V_A	V_A	V_A	V_A	V_A
0	814	503	422	377	308
100	720	445	374	334	273
200	642	396	333	297	243
300	574	355	298	266	217
400	516	319	268	239	195
500	464	287	241	215	176
600	419	259	218	194	159
700	379	234	197	176	143
800	344	212	178	159	130
900	312	192	162	144	118
1000	283	175	147	131	107

Guideline for determining left-turn Lane at a two-way stop-controlled intersection
TWO LANE ROADWAY

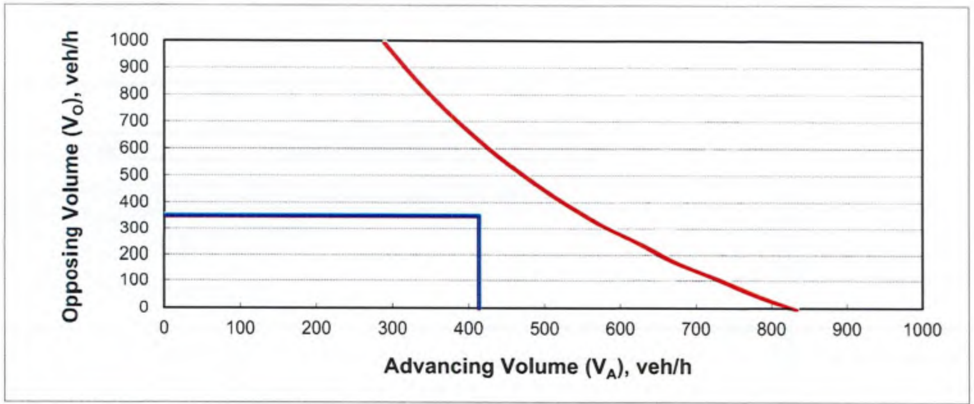
INPUT

Variable	Value
Major Approach	NY-77 @ Proposed Southerly Dwy
Approach	Northbound (AM Peak) - Phase 2
Design Speed Limit - MPH	50
Percent of left-turns in advancing volume (V_A), %:	3%
Advancing volume (V_A), veh/h:	414
Opposing volume (V_O), veh/h:	353

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

PLOT - LINE 1		PLOT - LINE 2	
0	353	414	0
414	353	414	353



OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	556
Guidance for determining the need for a major-road left-turn bay:	
Northbound (AM Peak) - Phase 2 Left-turn treatment NOT warranted at NY-77 @ Proposed Southerly Dw	

ρ	0.015	
f =	0.79	
Wait Time	1.453	s
Service Rate	940	veh/h
Arrival Rate	556	veh/h

Vo	Time_tw
0	0.0
100	0.4
200	0.8
300	1.2
400	1.7
500	2.2
600	2.8
700	3.5
800	4.2
900	5.0
1000	5.8

Vo	Serv_rate
0	1200
100	1121
200	1046
300	976
400	910
500	848
600	789
700	735
800	683
900	635
1000	590

% LT veh.	3%	10%	15%	20%	40%
Vo	V_A	V_A	V_A	V_A	V_A
0	834	503	422	377	308
100	739	445	374	334	273
200	658	396	333	297	243
300	589	355	298	266	217
400	529	319	268	239	195
500	476	287	241	215	176
600	430	259	218	194	159
700	389	234	197	176	143
800	352	212	178	159	130
900	319	192	162	144	118
1000	290	175	147	131	107

Guideline for determining left-turn Lane at a two-way stop-controlled intersection
TWO LANE ROADWAY

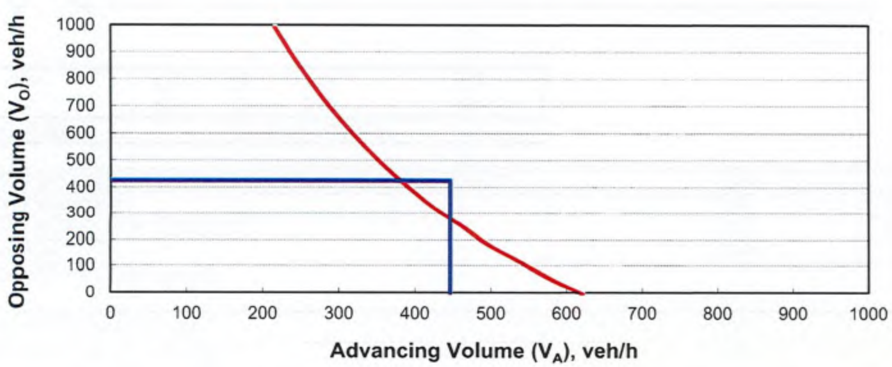
INPUT

Variable	Value
Major Approach	NY-77 @ Proposed Southerly Dwy
Approach	Northbound (AM Peak) - Phase 3
Design Speed Limit - MPH	50
Percent of left-turns in advancing volume (V_A), %:	6%
Advancing volume (V_A), veh/h:	447
Opposing volume (V_O), veh/h:	429

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

PLOT - LINE 1		PLOT - LINE 2	
0	429	447	0
447	429	447	429



OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	383
Guidance for determining the need for a major-road left-turn bay:	
Northbound (AM Peak) - Phase 3 Left-turn treatment warranted at NY-77 @ Proposed Southerly Dwy Inte	

ρ	0.015	
f =	0.79	
Wait Time	1.835	s
Service Rate	891	veh/h
Arrival Rate	383	veh/h

Vo	Time_tw
0	0.0
100	0.4
200	0.8
300	1.2
400	1.7
500	2.2
600	2.8
700	3.5
800	4.2
900	5.0
1000	5.8

Vo	Serv_rate
0	1200
100	1121
200	1046
300	976
400	910
500	848
600	789
700	735
800	683
900	635
1000	590

% LT veh.	6%	10%	15%	20%	40%
Vo	V_A	V_A	V_A	V_A	V_A
0	622	503	422	377	308
100	551	445	374	334	273
200	491	396	333	297	243
300	439	355	298	266	217
400	394	319	268	239	195
500	355	287	241	215	176
600	321	259	218	194	159
700	290	234	197	176	143
800	263	212	178	159	130
900	238	192	162	144	118
1000	216	175	147	131	107

Guideline for determining left-turn Lane at a two-way stop-controlled intersection
TWO LANE ROADWAY

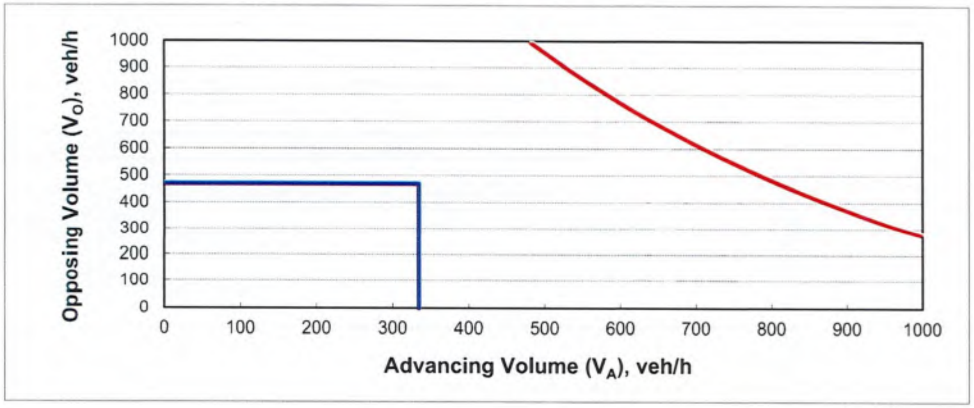
INPUT

Variable	Value
Major Approach	NY-77 @ Proposed Southerly Dwy
Approach	Northbound (PM Peak) - Phase 1
Design Speed Limit - MPH	50
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	335
Opposing volume (V_O), veh/h:	472

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

PLOT - LINE 1		PLOT - LINE 2	
0	472	335	0
335	472	335	472



OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	816
Guidance for determining the need for a major-road left-turn bay:	
Northbound (PM Peak) - Phase 1 Left-turn treatment NOT warranted at NY-77 @ Proposed Southerly Dw	

ρ	0.015	
f =	0.79	
Wait Time	2.064	s
Service Rate	865	veh/h
Arrival Rate	816	veh/h

Vo	Time_tw
0	0.0
100	0.4
200	0.8
300	1.2
400	1.7
500	2.2
600	2.8
700	3.5
800	4.2
900	5.0
1000	5.8

Vo	Serv_rate
0	1200
100	1121
200	1046
300	976
400	910
500	848
600	789
700	735
800	683
900	635
1000	590

% LT veh.	1%	10%	15%	20%	40%
Vo	V_A	V_A	V_A	V_A	V_A
0	1388	503	422	377	308
100	1229	445	374	334	273
200	1095	396	333	297	243
300	980	355	298	266	217
400	880	319	268	239	195
500	793	287	241	215	176
600	715	259	218	194	159
700	647	234	197	176	143
800	586	212	178	159	130
900	532	192	162	144	118
1000	483	175	147	131	107

Guideline for determining left-turn Lane at a two-way stop-controlled intersection
TWO LANE ROADWAY

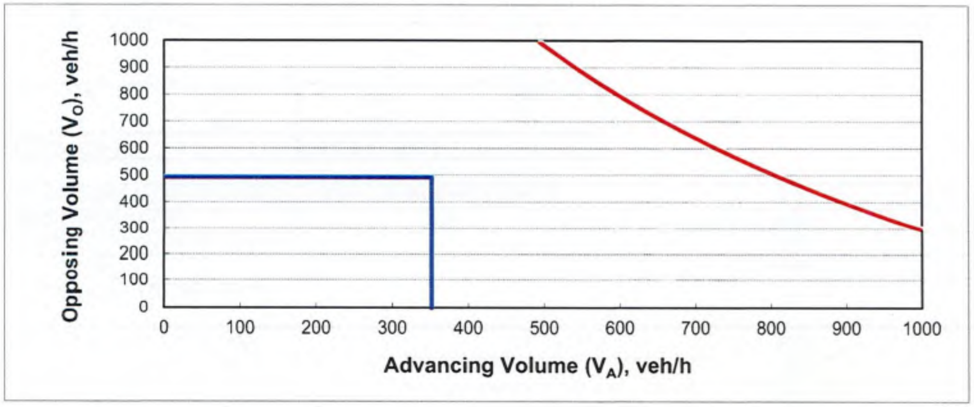
INPUT

Variable	Value
Major Approach	NY-77 @ Proposed Southerly Dwy
Approach	Northbound (PM Peak) - Phase 2
Design Speed Limit - MPH	50
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	352
Opposing volume (V_O), veh/h:	495

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

PLOT - LINE 1		PLOT - LINE 2	
0	495	352	0
352	495	352	495



OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	816
Guidance for determining the need for a major-road left-turn bay:	
Northbound (PM Peak) - Phase 2 Left-turn treatment NOT warranted at NY-77 @ Proposed Southerly Dw	

ρ	0.015	
f =	0.79	
Wait Time	2.191	s
Service Rate	851	veh/h
Arrival Rate	816	veh/h

Vo	Time_tw
0	0.0
100	0.4
200	0.8
300	1.2
400	1.7
500	2.2
600	2.8
700	3.5
800	4.2
900	5.0
1000	5.8

Vo	Serv_rate
0	1200
100	1121
200	1046
300	976
400	910
500	848
600	789
700	735
800	683
900	635
1000	590

% LT veh.	1%	10%	15%	20%	40%
Vo	V_A	V_A	V_A	V_A	V_A
0	1423	503	422	377	308
100	1259	445	374	334	273
200	1122	396	333	297	243
300	1004	355	298	266	217
400	902	319	268	239	195
500	812	287	241	215	176
600	733	259	218	194	159
700	663	234	197	176	143
800	601	212	178	159	130
900	545	192	162	144	118
1000	494	175	147	131	107

Guideline for determining left-turn Lane at a two-way stop-controlled intersection
TWO LANE ROADWAY

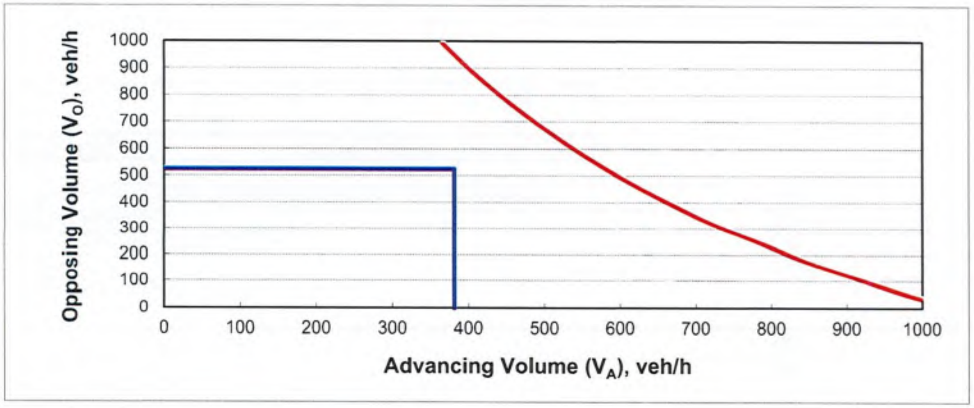
INPUT

Variable	Value
Major Approach	NY-77 @ Proposed Southerly Dwy
Approach	Northbound (PM Peak) - Phase 3
Design Speed Limit - MPH	50
Percent of left-turns in advancing volume (V_A), %:	2%
Advancing volume (V_A), veh/h:	382
Opposing volume (V_O), veh/h:	528

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

PLOT - LINE 1		PLOT - LINE 2	
0	528	382	0
382	528	382	528



OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	584
Guidance for determining the need for a major-road left-turn bay:	
Northbound (PM Peak) - Phase 3 Left-turn treatment NOT warranted at NY-77 @ Proposed Southerly Dw	

ρ	0.015	
f =	0.79	
Wait Time	2.377	s
Service Rate	831	veh/h
Arrival Rate	584	veh/h

Vo	Time_tw
0	0.0
100	0.4
200	0.8
300	1.2
400	1.7
500	2.2
600	2.8
700	3.5
800	4.2
900	5.0
1000	5.8

Vo	Serv_rate
0	1200
100	1121
200	1046
300	976
400	910
500	848
600	789
700	735
800	683
900	635
1000	590

% LT veh.	2%	10%	15%	20%	40%
Vo	V_A	V_A	V_A	V_A	V_A
0	1053	503	422	377	308
100	932	445	374	334	273
200	830	396	333	297	243
300	743	355	298	266	217
400	667	319	268	239	195
500	601	287	241	215	176
600	543	259	218	194	159
700	491	234	197	176	143
800	445	212	178	159	130
900	403	192	162	144	118
1000	366	175	147	131	107

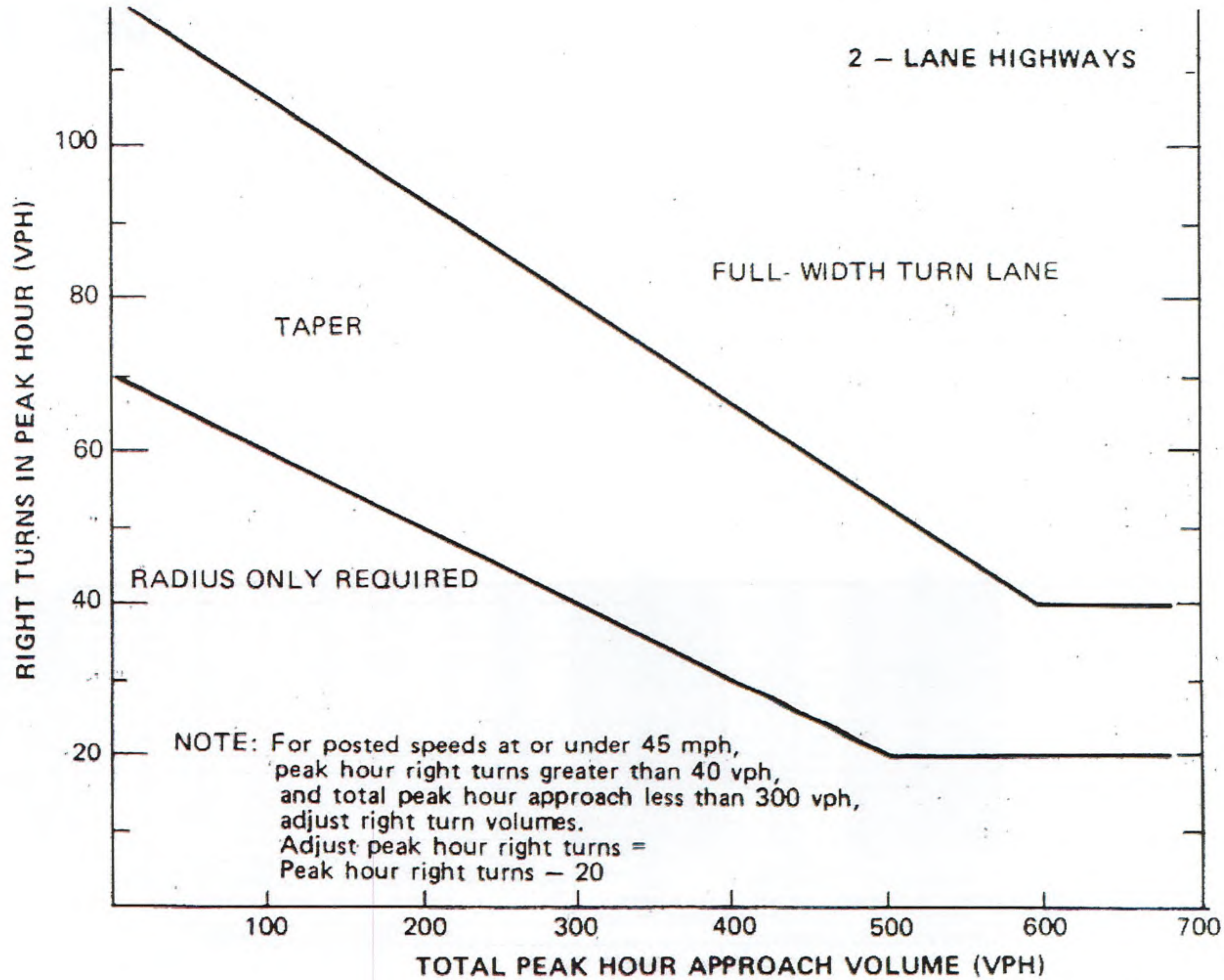


Figure 7: Cottrell's Two Lane Right Turn Treatment

Traffic Signal Warrant Analysis

NY-77/Vision Parkway/Proposed Access - Phase 1 Conditions

Town of Pembroke, Genesee County, NY

Hour			Existing Fluctuation in Artery Volumes				2025 Phase 3 Artery Volume on NY-77	Exiting Hourly Fluctuation of ITE LUC 140 - Manufacturing	Total Hourly Volumes Exiting Proposed Southerly Access under Phase 3 Conditions	Warrant 1 - Condition A (70%) 420/140	Warrant 1 - Condition B (70%) 630/70	Warrant 2 - 4 hour (70%) 80 vph	Warrant 3 - Peak hour (70%) 100 vph
			per 2017 NYSDOT count on NY-77	per 2017 NYSDOT count on NY-77	per 2017 NYSDOT count on NY-77	Hourly Fluctuation							
			NB	SB	Two-Way	Two-Way	Total	Total					
7:00 AM	to	8:00 AM	325	205	530	5.86%	499	2.60%	8	N	N	N	N
8:00 AM	to	9:00 AM	290	192	482	5.33%	454	3.20%	10	N	N	N	N
9:00 AM	to	10:00 AM	265	231	496	5.48%	467	2.70%	8	N	N	N	N
10:00 AM	to	11:00 AM	292	390	682	7.54%	642	3.00%	9	N	N	N	N
11:00 AM	to	12:00 PM	294	401	695	7.68%	654	3.00%	9	N	N	N	N
12:00 PM	to	1:00 PM	268	321	589	6.51%	555	4.90%	15	N	N	N	N
1:00 PM	to	2:00 PM	287	392	679	7.50%	639	6.30%	19	N	N	N	N
2:00 PM	to	3:00 PM	280	349	629	6.95%	592	6.70%	20	N	N	N	N
3:00 PM	to	4:00 PM	329	381	710	7.84%	669	7.10%	21	N	N	N	N
4:00 PM	to	5:00 PM	388	469	857	9.47%	807	20.60%	62	N	N	N	N
5:00 PM	to	6:00 PM	332	418	750	8.29%	706	11.50%	35	N	N	N	N
6:00 PM	to	7:00 PM	292	277	569	6.29%	536	9.60%	29	N	N	N	N
7:00 PM	to	8:00 PM	240	200	440	4.86%	414	2.70%	8	N	N	N	N
8:00 PM	to	9:00 PM	225	181	406	4.49%	382	1.50%	5	N	N	N	N
9:00 PM	to	10:00 PM	174	114	288	3.18%	271	1.50%	5	N	N	N	N
10:00 PM	to	11:00 PM	158	91	249	2.75%	234	2.10%	6	N	N	N	N
					9,051		8,523		301	0	0	0	0

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume

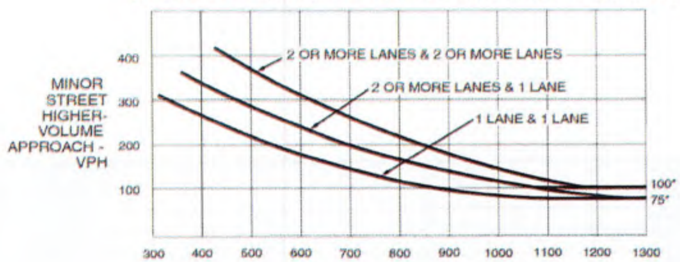
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures

[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

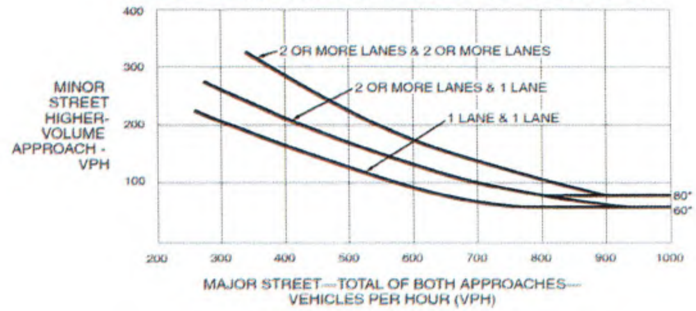
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Traffic Signal Warrant Analysis

NY-77/Vision Parkway/Proposed Access - Phase 3 Conditions
Town of Pembroke, Genesee County, NY

Hour			Existing Fluctuation in Artery Volumes				2032 Phase 3 Artery Volume on NY-77	Exiting Hourly Fluctuation of ITE LUC 140 - Manufacturing	Total Hourly Volumes Exiting Proposed Southerly Access under Phase 3 Conditions	Warrant 1 - Condition A (70%)	Warrant 1 - Condition B (70%)	Warrant 2 - 4 hour (70%)	Warrant 3 - Peak hour (70%)
			per 2017 NYSDOT count on NY-77	per 2017 NYSDOT count on NY-77	per 2017 NYSDOT count on NY-77	Hourly Fluctuation							
			NB	SB	Two-Way	Two-Way	Total	Total		420/140	630/70	80 vph	100 vph
7:00 AM	to	8:00 AM	325	205	530	5.86%	563	2.60%	16	N	N	N	N
8:00 AM	to	9:00 AM	290	192	482	5.33%	512	3.20%	19	N	N	N	N
9:00 AM	to	10:00 AM	265	231	496	5.48%	527	2.70%	16	N	N	N	N
10:00 AM	to	11:00 AM	292	390	682	7.54%	724	3.00%	18	N	N	N	N
11:00 AM	to	12:00 PM	294	401	695	7.68%	738	3.00%	18	N	N	N	N
12:00 PM	to	1:00 PM	268	321	589	6.51%	625	4.90%	30	N	N	N	N
1:00 PM	to	2:00 PM	287	392	679	7.50%	721	6.30%	38	N	N	N	N
2:00 PM	to	3:00 PM	280	349	629	6.95%	668	6.70%	41	N	N	N	N
3:00 PM	to	4:00 PM	329	381	710	7.84%	754	7.10%	43	N	N	N	N
4:00 PM	to	5:00 PM	388	469	857	9.47%	910	20.60%	125	N	N	N	N
5:00 PM	to	6:00 PM	332	418	750	8.29%	796	11.50%	70	N	Y	Y	Y
6:00 PM	to	7:00 PM	292	277	569	6.29%	604	9.60%	58	N	N	N	N
7:00 PM	to	8:00 PM	240	200	440	4.86%	467	2.70%	16	N	N	N	N
8:00 PM	to	9:00 PM	225	181	406	4.49%	431	1.50%	9	N	N	N	N
9:00 PM	to	10:00 PM	174	114	288	3.18%	306	1.50%	9	N	N	N	N
10:00 PM	to	11:00 PM	158	91	249	2.75%	264	2.10%	13	N	N	N	N
					9,051		9,611		607	0	1	1	1

SRF ASSOCIATES PA

A3

Level of Service: Criteria and Definitions

Level of Service Criteria

Highway Capacity Manual 2016

SIGNALIZED INTERSECTIONS

Level of Service is a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. Level of Service for signalized intersections is defined in terms of delay specifically, average total delay per vehicle for a 15-minute analysis period. The ranges are as follows:

Level of Service	Control Delay per vehicle (seconds)
A	< 10
B	10 – 20
C	20 – 35
D	35 – 55
E	55 – 80
F	>80

UNSIGNALIZED INTERSECTIONS

Level of Service for unsignalized intersections is also defined in terms of delay. However, the delay criteria 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. The total delay threshold for any given Level of Service is less for an unsignalized intersection than for a signalized intersection. The ranges are as follows:

Level of Service	Control Delay per vehicle (seconds)
A	< 10
B	10 – 15
C	15 – 25
D	25 – 35
E	35 - 50
F	>50

A4

Level of Service Calculations: Existing Conditions

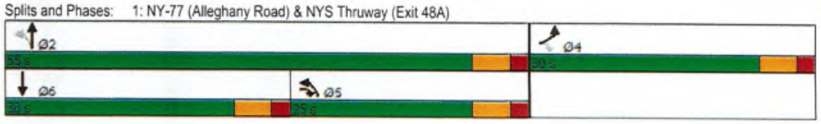
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	96	182	338	90	135	202
Future Volume (vph)	96	182	338	90	135	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	250			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.910	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1480	1196	1399	1696	2882	0
Flt Permitted	0.950		0.533			
Satd. Flow (perm)	1480	1196	785	1696	2882	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		198			220	
Link Speed (mph)	30			45	45	
Link Distance (ft)	854			973	786	
Travel Time (s)	19.4			14.7	11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	22%	35%	29%	12%	8%	18%
Adj. Flow (vph)	104	198	367	98	147	220
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	198	367	98	367	0
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						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.5	12.0	12.0	22.5	22.5	
Total Split (s)	30.0	25.0	25.0	55.0	30.0	
Total Split (%)	35.3%	29.4%	29.4%	64.7%	35.3%	
Maximum Green (s)	24.0	19.0	19.0	49.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	1.0	1.0	1.0	2.0	
Recall Mode	None	None	None	None	None	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	8.4	22.3	29.6	33.4	8.1	
Actuated g/C Ratio	0.19	0.51	0.68	0.76	0.18	
v/c Ratio	0.36	0.28	0.50	0.08	0.52	
Control Delay	23.4	2.0	10.2	4.5	11.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	23.4	2.0	10.2	4.5	11.5	
LOS	C	A	B	A	B	
Approach Delay	9.4			9.0	11.5	
Approach LOS	A			A	B	
Queue Length 50th (ft)	28	0	47	10	20	
Queue Length 95th (ft)	72	19	113	29	58	
Internal Link Dist (ft)	774			893	706	
Turn Bay Length (ft)			250			
Base Capacity (vph)	908	855	907	1603	1854	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.11	0.23	0.40	0.06	0.20	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 43.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 9.9 — Intersection LOS: A
Intersection Capacity Utilization 49.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: NY-77 (Alleghany Road) & NYS Thruway (Exit 48A)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	53	4	2	353	243	42
Future Volume (vph)	53	4	2	353	243	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	440			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		130			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.978	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	912	808	902	1696	2802	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	912	808	902	1696	2802	0
Link Speed (mph)	10			45	45	
Link Distance (ft)	888			664	973	
Travel Time (s)	60.5			10.1	14.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	98%	100%	100%	12%	14%	95%
Adj. Flow (vph)	55	4	2	368	253	44
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	4	2	368	297	0
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						
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 28.6% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	53	4	2	353	243	42
Future Vol, veh/h	53	4	2	353	243	42
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	440	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	98	100	100	12	14	95
Mvmt Flow	55	4	2	368	253	44

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	647	149	297	0	-	0
Stage 1	275	-	-	-	-	-
Stage 2	372	-	-	-	-	-
Critical Hdwy	8.07	8.4	5.6	-	-	-
Critical Hdwy Stg 1	7.27	-	-	-	-	-
Critical Hdwy Stg 2	6.87	-	-	-	-	-
Follow-up Hdwy	4.431	4.25	3.15	-	-	-
Pot Cap-1 Maneuver	276	652	818	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	275	652	818	-	-	-
Mov Cap-2 Maneuver	275	-	-	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	498	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.6	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	818	-	275	652	-	-
HCM Lane V/C Ratio	0.003	-	0.201	0.006	-	-
HCM Control Delay (s)	9.4	-	21.4	10.6	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.7	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	5	353	7	2	251
Future Volume (vph)	0	5	353	7	2	251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.865		0.998			
Flt Protected						
Satd. Flow (prot)	1644	0	1667	0	0	3089
Flt Permitted						
Satd. Flow (perm)	1644	0	1667	0	0	3089
Link Speed (mph)	30		45			45
Link Distance (ft)	873		403			478
Travel Time (s)	19.8		6.1			7.2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	14%	0%	0%	17%
Adj. Flow (vph)	0	5	376	7	2	267
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	0	383	0	0	269
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 29.0% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	353	7	2	251
Future Vol, veh/h	0	5	353	7	2	251
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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	14	0	0	17
Mvmt Flow	0	5	376	7	2	267

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	518	380	0	0	383	0
Stage 1	380	-	-	-	-	-
Stage 2	138	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	506	671	-	-	1187	-
Stage 1	696	-	-	-	-	-
Stage 2	880	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	505	671	-	-	1187	-
Mov Cap-2 Maneuver	505	-	-	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	878	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0.1
HCM LOS	B		

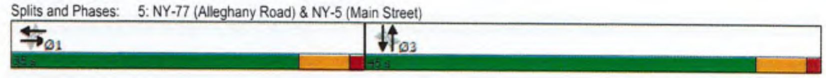
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	671	1187	-
HCM Lane V/C Ratio	-	-	0.008	0.002	-
HCM Control Delay (s)	-	-	10.4	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	136	71	98	118	60	65	207	57	23	183	43
Future Volume (vph)	84	136	71	98	118	60	65	207	57	23	183	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	300		0	260		0	325		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			115			100			100		
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		0.949			0.949			0.968			0.971	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	1707	0	1612	1605	0	1752	1793	0	1388	1602	0
Flt Permitted	0.613			0.592			0.578			0.553		
Satd. Flow (perm)	1022	1707	0	1004	1605	0	1066	1793	0	808	1602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			36			24			21	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		776			1602			801			698	
Travel Time (s)		11.8			24.3			12.1			10.6	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	14%	7%	3%	12%	11%	15%	3%	0%	12%	30%	15%	16%
Adj. Flow (vph)	111	179	93	129	155	79	86	272	75	30	241	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	272	0	129	234	0	86	347	0	30	298	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		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		Perm	NA		Perm	NA	
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phase	1	1		1	1		3	3		3	3	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		24.5	24.5		24.5	24.5	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	28.5	28.5		28.5	28.5		38.5	38.5		38.5	38.5	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
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	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	13.9	13.9		13.9	13.9		16.4	16.4		16.4	16.4	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.37	0.37		0.37	0.37	
v/c Ratio	0.34	0.48		0.41	0.44		0.22	0.51		0.10	0.49	
Control Delay	16.4	14.6		17.7	14.0		11.6	13.2		10.7	13.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.4	14.6		17.7	14.0		11.6	13.2		10.7	13.3	
LOS	B	B		B	B		B	B		B	B	
Approach Delay		15.1			15.3			12.9			13.0	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	20	43		23	35		12	52		4	45	
Queue Length 95th (ft)	54	97		61	83		37	113		17	100	
Internal Link Dist (ft)		696			1522			721			618	
Turn Bay Length (ft)	100			300			260			325		
Base Capacity (vph)	697	1176		685	1106		927	1562		703	1396	
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	0.16	0.23		0.19	0.21		0.09	0.22		0.04	0.21	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 44.1	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 14.1	Intersection LOS: B
Intersection Capacity Utilization 64.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: NY-77 (Alleghany Road) & NY-5 (Main Street)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	278	9	15	240	1	1
Future Volume (vph)	278	9	15	240	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	120		150	0
Storage Lanes		0	1		1	1
Taper Length (ft)			75		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1772	0	1597	1743	902	808
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1772	0	1597	1743	902	808
Link Speed (mph)	45			45	30	
Link Distance (ft)	831			776	817	
Travel Time (s)	12.6			11.8	18.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	7%	0%	13%	9%	100%	100%
Adj. Flow (vph)	320	10	17	276	1	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	330	0	17	276	1	1
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		
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 25.2% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	278	9	15	240	1	1
Future Vol, veh/h	278	9	15	240	1	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	-	-	120	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	7	0	13	9	100	100
Mvmt Flow	320	10	17	276	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	330	0	635	325
Stage 1	-	-	-	-	325	-
Stage 2	-	-	-	-	310	-
Critical Hdwy	-	-	4.23	-	7.4	7.2
Critical Hdwy Stg 1	-	-	-	-	6.4	-
Critical Hdwy Stg 2	-	-	-	-	6.4	-
Follow-up Hdwy	-	-	2.317	-	4.4	4.2
Pot Cap-1 Maneuver	-	-	1170	-	319	538
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	566	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1170	-	314	538
Mov Cap-2 Maneuver	-	-	-	-	314	-
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	558	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	14.1
HCM LOS			B

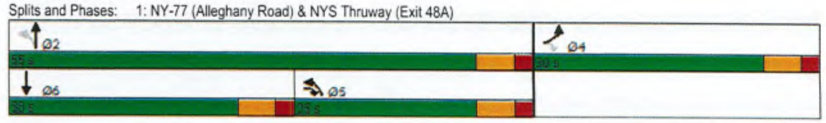
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	314	538	-	-	1170	-
HCM Lane V/C Ratio	0.004	0.002	-	-	0.015	-
HCM Control Delay (s)	16.5	11.7	-	-	8.1	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0	0	-	-	0	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	201	307	235	144	159	173
Future Volume (vph)	201	307	235	144	159	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	250			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.922	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1556	1262	1388	1827	2967	0
Flt Permitted	0.950		0.549			
Satd. Flow (perm)	1556	1262	802	1827	2967	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		310			175	
Link Speed (mph)	30			45	45	
Link Distance (ft)	854			973	786	
Travel Time (s)	19.4			14.7	11.9	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	16%	28%	30%	4%	8%	16%
Adj. Flow (vph)	203	310	237	145	161	175
Shared Lane Traffic (%)						
Lane Group Flow (vph)	203	310	237	145	336	0
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						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.5	12.0	12.0	22.5	22.5	
Total Split (s)	30.0	25.0	25.0	55.0	30.0	
Total Split (%)	35.3%	29.4%	29.4%	64.7%	35.3%	
Maximum Green (s)	24.0	19.0	19.0	49.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	1.0	1.0	1.0	2.0	
Recall Mode	None	None	None	None	None	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	10.0	25.3	22.9	22.9	7.6	
Actuated g/C Ratio	0.22	0.56	0.51	0.51	0.17	
v/c Ratio	0.59	0.37	0.45	0.16	0.52	
Control Delay	24.8	2.1	12.0	6.9	12.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	24.8	2.1	12.0	6.9	12.8	
LOS	C	A	B	A	B	
Approach Delay	11.1			10.1	12.8	
Approach LOS	B			B	B	
Queue Length 50th (ft)	44	0	31	17	18	
Queue Length 95th (ft)	120	23	80	46	60	
Internal Link Dist (ft)	774			893	706	
Turn Bay Length (ft)			250			
Base Capacity (vph)	851	835	845	1760	1702	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.24	0.37	0.28	0.08	0.20	

Intersection Summary	
Area Type: Other	
Cycle Length: 85	
Actuated Cycle Length: 45.3	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 11.2	Intersection LOS: B
Intersection Capacity Utilization 49.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: NY-77 (Alleghany Road) & NYS Thruway (Exit 48A)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	41	9	6	281	409	42
Future Volume (vph)	41	9	6	281	409	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	440			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		130			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.986	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	926	808	1081	1759	3072	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	926	808	1081	1759	3072	0
Link Speed (mph)	10			45	45	
Link Distance (ft)	888			664	973	
Travel Time (s)	60.5			10.1	14.7	
Confl. Peds. (#/hr)	3					
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	95%	100%	67%	8%	8%	93%
Adj. Flow (vph)	44	10	6	302	440	45
Shared Lane Traffic (%)						
Lane Group Flow (vph)	44	10	6	302	485	0
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						
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 24.8% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	9	6	281	409	42
Future Vol, veh/h	41	9	6	281	409	42
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	440	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	95	100	67	8	8	93
Mvmt Flow	44	10	6	302	440	45

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	780	243	485	0	-	0
Stage 1	463	-	-	-	-	-
Stage 2	317	-	-	-	-	-
Critical Hdwy	8.025	8.4	5.105	-	-	-
Critical Hdwy Stg 1	7.225	-	-	-	-	-
Critical Hdwy Stg 2	6.825	-	-	-	-	-
Follow-up Hdwy	4.4025	4.25	2.8365	-	-	-
Pot Cap-1 Maneuver	223	553	768	-	-	-
Stage 1	423	-	-	-	-	-
Stage 2	541	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	221	553	768	-	-	-
Mov Cap-2 Maneuver	221	-	-	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	541	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.8	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	768	-	221	553	-	-
HCM Lane V/C Ratio	0.008	-	0.199	0.017	-	-
HCM Control Delay (s)	9.7	-	25.3	11.6	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0	-	0.7	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	1	282	0	0	414
Future Volume (vph)	0	1	282	0	0	414
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.865					
Flt Protected						
Satd. Flow (prot)	1644	0	1759	0	0	3282
Flt Permitted						
Satd. Flow (perm)	1644	0	1759	0	0	3282
Link Speed (mph)	30		45			45
Link Distance (ft)	873		403			478
Travel Time (s)	19.8		6.1			7.2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	8%	0%	0%	10%
Adj. Flow (vph)	0	1	300	0	0	440
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	300	0	0	440
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 24.8% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	282	0	0	414
Future Vol, veh/h	0	1	282	0	0	414
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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	8	0	0	10
Mvmt Flow	0	1	300	0	0	440

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	520	300	0	0	300	0
Stage 1	300	-	-	-	-	-
Stage 2	220	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	505	744	-	-	1273	-
Stage 1	756	-	-	-	-	-
Stage 2	802	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	505	744	-	-	1273	-
Mov Cap-2 Maneuver	505	-	-	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	802	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	744	1273	-
HCM Lane V/C Ratio	-	-	0.001	-	-
HCM Control Delay (s)	-	-	9.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

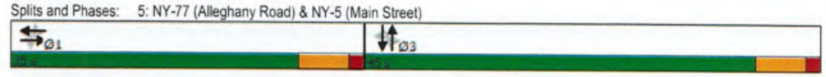
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	179	76	46	141	41	51	173	41	67	234	111
Future Volume (vph)	72	179	76	46	141	41	51	173	41	67	234	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	300		0	260		0	325		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			115			100			100		
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		0.955			0.966			0.971			0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1641	1721	0	1805	1786	0	1736	1714	0	1656	1654	0
Flt Permitted	0.637			0.594			0.541			0.618		
Satd. Flow (perm)	1100	1721	0	1129	1786	0	988	1714	0	1077	1654	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			20			20			41	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		776			1602			801			698	
Travel Time (s)		11.8			24.3			12.1			10.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	10%	6%	4%	0%	3%	2%	4%	9%	2%	9%	10%	8%
Adj. Flow (vph)	76	188	80	48	148	43	54	182	43	71	246	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	268	0	48	191	0	54	225	0	71	363	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		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		Perm	NA		Perm	NA	
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phase	1	1		1	1		3	3		3	3	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		24.5	24.5		24.5	24.5	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	28.5	28.5		28.5	28.5		38.5	38.5		38.5	38.5	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
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	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	13.2	13.2		13.2	13.2		16.9	16.9		16.9	16.9	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.39	0.39		0.39	0.39	
v/c Ratio	0.23	0.50		0.14	0.35		0.14	0.33		0.17	0.55	
Control Delay	15.2	15.9		14.1	13.9		10.1	10.2		10.3	12.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.2	15.9		14.1	13.9		10.1	10.2		10.3	12.8	
LOS	B	B		B	B		B	B		B	B	
Approach Delay		15.7			13.9			10.2			12.4	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	13	44		8	30		7	30		10	51	
Queue Length 95th (ft)	48	127		33	91		29	86		36	142	
Internal Link Dist (ft)		696			1522			721			618	
Turn Bay Length (ft)	100			300			260			325		
Base Capacity (vph)	753	1187		772	1228		865	1503		943	1453	
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	0.10	0.23		0.06	0.16		0.06	0.15		0.08	0.25	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 43.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 13.1 Intersection LOS: B
Intersection Capacity Utilization 71.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: NY-77 (Alleghany Road) & NY-5 (Main Street)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	303	3	2	324	6	16
Future Volume (vph)	303	3	2	324	6	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	120		150	0
Storage Lanes		0	1		1	1
Taper Length (ft)			75		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1754	0	1805	1827	1626	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1754	0	1805	1827	1626	1615
Link Speed (mph)	45			45	30	
Link Distance (ft)	831			776	817	
Travel Time (s)	12.6			11.8	18.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	33%	0%	4%	11%	0%
Adj. Flow (vph)	322	3	2	345	6	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	325	0	2	345	6	17
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		
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 27.1% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	303	3	2	324	6	16
Future Vol, veh/h	303	3	2	324	6	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	120	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	33	0	4	11	0
Mvmt Flow	322	3	2	345	6	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	325	0	673	324
Stage 1	-	-	-	-	324	-
Stage 2	-	-	-	-	349	-
Critical Hdwy	-	-	4.1	-	6.51	6.2
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.2	-	3.599	3.3
Pot Cap-1 Maneuver	-	-	1246	-	407	722
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	695	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1246	-	406	722
Mov Cap-2 Maneuver	-	-	-	-	406	-
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	694	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	406	722	-	-	1246	-
HCM Lane V/C Ratio	0.016	0.024	-	-	0.002	-
HCM Control Delay (s)	14	10.1	-	-	7.9	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-

A5

Level of Service Calculations: Background Conditions

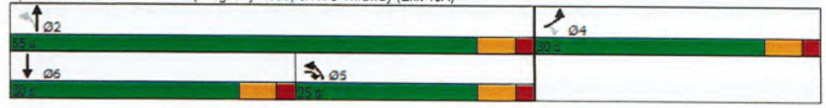
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	99	195	352	94	141	211
Future Volume (vph)	99	195	352	94	141	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	250			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.910	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1480	1196	1399	1696	2882	0
Flt Permitted	0.950		0.525			
Satd. Flow (perm)	1480	1196	773	1696	2882	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		212			229	
Link Speed (mph)	30			45	45	
Link Distance (ft)	854			973	786	
Travel Time (s)	19.4			14.7	11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	22%	35%	29%	12%	8%	18%
Adj. Flow (vph)	108	212	383	102	153	229
Shared Lane Traffic (%)						
Lane Group Flow (vph)	108	212	383	102	382	0
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						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.5	12.0	12.0	22.5	22.5	
Total Split (s)	30.0	25.0	25.0	55.0	30.0	
Total Split (%)	35.3%	29.4%	29.4%	64.7%	35.3%	
Maximum Green (s)	24.0	19.0	19.0	49.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	1.0	1.0	1.0	2.0	
Recall Mode	None	None	None	None	None	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	8.6	25.8	29.9	32.1	8.2	
Actuated g/C Ratio	0.18	0.55	0.63	0.68	0.17	
v/c Ratio	0.40	0.28	0.56	0.09	0.56	
Control Delay	25.4	2.0	12.1	4.9	12.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	25.4	2.0	12.1	4.9	12.4	
LOS	C	A	B	A	B	
Approach Delay	9.9			10.6	12.4	
Approach LOS	A			B	B	
Queue Length 50th (ft)	30	0	50	10	22	
Queue Length 95th (ft)	75	20	122	30	60	
Internal Link Dist (ft)	774			893	706	
Turn Bay Length (ft)			250			
Base Capacity (vph)	827	798	826	1579	1712	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.27	0.46	0.06	0.22	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 47.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 11.0 — Intersection LOS: B
Intersection Capacity Utilization 50.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: NY-77 (Alleghany Road) & NYS Thruway (Exit 48A)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	55	4	2	369	259	43
Future Volume (vph)	55	4	2	369	259	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	440			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		130			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.979	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	912	808	902	1696	2814	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	912	808	902	1696	2814	0
Link Speed (mph)	10			45	45	
Link Distance (ft)	888			664	973	
Travel Time (s)	60.5			10.1	14.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	98%	100%	100%	12%	14%	95%
Adj. Flow (vph)	57	4	2	384	270	45
Shared Lane Traffic (%)						
Lane Group Flow (vph)	57	4	2	384	315	0
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						
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 29.4% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	4	2	369	259	43
Future Vol, veh/h	55	4	2	369	259	43
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	440	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	98	100	100	12	14	95
Mvmt Flow	57	4	2	384	270	45

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	681	158	315	0	-	0
Stage 1	293	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Critical Hdwy	8.07	8.4	5.6	-	-	-
Critical Hdwy Stg 1	7.27	-	-	-	-	-
Critical Hdwy Stg 2	6.87	-	-	-	-	-
Follow-up Hdwy	4.431	4.25	3.15	-	-	-
Pot Cap-1 Maneuver	261	642	801	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	487	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	260	642	801	-	-	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	535	-	-	-	-	-
Stage 2	487	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.9	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	801	-	260	642	-	-
HCM Lane V/C Ratio	0.003	-	0.22	0.006	-	-
HCM Control Delay (s)	9.5	-	22.7	10.6	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.8	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	7	367	9	8	262
Future Volume (vph)	1	7	367	9	8	262
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.882		0.997			
Flt Protected	0.994					0.998
Satd. Flow (prot)	1666	0	1667	0	0	3093
Flt Permitted	0.994					0.998
Satd. Flow (perm)	1666	0	1667	0	0	3093
Link Speed (mph)	30		45			45
Link Distance (ft)	873		403			478
Travel Time (s)	19.8		6.1			7.2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	14%	0%	0%	17%
Adj. Flow (vph)	1	7	390	10	9	279
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	400	0	0	288
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 29.9% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	7	367	9	8	262
Future Vol, veh/h	1	7	367	9	8	262
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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	14	0	0	17
Mvmt Flow	1	7	390	10	9	279

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	553	395	0	0	400	0
Stage 1	395	-	-	-	-	-
Stage 2	158	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	482	659	-	-	1170	-
Stage 1	685	-	-	-	-	-
Stage 2	860	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	478	659	-	-	1170	-
Mov Cap-2 Maneuver	478	-	-	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	852	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.2
HCM LOS	B		

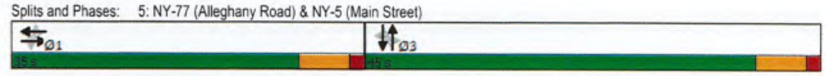
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	629	1170	-
HCM Lane V/C Ratio	-	-	0.014	0.007	-
HCM Control Delay (s)	-	-	10.8	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	140	75	102	122	62	69	217	60	24	193	44
Future Volume (vph)	88	140	75	102	122	62	69	217	60	24	193	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	300		0	260		0	325		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			115			100			100		
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		0.948			0.949			0.968			0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	1706	0	1612	1605	0	1752	1793	0	1388	1603	0
Flt Permitted	0.608			0.586			0.571			0.527		
Satd. Flow (perm)	1013	1706	0	994	1605	0	1053	1793	0	770	1603	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38			36			24			20	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		776			1602			801			698	
Travel Time (s)		11.8			24.3			12.1			10.6	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	14%	7%	3%	12%	11%	15%	3%	0%	12%	30%	15%	16%
Adj. Flow (vph)	116	184	99	134	161	82	91	286	79	32	254	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	283	0	134	243	0	91	365	0	32	312	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		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		Perm	NA		Perm	NA	
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phase	1	1		1	1		3	3		3	3	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		24.5	24.5		24.5	24.5	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	28.5	28.5		28.5	28.5		38.5	38.5		38.5	38.5	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
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	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	14.6	14.6		14.6	14.6		17.3	17.3		17.3	17.3	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.38	0.38		0.38	0.38	
v/c Ratio	0.36	0.50		0.42	0.45		0.23	0.53		0.11	0.51	
Control Delay	17.1	15.2		18.5	14.6		12.0	13.8		11.2	13.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.1	15.2		18.5	14.6		12.0	13.8		11.2	13.8	
LOS	B	B		B	B		B	B		B	B	
Approach Delay		15.8			16.0			13.4			13.6	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	21	46		25	38		14	58		5	49	
Queue Length 95th (ft)	58	106		67	92		41	125		19	110	
Internal Link Dist (ft)		696			1522			721			618	
Turn Bay Length (ft)	100			300			260			325		
Base Capacity (vph)	674	1149		662	1081		895	1528		655	1366	
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	0.17	0.25		0.20	0.22		0.10	0.24		0.05	0.23	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 45.7	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 65.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: NY-77 (Alleghany Road) & NY-5 (Main Street)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	289	9	15	249	1	1
Future Volume (vph)	289	9	15	249	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	120		150	0
Storage Lanes		0	1		1	1
Taper Length (ft)			75		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1772	0	1597	1743	902	808
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1772	0	1597	1743	902	808
Link Speed (mph)	45			45	30	
Link Distance (ft)	831			776	817	
Travel Time (s)	12.6			11.8	18.6	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	7%	0%	13%	9%	100%	100%
Adj. Flow (vph)	332	10	17	286	1	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	342	0	17	286	1	1
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		
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 25.8%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	289	9	15	249	1	1
Future Vol, veh/h	289	9	15	249	1	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	-	-	120	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	7	0	13	9	100	100
Mvmt Flow	332	10	17	286	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	342	0	657	337
Stage 1	-	-	-	-	337	-
Stage 2	-	-	-	-	320	-
Critical Hdwy	-	-	4.23	-	7.4	7.2
Critical Hdwy Stg 1	-	-	-	-	6.4	-
Critical Hdwy Stg 2	-	-	-	-	6.4	-
Follow-up Hdwy	-	-	2.317	-	4.4	4.2
Pot Cap-1 Maneuver	-	-	1158	-	308	528
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	560	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1158	-	303	528
Mov Cap-2 Maneuver	-	-	-	-	303	-
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	552	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	303	528	-	-	1158	-
HCM Lane V/C Ratio	0.004	0.002	-	-	0.015	-
HCM Control Delay (s)	16.9	11.8	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0	0	-	-	0	-

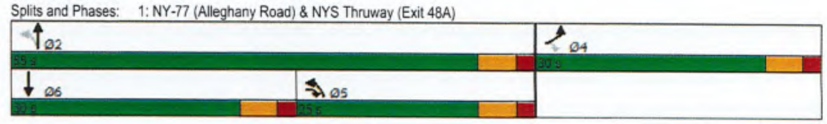
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	207	335	265	157	172	178
Future Volume (vph)	207	335	265	157	172	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	250			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.924	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1556	1262	1388	1827	2976	0
Flt Permitted	0.950		0.540			
Satd. Flow (perm)	1556	1262	789	1827	2976	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		338			180	
Link Speed (mph)	30			45	45	
Link Distance (ft)	854			973	786	
Travel Time (s)	19.4			14.7	11.9	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	16%	28%	30%	4%	8%	16%
Adj. Flow (vph)	209	338	268	159	174	180
Shared Lane Traffic (%)						
Lane Group Flow (vph)	209	338	268	159	354	0
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						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.5	12.0	12.0	22.5	22.5	
Total Split (s)	30.0	25.0	25.0	55.0	30.0	
Total Split (%)	35.3%	29.4%	29.4%	64.7%	35.3%	
Maximum Green (s)	24.0	19.0	19.0	49.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	1.0	1.0	1.0	2.0	
Recall Mode	None	None	None	None	None	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	10.4	27.2	24.7	24.7	7.9	
Actuated g/C Ratio	0.22	0.57	0.52	0.52	0.17	
v/c Ratio	0.62	0.39	0.49	0.17	0.55	
Control Delay	26.7	2.1	12.9	6.9	13.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	26.7	2.1	12.9	6.9	13.8	
LOS	C	A	B	A	B	
Approach Delay	11.5			10.6	13.8	
Approach LOS	B			B	B	
Queue Length 50th (ft)	49	0	37	19	21	
Queue Length 95th (ft)	131	24	95	52	67	
Internal Link Dist (ft)	774			893	706	
Turn Bay Length (ft)			250			
Base Capacity (vph)	816	849	811	1719	1647	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.26	0.40	0.33	0.09	0.21	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 47.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 11.9 — Intersection LOS: B
Intersection Capacity Utilization 51.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: NY-77 (Alleghany Road) & NYS Thruway (Exit 48A)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	9	6	322	448	43
Future Volume (vph)	42	9	6	322	448	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	440			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		130			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.987	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	926	808	1081	1759	3087	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	926	808	1081	1759	3087	0
Link Speed (mph)	10			45	45	
Link Distance (ft)	888			664	973	
Travel Time (s)	60.5			10.1	14.7	
Confl. Peds. (#/hr)	3					
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	95%	100%	67%	8%	8%	93%
Adj. Flow (vph)	45	10	6	346	482	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	10	6	346	528	0
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						
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 26.9% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	9	6	322	448	43
Future Vol, veh/h	42	9	6	322	448	43
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	440	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	95	100	67	8	8	93
Mvmt Flow	45	10	6	346	482	46

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	866	264	528	0	-	0
Stage 1	505	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Critical Hdwy	8.025	8.4	5.105	-	-	-
Critical Hdwy Stg 1	7.225	-	-	-	-	-
Critical Hdwy Stg 2	6.825	-	-	-	-	-
Follow-up Hdwy	4.4025	4.25	2.8365	-	-	-
Pot Cap-1 Maneuver	192	532	734	-	-	-
Stage 1	398	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	190	532	734	-	-	-
Mov Cap-2 Maneuver	190	-	-	-	-	-
Stage 1	395	-	-	-	-	-
Stage 2	510	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.6	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	734	-	190	532	-	-
HCM Lane V/C Ratio	0.009	-	0.238	0.018	-	-
HCM Control Delay (s)	9.9	-	29.8	11.9	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0	-	0.9	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	9	315	1	3	451
Future Volume (vph)	2	9	315	1	3	451
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt	0.887					
Flt Protected	0.992					
Satd. Flow (prot)	1672	0	1760	0	0	3284
Flt Permitted	0.992					
Satd. Flow (perm)	1672	0	1760	0	0	3284
Link Speed (mph)	30		45			45
Link Distance (ft)	873		403			478
Travel Time (s)	19.8		6.1			7.2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	8%	0%	0%	10%
Adj. Flow (vph)	2	10	335	1	3	480
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	336	0	0	483
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 26.6% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	9	315	1	3	451
Future Vol, veh/h	2	9	315	1	3	451
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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	8	0	0	10
Mvmt Flow	2	10	335	1	3	480

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	582	336	0	0	336	0
Stage 1	336	-	-	-	-	-
Stage 2	246	-	-	-	-	-
Critical Hdwy	6.6	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	463	711	-	-	1235	-
Stage 1	728	-	-	-	-	-
Stage 2	778	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	462	711	-	-	1235	-
Mov Cap-2 Maneuver	462	-	-	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	776	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	648	1235	-
HCM Lane V/C Ratio	-	-	0.018	0.003	-
HCM Control Delay (s)	-	-	10.7	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

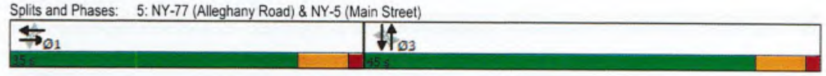
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	184	93	56	145	42	68	203	51	69	266	115
Future Volume (vph)	74	184	93	56	145	42	68	203	51	69	266	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	300		0	260		0	325		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			115			100			100		
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		0.950			0.966			0.970			0.955	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1641	1714	0	1805	1786	0	1736	1713	0	1656	1659	0
Flt Permitted	0.634			0.581			0.490			0.594		
Satd. Flow (perm)	1095	1714	0	1104	1786	0	895	1713	0	1035	1659	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			20			22			37	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		776			1602			801			698	
Travel Time (s)		11.8			24.3			12.1			10.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	10%	6%	4%	0%	3%	2%	4%	9%	2%	9%	10%	8%
Adj. Flow (vph)	78	194	98	59	153	44	72	214	54	73	280	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	292	0	59	197	0	72	268	0	73	401	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		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		Perm	NA		Perm	NA	
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phase	1	1		1	1		3	3		3	3	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		24.5	24.5		24.5	24.5	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	28.5	28.5		28.5	28.5		38.5	38.5		38.5	38.5	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
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	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	14.1	14.1		14.1	14.1		18.7	18.7		18.7	18.7	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.40	0.40		0.40	0.40	
v/c Ratio	0.24	0.54		0.18	0.36		0.20	0.38		0.18	0.59	
Control Delay	16.3	17.4		15.5	14.9		11.1	11.0		10.6	13.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.3	17.4		15.5	14.9		11.1	11.0		10.6	13.9	
LOS	B	B		B	B		B	B		B	B	
Approach Delay		17.1			15.1			11.0			13.4	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	14	51		11	33		10	38		10	62	
Queue Length 95th (ft)	53	150		42	102		40	109		39	171	
Internal Link Dist (ft)		696			1522			721			618	
Turn Bay Length (ft)	100			300			260			325		
Base Capacity (vph)	714	1130		720	1172		750	1440		868	1397	
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	0.11	0.26		0.08	0.17		0.10	0.19		0.08	0.29	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 46.8
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 14.1 — Intersection LOS: B
Intersection Capacity Utilization 74.7% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 5: NY-77 (Alleghany Road) & NY-5 (Main Street)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	327	3	2	350	6	16
Future Volume (vph)	327	3	2	350	6	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	120		150	0
Storage Lanes		0	1		1	1
Taper Length (ft)			75		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1754	0	1805	1827	1626	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1754	0	1805	1827	1626	1615
Link Speed (mph)	45			45	30	
Link Distance (ft)	831			776	817	
Travel Time (s)	12.6			11.8	18.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	33%	0%	4%	11%	0%
Adj. Flow (vph)	348	3	2	372	6	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	351	0	2	372	6	17
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		
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 28.4% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	327	3	2	350	6	16
Future Vol, veh/h	327	3	2	350	6	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	120	-	150	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	33	0	4	11	0
Mvmt Flow	348	3	2	372	6	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	351	0	726	350
Stage 1	-	-	-	-	350	-
Stage 2	-	-	-	-	376	-
Critical Hdwy	-	-	4.1	-	6.51	6.2
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.2	-	3.599	3.3
Pot Cap-1 Maneuver	-	-	1219	-	379	698
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	675	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1219	-	378	698
Mov Cap-2 Maneuver	-	-	-	-	378	-
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	674	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	378	698	-	-	1219	-
HCM Lane V/C Ratio	0.017	0.024	-	-	0.002	-
HCM Control Delay (s)	14.7	10.3	-	-	8	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-

A6

Level of Service Calculations: Full Development Conditions

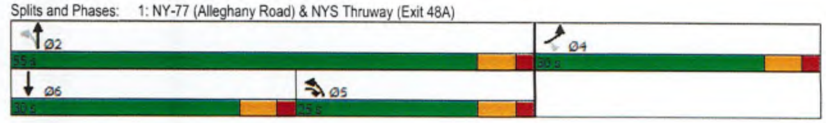
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑	↑↱	
Traffic Volume (vph)	99	242	363	100	162	211
Future Volume (vph)	99	242	363	100	162	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	250			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.915	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1480	1214	1399	1712	2906	0
Flt Permitted	0.950		0.514			
Satd. Flow (perm)	1480	1214	757	1712	2906	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		263			229	
Link Speed (mph)	30			45	45	
Link Distance (ft)	854			973	786	
Travel Time (s)	19.4			14.7	11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	22%	33%	29%	11%	8%	18%
Adj. Flow (vph)	108	263	395	109	176	229
Shared Lane Traffic (%)						
Lane Group Flow (vph)	108	263	395	109	405	0
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						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.5	12.0	12.0	22.5	22.5	
Total Split (s)	30.0	25.0	25.0	55.0	30.0	
Total Split (%)	35.3%	29.4%	29.4%	64.7%	35.3%	
Maximum Green (s)	24.0	19.0	19.0	49.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	1.0	1.0	1.0	2.0	
Recall Mode	None	None	None	None	None	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	8.7	26.4	30.8	33.0	8.6	
Actuated g/C Ratio	0.18	0.55	0.64	0.68	0.18	
v/c Ratio	0.40	0.34	0.57	0.09	0.58	
Control Delay	25.8	2.1	12.6	4.9	13.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	25.8	2.1	12.6	4.9	13.2	
LOS	C	A	B	A	B	
Approach Delay	9.0			11.0	13.2	
Approach LOS	A			B	B	
Queue Length 50th (ft)	31	0	53	11	26	
Queue Length 95th (ft)	76	23	128	32	66	
Internal Link Dist (ft)	774			893	706	
Turn Bay Length (ft)			250			
Base Capacity (vph)	813	842	814	1575	1701	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.31	0.49	0.07	0.24	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 48.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 11.1 — Intersection LOS: B
Intersection Capacity Utilization 51.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: NY-77 (Alleghany Road) & NYS Thruway (Exit 48A)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	55	4	2	385	327	43
Future Volume (vph)	55	4	2	385	327	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	440			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		130			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.983	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	912	808	902	1696	2854	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	912	808	902	1696	2854	0
Link Speed (mph)	10			45	45	
Link Distance (ft)	888			664	973	
Travel Time (s)	60.5			10.1	14.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	98%	100%	100%	12%	15%	95%
Adj. Flow (vph)	57	4	2	401	341	45
Shared Lane Traffic (%)						
Lane Group Flow (vph)	57	4	2	401	386	0
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						
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 30.3% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	4	2	385	327	43
Future Vol, veh/h	55	4	2	385	327	43
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	440	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	98	100	100	12	15	95
Mvmt Flow	57	4	2	401	341	45

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	769	193	386	0	-	0
Stage 1	364	-	-	-	-	-
Stage 2	405	-	-	-	-	-
Critical Hdwy	8.07	8.4	5.6	-	-	-
Critical Hdwy Stg 1	7.27	-	-	-	-	-
Critical Hdwy Stg 2	6.87	-	-	-	-	-
Follow-up Hdwy	4.431	4.25	3.15	-	-	-
Pot Cap-1 Maneuver	224	604	739	-	-	-
Stage 1	483	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	223	604	739	-	-	-
Mov Cap-2 Maneuver	223	-	-	-	-	-
Stage 1	482	-	-	-	-	-
Stage 2	476	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.5	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	739	-	223	604	-	-
HCM Lane V/C Ratio	0.003	-	0.257	0.007	-	-
HCM Control Delay (s)	9.9	-	26.6	11	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0	-	1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	0	3	1	0	7	14	370	9	8	276	54
Future Volume (vph)	13	0	3	1	0	7	14	370	9	8	276	54
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	0.95	0.95	0.95
Frt		0.850			0.882			0.997			0.976	
Flt Protected	0.950				0.994			0.998			0.999	
Satd. Flow (prot)	1805	1615	0	0	1666	0	0	1657	0	0	3005	0
Flt Permitted	0.950				0.994			0.998			0.999	
Satd. Flow (perm)	1805	1615	0	0	1666	0	0	1657	0	0	3005	0
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		883			873			403			478	
Travel Time (s)		20.1			19.8			6.1			7.2	
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%	0%	0%	0%	0%	0%	0%	15%	0%	0%	21%	0%
Adj. Flow (vph)	14	0	3	1	0	7	15	394	10	9	294	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	3	0	0	8	0	0	419	0	0	360	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			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			Free			Free	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 41.8%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	3	1	0	7	14	370	9	8	276	54
Future Vol, veh/h	13	0	3	1	0	7	14	370	9	8	276	54
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	15	0	0	21	0
Mvmt Flow	14	0	3	1	0	7	15	394	10	9	294	57

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	774	775	176	594	798	399	351	0	0	404	0	0
Stage 1	341	341	-	429	429	-	-	-	-	-	-	-
Stage 2	433	434	-	165	369	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.9	7.3	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	305	331	843	406	321	655	1219	-	-	1166	-	-
Stage 1	653	642	-	608	587	-	-	-	-	-	-	-
Stage 2	605	585	-	826	624	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	296	322	843	397	313	655	1219	-	-	1166	-	-
Mov Cap-2 Maneuver	296	322	-	397	313	-	-	-	-	-	-	-
Stage 1	643	636	-	598	578	-	-	-	-	-	-	-
Stage 2	589	576	-	815	618	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.2	11	0.3	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1219	-	-	296	843	606	1166	-	-
HCM Lane V/C Ratio	0.012	-	-	0.047	0.004	0.014	0.007	-	-
HCM Control Delay (s)	8	0	-	17.8	9.3	11	8.1	0	-
HCM Lane LOS	A	A	-	C	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	0	-	-

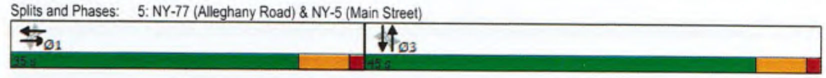
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	145	82	102	138	69	97	224	60	25	195	59
Future Volume (vph)	91	145	82	102	138	69	97	224	60	25	195	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	300		0	260		0	325		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			115			100			100		
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		0.946			0.950			0.968			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	1703	0	1612	1616	0	1770	1794	0	1456	1529	0
Flt Permitted	0.591			0.578			0.559			0.512		
Satd. Flow (perm)	960	1703	0	981	1616	0	1041	1794	0	785	1529	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			35			23			26	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		776			1602			801			698	
Travel Time (s)		11.8			24.3			12.1			10.6	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	17%	7%	3%	12%	11%	13%	2%	0%	12%	24%	15%	36%
Adj. Flow (vph)	120	191	108	134	182	91	128	295	79	33	257	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	299	0	134	273	0	128	374	0	33	335	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		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		Perm	NA		Perm	NA	
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phase	1	1		1	1		3	3		3	3	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		24.5	24.5		24.5	24.5	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	28.5	28.5		28.5	28.5		38.5	38.5		38.5	38.5	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
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	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	15.4	15.4		15.4	15.4		18.7	18.7		18.7	18.7	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.39	0.39		0.39	0.39	
v/c Ratio	0.39	0.52		0.43	0.51		0.32	0.53		0.11	0.55	
Control Delay	18.8	16.3		19.5	16.3		13.5	14.0		11.5	14.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.8	16.3		19.5	16.3		13.5	14.0		11.5	14.9	
LOS	B	B		B	B		B	B		B	B	
Approach Delay		17.0			17.4			13.9			14.6	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	24	53		27	48		21	62		5	55	
Queue Length 95th (ft)	65	120		71	111		58	139		20	128	
Internal Link Dist (ft)		696			1522			721			618	
Turn Bay Length (ft)	100			300			260			325		
Base Capacity (vph)	615	1107		629	1049		853	1475		644	1258	
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	0.20	0.27		0.21	0.26		0.15	0.25		0.05	0.27	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 48.3
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay: 15.7 Intersection LOS: B
Intersection Capacity Utilization 66.4% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: NY-77 (Alleghany Road) & NY-5 (Main Street)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	289	9	15	249	58	1	0	1	14	0	6
Future Volume (vph)	28	289	9	15	249	58	1	0	1	14	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	120		0	150		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	125			75			100			25		
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		0.996			0.972			0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1772	0	1597	1637	0	902	808	0	1399	1615	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1687	1772	0	1597	1637	0	902	808	0	1399	1615	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		831			776			817			652	
Travel Time (s)		12.6			11.8			18.6			14.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	7%	7%	0%	13%	9%	29%	100%	0%	100%	29%	0%	0%
Adj. Flow (vph)	32	332	10	17	286	67	1	0	1	16	0	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	342	0	17	353	0	1	1	0	16	7	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					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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 37.4%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	289	9	15	249	58	1	0	1	14	0	6
Future Vol, veh/h	28	289	9	15	249	58	1	0	1	14	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	120	-	-	150	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	7	7	0	13	9	29	100	0	100	29	0	0
Mvmt Flow	32	332	10	17	286	67	1	0	1	16	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	353	0	0	342	0	0	758	788	337	756	760	320
Stage 1	-	-	-	-	-	-	401	401	-	354	354	-
Stage 2	-	-	-	-	-	-	357	387	-	402	406	-
Critical Hdwy	4.17	-	-	4.23	-	-	8.1	6.5	7.2	7.39	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	5.5	-	6.39	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	5.5	-	6.39	5.5	-
Follow-up Hdwy	2.263	-	-	2.317	-	-	4.4	4	4.2	3.761	4	3.3
Pot Cap-1 Maneuver	1179	-	-	1158	-	-	228	326	528	293	338	725
Stage 1	-	-	-	-	-	-	469	604	-	611	634	-
Stage 2	-	-	-	-	-	-	499	613	-	574	601	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1179	-	-	1158	-	-	219	312	528	283	324	725
Mov Cap-2 Maneuver	-	-	-	-	-	-	219	312	-	283	324	-
Stage 1	-	-	-	-	-	-	456	588	-	595	624	-
Stage 2	-	-	-	-	-	-	487	604	-	557	585	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.4	16.7	16
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	219	528	1179	-	-	1158	-	-	283	725
HCM Lane V/C Ratio	0.005	0.002	0.027	-	-	0.015	-	-	0.057	0.01
HCM Control Delay (s)	21.5	11.8	8.1	-	-	8.2	-	-	18.5	10
HCM Lane LOS	C	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0	0	0.1	-	-	0	-	-	0.2	0

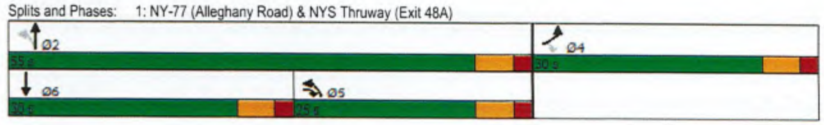
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	207	347	311	178	178	178
Future Volume (vph)	207	347	311	178	178	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	250			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.925	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1556	1262	1388	1810	2981	0
Flt Permitted	0.950		0.537			
Satd. Flow (perm)	1556	1262	785	1810	2981	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		351			180	
Link Speed (mph)	30			45	45	
Link Distance (ft)	854			973	786	
Travel Time (s)	19.4			14.7	11.9	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	16%	28%	30%	5%	8%	16%
Adj. Flow (vph)	209	351	314	180	180	180
Shared Lane Traffic (%)						
Lane Group Flow (vph)	209	351	314	180	360	0
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						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.5	12.0	12.0	22.5	22.5	
Total Split (s)	30.0	25.0	25.0	55.0	30.0	
Total Split (%)	35.3%	29.4%	29.4%	64.7%	35.3%	
Maximum Green (s)	24.0	19.0	19.0	49.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	1.0	1.0	1.0	2.0	
Recall Mode	None	None	None	None	None	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	10.7	29.2	26.5	26.5	8.1	
Actuated g/C Ratio	0.21	0.59	0.53	0.53	0.16	
v/c Ratio	0.62	0.40	0.56	0.19	0.56	
Control Delay	27.9	2.1	14.4	7.0	14.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.9	2.1	14.4	7.0	14.6	
LOS	C	A	B	A	B	
Approach Delay	11.7			11.7	14.6	
Approach LOS	B			B	B	
Queue Length 50th (ft)	52	0	46	23	23	
Queue Length 95th (ft)	134	25	119	61	71	
Internal Link Dist (ft)	774			893	706	
Turn Bay Length (ft)			250			
Base Capacity (vph)	781	876	778	1671	1586	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.27	0.40	0.40	0.11	0.23	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 49.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 12.5 Intersection LOS: B
Intersection Capacity Utilization 54.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: NY-77 (Alleghany Road) & NYS Thruway (Exit 48A)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	9	6	389	467	43
Future Volume (vph)	42	9	6	389	467	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	440			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		130			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.987	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	926	808	1081	1727	3070	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	926	808	1081	1727	3070	0
Link Speed (mph)	10			45	45	
Link Distance (ft)	888			664	973	
Travel Time (s)	60.5			10.1	14.7	
Confl. Peds. (#/hr)	3					
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	95%	100%	67%	10%	9%	93%
Adj. Flow (vph)	45	10	6	418	502	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	10	6	418	548	0
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						
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 30.5% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	9	6	389	467	43
Future Vol, veh/h	42	9	6	389	467	43
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	440	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	95	100	67	10	9	93
Mvmt Flow	45	10	6	418	502	46

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	958	274	548	0	-	0
Stage 1	525	-	-	-	-	-
Stage 2	433	-	-	-	-	-
Critical Hdwy	8.025	8.4	5.105	-	-	-
Critical Hdwy Stg 1	7.225	-	-	-	-	-
Critical Hdwy Stg 2	6.825	-	-	-	-	-
Follow-up Hdwy	4.4025	4.25	2.8365	-	-	-
Pot Cap-1 Maneuver	164	523	718	-	-	-
Stage 1	386	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	163	523	718	-	-	-
Mov Cap-2 Maneuver	163	-	-	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	463	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	31.2	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	718	-	163	523	-	-
HCM Lane V/C Ratio	0.009	-	0.277	0.019	-	-
HCM Control Delay (s)	10.1	-	35.3	12	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0	-	1.1	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	0	13	2	0	9	4	330	1	3	455	14
Future Volume (vph)	52	0	13	2	0	9	4	330	1	3	455	14
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	0.95	0.95	0.95
Frt		0.850			0.887						0.996	
Flt Protected	0.950				0.992			0.999				
Satd. Flow (prot)	1805	1615	0	0	1672	0	0	1697	0	0	3279	0
Flt Permitted	0.950				0.992			0.999				
Satd. Flow (perm)	1805	1615	0	0	1672	0	0	1697	0	0	3279	0
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		883			873			403			478	
Travel Time (s)		20.1			19.8			6.1			7.2	
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%	0%	0%	0%	0%	0%	0%	12%	0%	0%	10%	0%
Adj. Flow (vph)	55	0	14	2	0	10	4	351	1	3	484	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	14	0	0	12	0	0	356	0	0	502	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			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)	60		60	15		9	60		9	15		60
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 36.8%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	0	13	2	0	9	4	330	1	3	455	14
Future Vol, veh/h	52	0	13	2	0	9	4	330	1	3	455	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	12	0	0	10	0
Mvmt Flow	55	0	14	2	0	10	4	351	1	3	484	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	863	858	250	608	865	352	499	0	0	352	0	0
Stage 1	498	498	-	360	360	-	-	-	-	-	-	-
Stage 2	365	360	-	248	505	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.9	7.3	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	264	297	756	397	294	696	1075	-	-	1218	-	-
Stage 1	528	548	-	662	630	-	-	-	-	-	-	-
Stage 2	658	630	-	740	544	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	259	295	756	387	292	696	1075	-	-	1218	-	-
Mov Cap-2 Maneuver	259	295	-	387	292	-	-	-	-	-	-	-
Stage 1	525	546	-	659	627	-	-	-	-	-	-	-
Stage 2	646	627	-	724	542	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.1	11	0.1	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1075	-	-	259	756	608	1218	-	-
HCM Lane V/C Ratio	0.004	-	-	0.214	0.018	0.019	0.003	-	-
HCM Control Delay (s)	8.4	0	-	22.6	9.9	11	8	0	-
HCM Lane LOS	A	A	-	C	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.8	0.1	0.1	0	-	-

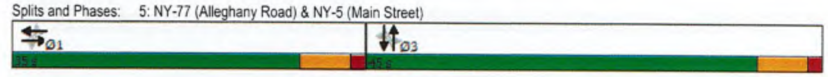
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	199	120	56	150	44	75	205	51	75	273	119
Future Volume (vph)	89	199	120	56	150	44	75	205	51	75	273	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	300		0	260		0	325		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			115			100			100		
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		0.944			0.966			0.970			0.954	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1444	1700	0	1805	1772	0	1752	1726	0	1671	1654	0
Flt Permitted	0.630			0.522			0.467			0.593		
Satd. Flow (perm)	958	1700	0	992	1772	0	861	1726	0	1043	1654	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			20			22			38	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		776			1602			801			698	
Travel Time (s)		11.8			24.3			12.1			10.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	25%	7%	3%	0%	4%	2%	3%	8%	2%	8%	9%	11%
Adj. Flow (vph)	94	209	126	59	158	46	79	216	54	79	287	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	94	335	0	59	204	0	79	270	0	79	412	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		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		Perm	NA		Perm	NA	
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phase	1	1		1	1		3	3		3	3	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		24.5	24.5		24.5	24.5	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	28.5	28.5		28.5	28.5		38.5	38.5		38.5	38.5	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
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	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	15.9	15.9		15.9	15.9		20.0	20.0		20.0	20.0	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.40	0.40		0.40	0.40	
v/c Ratio	0.31	0.59		0.19	0.35		0.23	0.38		0.19	0.60	
Control Delay	18.1	18.5		16.2	15.2		12.5	11.8		11.6	15.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.1	18.5		16.2	15.2		12.5	11.8		11.6	15.2	
LOS	B	B		B	B		B	B		B	B	
Approach Delay		18.4			15.4			11.9			14.6	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	19	63		11	37		13	43		13	73	
Queue Length 95th (ft)	68	185		45	113		48	122		46	197	
Internal Link Dist (ft)		696			1522			721			618	
Turn Bay Length (ft)	100			300			260			325		
Base Capacity (vph)	593	1069		614	1105		692	1392		838	1337	
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	0.16	0.31		0.10	0.18		0.11	0.19		0.09	0.31	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 50.1
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 15.2 Intersection LOS: B
Intersection Capacity Utilization 77.7% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 5: NY-77 (Alleghany Road) & NY-5 (Main Street)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	327	3	2	350	16	6	0	16	57	0	27
Future Volume (vph)	7	327	3	2	350	16	6	0	16	57	0	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	120		0	150		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	125			75			100			25		
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		0.999			0.993			0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1754	0	1805	1794	0	1626	1615	0	1367	1553	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1754	0	1805	1794	0	1626	1615	0	1367	1553	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		831			776			817			652	
Travel Time (s)		12.6			11.8			18.6			14.8	
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%	8%	33%	0%	4%	31%	11%	0%	0%	32%	0%	4%
Adj. Flow (vph)	7	348	3	2	372	17	6	0	17	61	0	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	351	0	2	389	0	6	17	0	61	29	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					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)	60		9	15		60	15		9	60		60
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.9% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	327	3	2	350	16	6	0	16	57	0	27
Future Vol, veh/h	7	327	3	2	350	16	6	0	16	57	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	120	-	-	150	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	8	33	0	4	31	11	0	0	32	0	4
Mvmt Flow	7	348	3	2	372	17	6	0	17	61	0	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	389	0	0	351	0	0	763	757	350	757	750	381
Stage 1	-	-	-	-	-	-	364	364	-	385	385	-
Stage 2	-	-	-	-	-	-	399	393	-	372	365	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.21	6.5	6.2	7.42	6.5	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.21	5.5	-	6.42	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.21	5.5	-	6.42	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.599	4	3.3	3.788	4	3.336
Pot Cap-1 Maneuver	1181	-	-	1219	-	-	310	339	698	290	342	662
Stage 1	-	-	-	-	-	-	637	627	-	582	614	-
Stage 2	-	-	-	-	-	-	609	609	-	592	627	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1181	-	-	1219	-	-	295	336	698	281	339	662
Mov Cap-2 Maneuver	-	-	-	-	-	-	295	336	-	281	339	-
Stage 1	-	-	-	-	-	-	633	623	-	579	613	-
Stage 2	-	-	-	-	-	-	582	608	-	574	623	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	12.3	17.9
HCM LOS			B	C

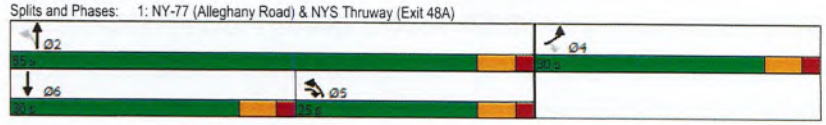
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	295	698	1181	-	-	1219	-	-	281	662
HCM Lane V/C Ratio	0.022	0.024	0.006	-	-	0.002	-	-	0.216	0.043
HCM Control Delay (s)	17.5	10.3	8.1	-	-	8	-	-	21.3	10.7
HCM Lane LOS	C	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	0.1	0	-	-	0	-	-	0.8	0.1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	103	264	381	105	176	220
Future Volume (vph)	103	264	381	105	176	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	250			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.917	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1480	1233	1410	1727	2927	0
Flt Permitted	0.950		0.502			
Satd. Flow (perm)	1480	1233	745	1727	2927	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		287			239	
Link Speed (mph)	30			45	45	
Link Distance (ft)	854			973	786	
Travel Time (s)	19.4			14.7	11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	22%	31%	28%	10%	7%	18%
Adj. Flow (vph)	112	287	414	114	191	239
Shared Lane Traffic (%)						
Lane Group Flow (vph)	112	287	414	114	430	0
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						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.5	12.0	12.0	22.5	22.5	
Total Split (s)	30.0	25.0	25.0	55.0	30.0	
Total Split (%)	35.3%	29.4%	29.4%	64.7%	35.3%	
Maximum Green (s)	24.0	19.0	19.0	49.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	1.0	1.0	1.0	2.0	
Recall Mode	None	None	None	None	None	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	8.9	26.7	31.1	33.3	8.8	
Actuated g/C Ratio	0.18	0.55	0.64	0.68	0.18	
v/c Ratio	0.42	0.36	0.60	0.10	0.59	
Control Delay	26.0	2.2	13.6	5.0	13.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	26.0	2.2	13.6	5.0	13.3	
LOS	C	A	B	A	B	
Approach Delay	8.9			11.8	13.3	
Approach LOS	A			B	B	
Queue Length 50th (ft)	31	0	58	12	27	
Queue Length 95th (ft)	79	25	137	33	70	
Internal Link Dist (ft)	774			893	706	
Turn Bay Length (ft)			250			
Base Capacity (vph)	799	858	812	1590	1691	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.14	0.33	0.51	0.07	0.25	

Intersection Summary	
Area Type: Other	
Cycle Length: 85	
Actuated Cycle Length: 48.7	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 11.4	Intersection LOS: B
Intersection Capacity Utilization 53.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: NY-77 (Alleghany Road) & NYS Thruway (Exit 48A)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	57	4	2	406	361	45
Future Volume (vph)	57	4	2	406	361	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	175			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.983	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	912	808	902	1696	2885	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	912	808	902	1696	2885	0
Link Speed (mph)	10			45	45	
Link Distance (ft)	888			295	973	
Travel Time (s)	60.5			4.5	14.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	98%	100%	100%	12%	14%	95%
Adj. Flow (vph)	59	4	2	423	376	47
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	4	2	423	423	0
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						
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 31.4% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	57	4	2	406	361	45
Future Vol, veh/h	57	4	2	406	361	45
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	175	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	98	100	100	12	14	95
Mvmt Flow	59	4	2	423	376	47

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	827	212	423	0	-	0
Stage 1	400	-	-	-	-	-
Stage 2	427	-	-	-	-	-
Critical Hdwy	8.07	8.4	5.6	-	-	-
Critical Hdwy Stg 1	7.27	-	-	-	-	-
Critical Hdwy Stg 2	6.87	-	-	-	-	-
Follow-up Hdwy	4.431	4.25	3.15	-	-	-
Pot Cap-1 Maneuver	203	584	708	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	202	584	708	-	-	-
Mov Cap-2 Maneuver	202	-	-	-	-	-
Stage 1	458	-	-	-	-	-
Stage 2	462	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.9	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	708	-	202	584	-	-
HCM Lane V/C Ratio	0.003	-	0.294	0.007	-	-
HCM Control Delay (s)	10.1	-	30.1	11.2	-	-
HCM Lane LOS	B	-	D	B	-	-
HCM 95th %tile Q(veh)	0	-	1.2	0	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	2	6	403	345	20
Future Volume (vph)	5	2	6	403	345	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	210			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		125			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.992	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1504	1615	1805	1696	3140	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1504	1615	1805	1696	3140	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	710			369	295	
Travel Time (s)	16.1			5.6	4.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	20%	0%	0%	12%	14%	15%
Adj. Flow (vph)	5	2	6	420	359	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	2	6	420	380	0
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						
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 31.2% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	2	6	403	345	20
Future Vol, veh/h	5	2	6	403	345	20
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	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	20	0	0	12	14	15
Mvmt Flow	5	2	6	420	359	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	802	190	380	0	-	0
Stage 1	370	-	-	-	-	-
Stage 2	432	-	-	-	-	-
Critical Hdwy	6.9	6.9	4.1	-	-	-
Critical Hdwy Stg 1	6.1	-	-	-	-	-
Critical Hdwy Stg 2	5.7	-	-	-	-	-
Follow-up Hdwy	3.69	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	308	826	1190	-	-	-
Stage 1	626	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	306	826	1190	-	-	-
Mov Cap-2 Maneuver	306	-	-	-	-	-
Stage 1	623	-	-	-	-	-
Stage 2	609	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	14.8		0.1		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1190	-	306	826	-	-
HCM Lane V/C Ratio	0.005	-	0.017	0.003	-	-
HCM Control Delay (s)	8	-	17	9.4	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	0	3	1	0	8	14	391	9	9	290	54
Future Volume (vph)	13	0	3	1	0	8	14	391	9	9	290	54
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	0.95	0.95	0.95
Frt		0.850			0.878			0.997			0.977	
Flt Protected	0.950				0.995			0.998			0.999	
Satd. Flow (prot)	1805	1615	0	0	1660	0	0	1656	0	0	3005	0
Flt Permitted	0.950				0.995			0.998			0.999	
Satd. Flow (perm)	1805	1615	0	0	1660	0	0	1656	0	0	3005	0
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		883			873			403			478	
Travel Time (s)		20.1			19.8			6.1			7.2	
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%	0%	0%	0%	0%	0%	0%	15%	0%	0%	21%	0%
Adj. Flow (vph)	14	0	3	1	0	9	15	416	10	10	309	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	3	0	0	10	0	0	441	0	0	376	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			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			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 43.2% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	3	1	0	8	14	391	9	9	290	54
Future Vol, veh/h	13	0	3	1	0	8	14	391	9	9	290	54
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	15	0	0	21	0
Mvmt Flow	14	0	3	1	0	9	15	416	10	10	309	57

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	814	814	183	626	837	421	366	0	0	426	0	0
Stage 1	358	358	-	451	451	-	-	-	-	-	-	-
Stage 2	456	456	-	175	386	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.9	7.3	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	286	315	834	386	305	637	1204	-	-	1144	-	-
Stage 1	638	631	-	592	574	-	-	-	-	-	-	-
Stage 2	588	572	-	816	614	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	276	306	834	377	297	637	1204	-	-	1144	-	-
Mov Cap-2 Maneuver	276	306	-	377	297	-	-	-	-	-	-	-
Stage 1	628	624	-	583	565	-	-	-	-	-	-	-
Stage 2	571	563	-	804	607	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.9	11.2	0.3	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1204	-	-	276	834	592	1144	-	-
HCM Lane V/C Ratio	0.012	-	-	0.05	0.004	0.016	0.008	-	-
HCM Control Delay (s)	8	0	-	18.7	9.3	11.2	8.2	0	-
HCM Lane LOS	A	A	-	C	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	0	-	-

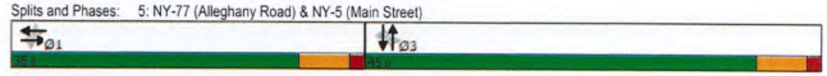
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	152	87	106	149	74	108	237	62	27	204	61
Future Volume (vph)	95	152	87	106	149	74	108	237	62	27	204	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	300		0	260		0	325		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			115			100			100		
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		0.946			0.950			0.969			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1556	1703	0	1612	1621	0	1770	1796	0	1480	1539	0
Flt Permitted	0.581			0.554			0.538			0.484		
Satd. Flow (perm)	952	1703	0	940	1621	0	1002	1796	0	754	1539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			35			23			26	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		776			1602			801			698	
Travel Time (s)		11.8			24.3			12.1			10.6	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	16%	7%	3%	12%	11%	12%	2%	0%	12%	22%	14%	37%
Adj. Flow (vph)	125	200	114	139	196	97	142	312	82	36	268	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	125	314	0	139	293	0	142	394	0	36	348	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		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		Perm	NA		Perm	NA	
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phase	1	1		1	1		3	3		3	3	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		24.5	24.5		24.5	24.5	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	28.5	28.5		28.5	28.5		38.5	38.5		38.5	38.5	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
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	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	16.3	16.3		16.3	16.3		19.9	19.9		19.9	19.9	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.40	0.40		0.40	0.40	
v/c Ratio	0.41	0.54		0.46	0.54		0.36	0.54		0.12	0.56	
Control Delay	19.8	17.3		21.1	17.4		14.4	14.5		11.7	15.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.8	17.3		21.1	17.4		14.4	14.5		11.7	15.1	
LOS	B	B		C	B		B	B		B	B	
Approach Delay		18.0			18.6			14.5			14.8	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	26	58		29	54		24	68		6	60	
Queue Length 95th (ft)	70	131		78	125		66	148		22	134	
Internal Link Dist (ft)		696			1522			721			618	
Turn Bay Length (ft)	100			300			260			325		
Base Capacity (vph)	587	1066		580	1014		802	1442		603	1237	
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	0.21	0.29		0.24	0.29		0.18	0.27		0.06	0.28	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 50.3
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 16.4 — Intersection LOS: B
Intersection Capacity Utilization 67.9% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: NY-77 (Alleghany Road) & NY-5 (Main Street)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	301	9	15	259	69	1	0	1	17	0	7
Future Volume (vph)	36	301	9	15	259	69	1	0	1	17	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	120		0	150		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	125			75			100			25		
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		0.996			0.969			0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1772	0	1597	1636	0	902	808	0	1456	1615	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	1772	0	1597	1636	0	902	808	0	1456	1615	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		831			776			817			652	
Travel Time (s)		12.6			11.8			18.6			14.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	7%	0%	13%	9%	26%	100%	0%	100%	24%	0%	0%
Adj. Flow (vph)	41	346	10	17	298	79	1	0	1	20	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	356	0	17	377	0	1	1	0	20	8	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					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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 38.8% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	301	9	15	259	69	1	0	1	17	0	7
Future Vol, veh/h	36	301	9	15	259	69	1	0	1	17	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	120	-	-	150	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	5	7	0	13	9	26	100	0	100	24	0	0
Mvmt Flow	41	346	10	17	298	79	1	0	1	20	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	377	0	0	356	0	0	809	844	351	806	810	338
Stage 1	-	-	-	-	-	-	433	433	-	372	372	-
Stage 2	-	-	-	-	-	-	376	411	-	434	438	-
Critical Hdwy	4.15	-	-	4.23	-	-	8.1	6.5	7.2	7.34	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	5.5	-	6.34	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	5.5	-	6.34	5.5	-
Follow-up Hdwy	2.245	-	-	2.317	-	-	4.4	4	4.2	3.716	4	3.3
Pot Cap-1 Maneuver	1165	-	-	1144	-	-	209	302	518	276	316	709
Stage 1	-	-	-	-	-	-	449	585	-	606	622	-
Stage 2	-	-	-	-	-	-	486	598	-	560	582	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1165	-	-	1144	-	-	199	287	518	265	301	709
Mov Cap-2 Maneuver	-	-	-	-	-	-	199	287	-	265	301	-
Stage 1	-	-	-	-	-	-	433	565	-	585	613	-
Stage 2	-	-	-	-	-	-	473	589	-	539	562	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.4	17.6	16.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	199	518	1165	-	-	1144	-	-	265	709
HCM Lane V/C Ratio	0.006	0.002	0.036	-	-	0.015	-	-	0.074	0.011
HCM Control Delay (s)	23.2	12	8.2	-	-	8.2	-	-	19.7	10.1
HCM Lane LOS	C	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0	0	0.1	-	-	0	-	-	0.2	0

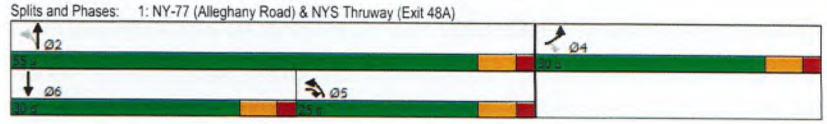
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	215	369	334	190	189	185
Future Volume (vph)	215	369	334	190	189	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	250			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.926	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1570	1272	1399	1810	2986	0
Flt Permitted	0.950		0.528			
Satd. Flow (perm)	1570	1272	778	1810	2986	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		373			187	
Link Speed (mph)	30			45	45	
Link Distance (ft)	854			973	786	
Travel Time (s)	19.4			14.7	11.9	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	15%	27%	29%	5%	8%	16%
Adj. Flow (vph)	217	373	337	192	191	187
Shared Lane Traffic (%)						
Lane Group Flow (vph)	217	373	337	192	378	0
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						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.5	12.0	12.0	22.5	22.5	
Total Split (s)	30.0	25.0	25.0	55.0	30.0	
Total Split (%)	35.3%	29.4%	29.4%	64.7%	35.3%	
Maximum Green (s)	24.0	19.0	19.0	49.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	1.0	1.0	1.0	2.0	
Recall Mode	None	None	None	None	None	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	11.2	30.5	27.8	27.8	8.4	
Actuated g/C Ratio	0.22	0.59	0.54	0.54	0.16	
v/c Ratio	0.63	0.41	0.58	0.20	0.59	
Control Delay	28.7	2.2	15.4	7.2	15.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	28.7	2.2	15.4	7.2	15.3	
LOS	C	A	B	A	B	
Approach Delay	11.9			12.4	15.3	
Approach LOS	B			B	B	
Queue Length 50th (ft)	57	0	52	25	26	
Queue Length 95th (ft)	140	26	134	67	75	
Internal Link Dist (ft)	774			893	706	
Turn Bay Length (ft)			250			
Base Capacity (vph)	762	894	759	1648	1546	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.28	0.42	0.44	0.12	0.24	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 51.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 12.9 Intersection LOS: B
Intersection Capacity Utilization 56.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: NY-77 (Alleghany Road) & NYS Thruway (Exit 48A)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑	↑↱	
Traffic Volume (vph)	44	9	6	421	496	45
Future Volume (vph)	44	9	6	421	496	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	175			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.988	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	926	808	1081	1727	3076	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	926	808	1081	1727	3076	0
Link Speed (mph)	10			45	45	
Link Distance (ft)	888			295	973	
Travel Time (s)	60.5			4.5	14.7	
Confl. Peds. (#/hr)	3					
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	95%	100%	67%	10%	9%	93%
Adj. Flow (vph)	47	10	6	453	533	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	10	6	453	581	0
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						
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 32.2% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑	↑↱	
Traffic Vol, veh/h	44	9	6	421	496	45
Future Vol, veh/h	44	9	6	421	496	45
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	175	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	95	100	67	10	9	93
Mvmt Flow	47	10	6	453	533	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1025	291	581	0	-	0
Stage 1	557	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Critical Hdwy	8.025	8.4	5.105	-	-	-
Critical Hdwy Stg 1	7.225	-	-	-	-	-
Critical Hdwy Stg 2	6.825	-	-	-	-	-
Follow-up Hdwy	4.4025	4.25	2.8365	-	-	-
Pot Cap-1 Maneuver	146	508	694	-	-	-
Stage 1	369	-	-	-	-	-
Stage 2	442	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	145	508	694	-	-	-
Mov Cap-2 Maneuver	145	-	-	-	-	-
Stage 1	366	-	-	-	-	-
Stage 2	442	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	36.4	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	694	-	145	508	-	-
HCM Lane V/C Ratio	0.009	-	0.326	0.019	-	-
HCM Control Delay (s)	10.2	-	41.4	12.2	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0	-	1.3	0.1	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	4	3	411	496	10
Future Volume (vph)	16	4	3	411	496	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	210			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		125			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1597	1615	1805	1727	3295	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1597	1615	1805	1727	3295	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	710			369	295	
Travel Time (s)	16.1			8.4	6.7	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	13%	0%	0%	10%	9%	20%
Adj. Flow (vph)	17	4	3	442	533	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	4	3	442	544	0
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						
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 31.6% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	4	3	411	496	10
Future Vol, veh/h	16	4	3	411	496	10
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	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	13	0	0	10	9	20
Mvmt Flow	17	4	3	442	533	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	987	272	544	0	-	0
Stage 1	539	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Critical Hdwy	6.795	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.995	-	-	-	-	-
Critical Hdwy Stg 2	5.595	-	-	-	-	-
Follow-up Hdwy	3.6235	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	243	732	1035	-	-	-
Stage 1	525	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	242	732	1035	-	-	-
Mov Cap-2 Maneuver	242	-	-	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	615	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1035	-	242	732	-	-
HCM Lane V/C Ratio	0.003	-	0.071	0.006	-	-
HCM Control Delay (s)	8.5	-	21	9.9	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	0	13	2	0	9	4	347	1	3	478	14
Future Volume (vph)	52	0	13	2	0	9	4	347	1	3	478	14
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	0.95	0.95	0.95
Frt		0.850			0.887						0.996	
Flt Protected	0.950				0.992			0.999				
Satd. Flow (prot)	1805	1615	0	0	1672	0	0	1697	0	0	3279	0
Flt Permitted	0.950				0.992			0.999				
Satd. Flow (perm)	1805	1615	0	0	1672	0	0	1697	0	0	3279	0
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		883			873			403			478	
Travel Time (s)		20.1			19.8			6.1			7.2	
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%	0%	0%	0%	0%	0%	0%	12%	0%	0%	10%	0%
Adj. Flow (vph)	55	0	14	2	0	10	4	369	1	3	509	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	14	0	0	12	0	0	374	0	0	527	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			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)	60		60	15		9	60		9	15		60
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	0	13	2	0	9	4	347	1	3	478	14
Future Vol, veh/h	52	0	13	2	0	9	4	347	1	3	478	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	12	0	0	10	0
Mvmt Flow	55	0	14	2	0	10	4	369	1	3	509	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	906	901	262	639	908	370	524	0	0	370	0	0
Stage 1	523	523	-	378	378	-	-	-	-	-	-	-
Stage 2	383	378	-	261	530	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.9	7.3	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	246	280	743	378	277	680	1053	-	-	1200	-	-
Stage 1	510	534	-	648	619	-	-	-	-	-	-	-
Stage 2	644	619	-	727	530	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	241	277	743	369	275	680	1053	-	-	1200	-	-
Mov Cap-2 Maneuver	241	277	-	369	275	-	-	-	-	-	-	-
Stage 1	507	532	-	645	616	-	-	-	-	-	-	-
Stage 2	632	616	-	711	528	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.4	11.2	0.1	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1053	-	-	241	743	590	1200	-	-
HCM Lane V/C Ratio	0.004	-	-	0.23	0.019	0.02	0.003	-	-
HCM Control Delay (s)	8.4	0	-	24.3	9.9	11.2	8	0	-
HCM Lane LOS	A	A	-	C	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.9	0.1	0.1	0	-	-

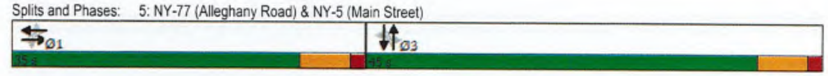
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	211	130	58	158	47	82	215	53	79	287	123
Future Volume (vph)	93	211	130	58	158	47	82	215	53	79	287	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	300		0	260		0	325		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			115			100			100		
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		0.943			0.966			0.970			0.955	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1456	1699	0	1805	1773	0	1752	1726	0	1671	1656	0
Flt Permitted	0.624			0.481			0.442			0.587		
Satd. Flow (perm)	956	1699	0	914	1773	0	815	1726	0	1033	1656	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			21			21			37	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		776			1602			801			698	
Travel Time (s)		11.8			24.3			12.1			10.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	24%	7%	3%	0%	4%	2%	3%	8%	2%	8%	9%	11%
Adj. Flow (vph)	98	222	137	61	166	49	86	226	56	83	302	129
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	359	0	61	215	0	86	282	0	83	431	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		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		Perm	NA		Perm	NA	
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phase	1	1		1	1		3	3		3	3	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		24.5	24.5		24.5	24.5	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	28.5	28.5		28.5	28.5		38.5	38.5		38.5	38.5	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
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	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	16.9	16.9		16.9	16.9		21.3	21.3		21.3	21.3	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.41	0.41		0.41	0.41	
v/c Ratio	0.32	0.62		0.21	0.37		0.26	0.40		0.20	0.62	
Control Delay	18.8	19.8		17.2	15.7		13.4	12.3		12.1	15.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.8	19.8		17.2	15.7		13.4	12.3		12.1	15.9	
LOS	B	B		B	B		B	B		B	B	
Approach Delay		19.6			16.1			12.5			15.3	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	21	75		13	42		15	49		14	82	
Queue Length 95th (ft)	72	206		48	121		53	129		49	213	
Internal Link Dist (ft)		696			1522			721			618	
Turn Bay Length (ft)	100			300			260			325		
Base Capacity (vph)	569	1028		543	1063		631	1342		800	1291	
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	0.17	0.35		0.11	0.20		0.14	0.21		0.10	0.33	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 52.4
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 16.0 Intersection LOS: B
Intersection Capacity Utilization 80.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 5: NY-77 (Alleghany Road) & NY-5 (Main Street)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	340	3	2	364	22	6	0	17	67	0	34
Future Volume (vph)	11	340	3	2	364	22	6	0	17	67	0	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	120		0	150		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	125			75			100			25		
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		0.999			0.992			0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1754	0	1805	1794	0	1626	1615	0	1399	1568	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1754	0	1805	1794	0	1626	1615	0	1399	1568	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		831			776			817			652	
Travel Time (s)		12.6			11.8			18.6			14.8	
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%	8%	33%	0%	4%	23%	11%	0%	0%	29%	0%	3%
Adj. Flow (vph)	12	362	3	2	387	23	6	0	18	71	0	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	365	0	2	410	0	6	18	0	71	36	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					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)	60		9	15		60	15		9	60		60
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 37.5% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	340	3	2	364	22	6	0	17	67	0	34
Future Vol, veh/h	11	340	3	2	364	22	6	0	17	67	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	120	-	-	150	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	8	33	0	4	23	11	0	0	29	0	3
Mvmt Flow	12	362	3	2	387	23	6	0	18	71	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	410	0	0	365	0	0	809	802	364	800	792	399
Stage 1	-	-	-	-	-	-	388	388	-	403	403	-
Stage 2	-	-	-	-	-	-	421	414	-	397	389	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.21	6.5	6.2	7.39	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.21	5.5	-	6.39	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.21	5.5	-	6.39	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.599	4	3.3	3.761	4	3.327
Pot Cap-1 Maneuver	1160	-	-	1205	-	-	289	320	685	273	324	649
Stage 1	-	-	-	-	-	-	618	612	-	574	603	-
Stage 2	-	-	-	-	-	-	593	597	-	578	612	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1160	-	-	1205	-	-	271	316	685	263	320	649
Mov Cap-2 Maneuver	-	-	-	-	-	-	271	316	-	263	320	-
Stage 1	-	-	-	-	-	-	612	606	-	568	602	-
Stage 2	-	-	-	-	-	-	559	596	-	557	606	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	12.5	19.4
HCM LOS			B	C

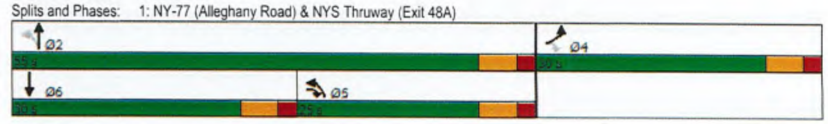
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	271	685	1160	-	-	1205	-	-	263	649
HCM Lane V/C Ratio	0.024	0.026	0.01	-	-	0.002	-	-	0.271	0.056
HCM Control Delay (s)	18.6	10.4	8.1	-	-	8	-	-	23.7	10.9
HCM Lane LOS	C	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	0.1	0	-	-	0	-	-	1.1	0.2

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	106	319	404	113	203	227
Future Volume (vph)	106	319	404	113	203	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	250			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.921	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1480	1242	1421	1743	2961	0
Flt Permitted	0.950		0.461			
Satd. Flow (perm)	1480	1242	690	1743	2961	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		347			247	
Link Speed (mph)	30			45	45	
Link Distance (ft)	854			973	786	
Travel Time (s)	19.4			14.7	11.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	22%	30%	27%	9%	7%	17%
Adj. Flow (vph)	115	347	439	123	221	247
Shared Lane Traffic (%)						
Lane Group Flow (vph)	115	347	439	123	468	0
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						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.5	12.0	12.0	22.5	22.5	
Total Split (s)	30.0	25.0	25.0	55.0	30.0	
Total Split (%)	35.3%	29.4%	29.4%	64.7%	35.3%	
Maximum Green (s)	24.0	19.0	19.0	49.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	1.0	1.0	1.0	2.0	
Recall Mode	None	None	None	None	None	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	9.1	28.2	32.9	35.1	9.4	
Actuated g/C Ratio	0.18	0.56	0.65	0.69	0.19	
v/c Ratio	0.43	0.41	0.63	0.10	0.63	
Control Delay	27.2	2.4	15.2	5.1	14.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	27.2	2.4	15.2	5.1	14.4	
LOS	C	A	B	A	B	
Approach Delay	8.6			13.0	14.4	
Approach LOS	A			B	B	
Queue Length 50th (ft)	34	0	64	13	34	
Queue Length 95th (ft)	81	28	151	36	79	
Internal Link Dist (ft)	774			893	706	
Turn Bay Length (ft)			250			
Base Capacity (vph)	765	890	781	1567	1650	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.15	0.39	0.56	0.08	0.28	

Intersection Summary	
Area Type: Other	
Cycle Length: 85	
Actuated Cycle Length: 50.7	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 12.0	Intersection LOS: B
Intersection Capacity Utilization 56.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: NY-77 (Alleghany Road) & NYS Thruway (Exit 48A)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	59	4	2	434	440	46
Future Volume (vph)	59	4	2	434	440	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	175			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.986	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	912	808	902	1696	2904	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	912	808	902	1696	2904	0
Link Speed (mph)	10			45	45	
Link Distance (ft)	888			295	973	
Travel Time (s)	60.5			4.5	14.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	98%	100%	100%	12%	15%	95%
Adj. Flow (vph)	61	4	2	452	458	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	61	4	2	452	506	0
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						
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 32.8% ICU Level of Service A
Analysis Period (min) 15

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	59	4	2	434	440	46
Future Vol, veh/h	59	4	2	434	440	46
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	175	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	98	100	100	12	15	95
Mvmt Flow	61	4	2	452	458	48

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	938	253	506	0	-	0
Stage 1	482	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Critical Hdwy	8.07	8.4	5.6	-	-	-
Critical Hdwy Stg 1	7.27	-	-	-	-	-
Critical Hdwy Stg 2	6.87	-	-	-	-	-
Follow-up Hdwy	4.431	4.25	3.15	-	-	-
Pot Cap-1 Maneuver	167	543	644	-	-	-
Stage 1	407	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	166	543	644	-	-	-
Mov Cap-2 Maneuver	166	-	-	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	445	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	37.2	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	644	-	166	543	-	-
HCM Lane V/C Ratio	0.003	-	0.37	0.008	-	-
HCM Control Delay (s)	10.6	-	38.9	11.7	-	-
HCM Lane LOS	B	-	E	B	-	-
HCM 95th %tile Q(veh)	0	-	1.6	0	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑	↑↱	
Traffic Volume (vph)	5	2	6	435	423	20
Future Volume (vph)	5	2	6	435	423	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	210			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		125			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.993	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1504	1615	1805	1696	3117	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1504	1615	1805	1696	3117	0
Link Speed (mph)	30			45	45	
Link Distance (ft)	710			369	295	
Travel Time (s)	16.1			5.6	4.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	20%	0%	0%	12%	15%	15%
Adj. Flow (vph)	5	2	6	453	441	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	2	6	453	462	0
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						
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 32.9% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑	↑↱	
Traffic Vol, veh/h	5	2	6	435	423	20
Future Vol, veh/h	5	2	6	435	423	20
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	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	20	0	0	12	15	15
Mvmt Flow	5	2	6	453	441	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	917	231	462	0	-	0
Stage 1	452	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Critical Hdwy	6.9	6.9	4.1	-	-	-
Critical Hdwy Stg 1	6.1	-	-	-	-	-
Critical Hdwy Stg 2	5.7	-	-	-	-	-
Follow-up Hdwy	3.69	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	260	777	1110	-	-	-
Stage 1	567	-	-	-	-	-
Stage 2	587	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	259	777	1110	-	-	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	564	-	-	-	-	-
Stage 2	587	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.5	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1110	-	259	777	-	-
HCM Lane V/C Ratio	0.006	-	0.02	0.003	-	-
HCM Control Delay (s)	8.3	-	19.2	9.6	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	0	6	1	0	8	28	410	9	9	312	108
Future Volume (vph)	26	0	6	1	0	8	28	410	9	9	312	108
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	0.95	0.95	0.95
Frt		0.850			0.878			0.997			0.962	
Flt Protected	0.950				0.995			0.997			0.999	
Satd. Flow (prot)	1805	1615	0	0	1660	0	0	1660	0	0	2954	0
Flt Permitted	0.950				0.995			0.997			0.999	
Satd. Flow (perm)	1805	1615	0	0	1660	0	0	1660	0	0	2954	0
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		883			873			403			478	
Travel Time (s)		20.1			19.8			6.1			7.2	
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%	0%	0%	0%	0%	0%	0%	15%	0%	0%	24%	0%
Adj. Flow (vph)	28	0	6	1	0	9	30	436	10	10	332	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	6	0	0	10	0	0	476	0	0	457	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			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			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 54.1%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	0	6	1	0	8	28	410	9	9	312	108
Future Vol, veh/h	26	0	6	1	0	8	28	410	9	9	312	108
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	15	0	0	24	0
Mvmt Flow	28	0	6	1	0	9	30	436	10	10	332	115

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	916	916	224	687	968	441	447	0	0	446	0	0
Stage 1	410	410	-	501	501	-	-	-	-	-	-	-
Stage 2	506	506	-	186	467	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.9	7.3	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	242	274	786	350	256	621	1124	-	-	1125	-	-
Stage 1	595	599	-	556	546	-	-	-	-	-	-	-
Stage 2	552	543	-	804	565	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	230	261	786	335	244	621	1124	-	-	1125	-	-
Mov Cap-2 Maneuver	230	261	-	335	244	-	-	-	-	-	-	-
Stage 1	574	592	-	536	526	-	-	-	-	-	-	-
Stage 2	525	523	-	788	558	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.3	11.5	0.5	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1124	-	-	230	786	567	1125	-	-
HCM Lane V/C Ratio	0.027	-	-	0.12	0.008	0.017	0.009	-	-
HCM Control Delay (s)	8.3	0	-	22.8	9.6	11.5	8.2	0	-
HCM Lane LOS	A	A	-	C	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0	0.1	0	-	-

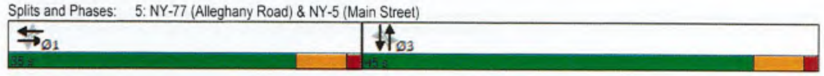
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	162	96	109	170	83	139	251	64	28	212	77
Future Volume (vph)	101	162	96	109	170	83	139	251	64	28	212	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	300		0	260		0	325		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			115			100			100		
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		0.944			0.951			0.970			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1530	1700	0	1612	1628	0	1770	1799	0	1492	1495	0
Flt Permitted	0.511			0.502			0.495			0.458		
Satd. Flow (perm)	823	1700	0	852	1628	0	922	1799	0	719	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			34			22			31	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		776			1602			801			698	
Travel Time (s)		11.8			24.3			12.1			10.6	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	18%	7%	3%	12%	11%	11%	2%	0%	12%	21%	13%	47%
Adj. Flow (vph)	133	213	126	143	224	109	183	330	84	37	279	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	339	0	143	333	0	183	414	0	37	380	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		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		Perm	NA		Perm	NA	
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phase	1	1		1	1		3	3		3	3	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		24.5	24.5		24.5	24.5	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	28.5	28.5		28.5	28.5		38.5	38.5		38.5	38.5	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
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	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	17.7	17.7		17.7	17.7		22.5	22.5		22.5	22.5	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.41	0.41		0.41	0.41	
v/c Ratio	0.50	0.58		0.52	0.60		0.48	0.55		0.12	0.60	
Control Delay	24.5	19.3		24.8	20.4		17.3	14.8		11.9	16.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.5	19.3		24.8	20.4		17.3	14.8		11.9	16.2	
LOS	C	B		C	C		B	B		B	B	
Approach Delay		20.7			21.7			15.6			15.8	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	32	72		34	73		38	83		6	75	
Queue Length 95th (ft)	82	153		88	155		86	155		22	147	
Internal Link Dist (ft)		696			1522			721			618	
Turn Bay Length (ft)	100			300			260			325		
Base Capacity (vph)	471	991		488	947		691	1354		539	1128	
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	0.28	0.34		0.29	0.35		0.26	0.31		0.07	0.34	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 54.5
Natural Cycle: 50
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 18.3 — Intersection LOS: B
Intersection Capacity Utilization 69.8% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 5: NY-77 (Alleghany Road) & NY-5 (Main Street)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	310	9	16	267	129	1	0	1	31	0	13
Future Volume (vph)	64	310	9	16	267	129	1	0	1	31	0	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	120		0	150		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	125			75			100			25		
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		0.996			0.951			0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1772	0	1597	1573	0	902	808	0	1433	1615	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1736	1772	0	1597	1573	0	902	808	0	1433	1615	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		831			776			817			652	
Travel Time (s)		12.6			11.8			18.6			14.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	4%	7%	0%	13%	9%	27%	100%	0%	100%	26%	0%	0%
Adj. Flow (vph)	74	356	10	18	307	148	1	0	1	36	0	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	366	0	18	455	0	1	1	0	36	15	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					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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 43.8% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	310	9	16	267	129	1	0	1	31	0	13
Future Vol, veh/h	64	310	9	16	267	129	1	0	1	31	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	120	-	-	150	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	4	7	0	13	9	27	100	0	100	26	0	0
Mvmt Flow	74	356	10	18	307	148	1	0	1	36	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	455	0	0	366	0	0	934	1000	361	927	931	381
Stage 1	-	-	-	-	-	-	509	509	-	417	417	-
Stage 2	-	-	-	-	-	-	425	491	-	510	514	-
Critical Hdwy	4.14	-	-	4.23	-	-	8.1	6.5	7.2	7.36	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	5.5	-	6.36	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	5.5	-	6.36	5.5	-
Follow-up Hdwy	2.236	-	-	2.317	-	-	4.4	4	4.2	3.734	4	3.3
Pot Cap-1 Maneuver	1095	-	-	1134	-	-	168	245	510	226	269	671
Stage 1	-	-	-	-	-	-	403	541	-	568	595	-
Stage 2	-	-	-	-	-	-	454	552	-	504	539	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1095	-	-	1134	-	-	154	225	510	211	247	671
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	225	-	211	247	-
Stage 1	-	-	-	-	-	-	376	504	-	529	585	-
Stage 2	-	-	-	-	-	-	437	543	-	469	502	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.3	20.4	21.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	154	510	1095	-	-	1134	-	-	211	671
HCM Lane V/C Ratio	0.007	0.002	0.067	-	-	0.016	-	-	0.169	0.022
HCM Control Delay (s)	28.6	12.1	8.5	-	-	8.2	-	-	25.5	10.5
HCM Lane LOS	D	B	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0	0	0.2	-	-	0	-	-	0.6	0.1

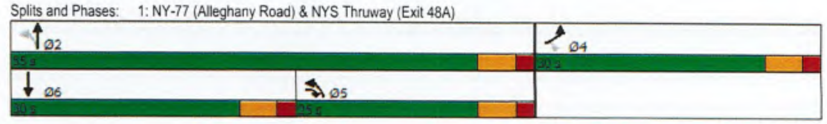
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	222	393	390	217	199	191
Future Volume (vph)	222	393	390	217	199	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	250			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		150			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.927	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1570	1282	1410	1810	2990	0
Flt Permitted	0.950		0.519			
Satd. Flow (perm)	1570	1282	770	1810	2990	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		397			193	
Link Speed (mph)	30			45	45	
Link Distance (ft)	854			973	786	
Travel Time (s)	19.4			14.7	11.9	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	15%	26%	28%	5%	8%	16%
Adj. Flow (vph)	224	397	394	219	201	193
Shared Lane Traffic (%)						
Lane Group Flow (vph)	224	397	394	219	394	0
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						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	22.5	12.0	12.0	22.5	22.5	
Total Split (s)	30.0	25.0	25.0	55.0	30.0	
Total Split (%)	35.3%	29.4%	29.4%	64.7%	35.3%	
Maximum Green (s)	24.0	19.0	19.0	49.0	24.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	2.0	1.0	1.0	1.0	2.0	
Recall Mode	None	None	None	None	None	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Act Effct Green (s)	11.9	33.0	30.0	30.0	8.9	
Actuated g/C Ratio	0.22	0.61	0.55	0.55	0.16	
v/c Ratio	0.65	0.43	0.66	0.22	0.61	
Control Delay	30.1	2.2	18.0	7.5	16.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	30.1	2.2	18.0	7.5	16.2	
LOS	C	A	B	A	B	
Approach Delay	12.2			14.3	16.2	
Approach LOS	B			B	B	
Queue Length 50th (ft)	65	0	67	30	30	
Queue Length 95th (ft)	146	27	169	79	79	
Internal Link Dist (ft)	774			893	706	
Turn Bay Length (ft)			250			
Base Capacity (vph)	720	926	726	1593	1477	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.31	0.43	0.54	0.14	0.27	

Intersection Summary

Area Type: Other
Cycle Length: 85
Actuated Cycle Length: 54.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 14.0 — Intersection LOS: B
Intersection Capacity Utilization 60.5% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: NY-77 (Alleghany Road) & NYS Thruway (Exit 48A)



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	45	9	6	501	529	46
Future Volume (vph)	45	9	6	501	529	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	175			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.988	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	926	808	1081	1712	3084	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	926	808	1081	1712	3084	0
Link Speed (mph)	10			45	45	
Link Distance (ft)	888			295	973	
Travel Time (s)	60.5			4.5	14.7	
Confl. Peds. (#/hr)	3					
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	95%	100%	67%	11%	9%	93%
Adj. Flow (vph)	48	10	6	539	569	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	10	6	539	618	0
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						
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 36.4% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	45	9	6	501	529	46
Future Vol, veh/h	45	9	6	501	529	46
Conflicting Peds, #/hr	3	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	175	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	95	100	67	11	9	93
Mvmt Flow	48	10	6	539	569	49

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1148	309	618	0	-	0
Stage 1	594	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Critical Hdwy	8.025	8.4	5.105	-	-	-
Critical Hdwy Stg 1	7.225	-	-	-	-	-
Critical Hdwy Stg 2	6.825	-	-	-	-	-
Follow-up Hdwy	4.4025	4.25	2.8365	-	-	-
Pot Cap-1 Maneuver	118	492	667	-	-	-
Stage 1	349	-	-	-	-	-
Stage 2	394	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	117	492	667	-	-	-
Mov Cap-2 Maneuver	117	-	-	-	-	-
Stage 1	346	-	-	-	-	-
Stage 2	394	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	48.7	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	667	-	117	492	-	-
HCM Lane V/C Ratio	0.01	-	0.414	0.02	-	-
HCM Control Delay (s)	10.4	-	55.9	12.5	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q(veh)	0	-	1.8	0.1	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑	↑↱	
Traffic Volume (vph)	16	4	3	490	529	10
Future Volume (vph)	16	4	3	490	529	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	210			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25		125			
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1597	1615	1805	1712	3296	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1597	1615	1805	1712	3296	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	710			369	295	
Travel Time (s)	16.1			8.4	6.7	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	13%	0%	0%	11%	9%	20%
Adj. Flow (vph)	17	4	3	527	569	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	4	3	527	580	0
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						
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 35.8% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰	↱	↰	↑	↑↱	
Traffic Vol, veh/h	16	4	3	490	529	10
Future Vol, veh/h	16	4	3	490	529	10
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	210	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	13	0	0	11	9	20
Mvmt Flow	17	4	3	527	569	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1108	290	580	0	-	0
Stage 1	575	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Critical Hdwy	6.795	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.995	-	-	-	-	-
Critical Hdwy Stg 2	5.595	-	-	-	-	-
Follow-up Hdwy	3.6235	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	204	713	1004	-	-	-
Stage 1	502	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	203	713	1004	-	-	-
Mov Cap-2 Maneuver	203	-	-	-	-	-
Stage 1	500	-	-	-	-	-
Stage 2	561	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.5	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1004	-	203	713	-	-
HCM Lane V/C Ratio	0.003	-	0.085	0.006	-	-
HCM Control Delay (s)	8.6	-	24.4	10.1	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	0	26	2	0	9	8	373	1	3	497	28
Future Volume (vph)	104	0	26	2	0	9	8	373	1	3	497	28
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	0.95	0.95	0.95
Frt		0.850			0.887						0.992	
Flt Protected	0.950				0.992			0.999				
Satd. Flow (prot)	1805	1615	0	0	1672	0	0	1656	0	0	3273	0
Flt Permitted	0.950				0.992			0.999				
Satd. Flow (perm)	1805	1615	0	0	1672	0	0	1656	0	0	3273	0
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		883			873			403			478	
Travel Time (s)		20.1			19.8			6.1			7.2	
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%	0%	0%	0%	0%	0%	0%	15%	0%	0%	10%	0%
Adj. Flow (vph)	111	0	28	2	0	10	9	397	1	3	529	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	28	0	0	12	0	0	407	0	0	562	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			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)	60		60	15		9	60		9	15		60
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 45.2%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	0	26	2	0	9	8	373	1	3	497	28
Future Vol, veh/h	104	0	26	2	0	9	8	373	1	3	497	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	15	0	0	10	0
Mvmt Flow	111	0	28	2	0	10	9	397	1	3	529	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	971	966	280	687	981	398	559	0	0	398	0	0
Stage 1	550	550	-	416	416	-	-	-	-	-	-	-
Stage 2	421	416	-	271	565	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.9	7.3	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	222	257	723	350	251	656	1022	-	-	1172	-	-
Stage 1	492	519	-	618	595	-	-	-	-	-	-	-
Stage 2	614	595	-	717	511	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	216	253	723	333	247	656	1022	-	-	1172	-	-
Mov Cap-2 Maneuver	216	253	-	333	247	-	-	-	-	-	-	-
Stage 1	487	517	-	611	588	-	-	-	-	-	-	-
Stage 2	598	588	-	687	509	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.4	11.6	0.2	0
HCM LOS	D	B		

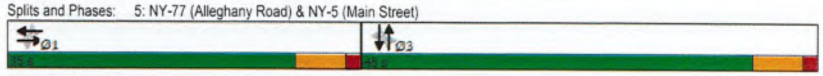
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1022	-	-	216	723	558	1172	-	-
HCM Lane V/C Ratio	0.008	-	-	0.512	0.038	0.021	0.003	-	-
HCM Control Delay (s)	8.6	0	-	38	10.2	11.6	8.1	0	-
HCM Lane LOS	A	A	-	E	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.6	0.1	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	111	233	161	60	167	51	92	224	55	87	303	131
Future Volume (vph)	111	233	161	60	167	51	92	224	55	87	303	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	300		0	260		0	325		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			115			100			100		
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		0.939			0.965			0.970			0.955	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1347	1693	0	1805	1771	0	1752	1725	0	1687	1646	0
Flt Permitted	0.615			0.398			0.409			0.580		
Satd. Flow (perm)	872	1693	0	756	1771	0	754	1725	0	1030	1646	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			21			21			38	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		776			1602			801			698	
Travel Time (s)		11.8			24.3			12.1			10.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	34%	7%	3%	0%	4%	2%	3%	8%	2%	7%	9%	13%
Adj. Flow (vph)	117	245	169	63	176	54	97	236	58	92	319	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	117	414	0	63	230	0	97	294	0	92	457	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		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		Perm	NA		Perm	NA	
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phase	1	1		1	1		3	3		3	3	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		24.5	24.5		24.5	24.5	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	28.5	28.5		28.5	28.5		38.5	38.5		38.5	38.5	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
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	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	18.5	18.5		18.5	18.5		23.3	23.3		23.3	23.3	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.42	0.42		0.42	0.42	
v/c Ratio	0.41	0.70		0.25	0.38		0.31	0.40		0.21	0.65	
Control Delay	21.7	22.9		19.0	16.6		14.9	12.8		12.6	17.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.7	22.9		19.0	16.6		14.9	12.8		12.6	17.1	
LOS	C	C		B	B		B	B		B	B	
Approach Delay		22.6			17.1			13.3			16.3	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)	28	98		14	49		20	57		18	99	
Queue Length 95th (ft)	89	249		52	132		60	136		53	230	
Internal Link Dist (ft)		696			1522			721			618	
Turn Bay Length (ft)	100			300			260			325		
Base Capacity (vph)	485	963		420	994		548	1261		749	1208	
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	0.24	0.43		0.15	0.23		0.18	0.23		0.12	0.38	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 56	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 17.7	Intersection LOS: B
Intersection Capacity Utilization 84.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: NY-77 (Alleghany Road) & NY-5 (Main Street)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	350	3	2	375	38	6	0	18	124	0	61
Future Volume (vph)	18	350	3	2	375	38	6	0	18	124	0	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	120		0	150		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	125			75			100			25		
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		0.999			0.986			0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1754	0	1805	1767	0	1626	1615	0	1388	1568	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1754	0	1805	1767	0	1626	1615	0	1388	1568	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		831			776			817			652	
Travel Time (s)		12.6			11.8			18.6			14.8	
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%	8%	33%	0%	4%	26%	11%	0%	0%	30%	0%	3%
Adj. Flow (vph)	19	372	3	2	399	40	6	0	19	132	0	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	375	0	2	439	0	6	19	0	132	65	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					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)	60		9	15		60	15		9	60		60
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 42.2% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	350	3	2	375	38	6	0	18	124	0	61
Future Vol, veh/h	18	350	3	2	375	38	6	0	18	124	0	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	120	-	-	150	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	8	33	0	4	26	11	0	0	30	0	3
Mvmt Flow	19	372	3	2	399	40	6	0	19	132	0	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	439	0	0	375	0	0	868	855	374	844	836	419
Stage 1	-	-	-	-	-	-	412	412	-	423	423	-
Stage 2	-	-	-	-	-	-	456	443	-	421	413	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.21	6.5	6.2	7.4	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.21	5.5	-	6.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.21	5.5	-	6.4	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.599	4	3.3	3.77	4	3.327
Pot Cap-1 Maneuver	1132	-	-	1195	-	-	263	298	677	254	305	632
Stage 1	-	-	-	-	-	-	600	598	-	557	591	-
Stage 2	-	-	-	-	-	-	567	579	-	559	597	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1132	-	-	1195	-	-	233	292	677	243	299	632
Mov Cap-2 Maneuver	-	-	-	-	-	-	233	292	-	243	299	-
Stage 1	-	-	-	-	-	-	590	588	-	548	590	-
Stage 2	-	-	-	-	-	-	508	578	-	534	587	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	13.1	27.9
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	233	677	1132	-	-	1195	-	-	243	632
HCM Lane V/C Ratio	0.027	0.028	0.017	-	-	0.002	-	-	0.543	0.103
HCM Control Delay (s)	20.9	10.5	8.2	-	-	8	-	-	36.1	11.3
HCM Lane LOS	C	B	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.1	0.1	0.1	-	-	0	-	-	2.9	0.3

A7

Level of Service Calculations: Full Development Conditions with Mitigation

Lanes, Volumes, Timings

4: NY-77 (Alleghany Road) & Proposed Southerly Access/Vision Parkway

01/04/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	0	6	1	0	8	28	410	9	9	312	108
Future Volume (vph)	26	0	6	1	0	8	28	410	9	9	312	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		350
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850			0.878			0.997				0.850
Flt Protected	0.950				0.995			0.997			0.999	
Satd. Flow (prot)	1805	1615	0	0	1660	0	0	1660	0	0	2925	1615
Flt Permitted	0.950				0.995			0.997			0.999	
Satd. Flow (perm)	1805	1615	0	0	1660	0	0	1660	0	0	2925	1615
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		883			873			403			478	
Travel Time (s)		20.1			19.8			6.1			7.2	
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%	0%	0%	0%	0%	0%	0%	15%	0%	0%	24%	0%
Adj. Flow (vph)	28	0	6	1	0	9	30	436	10	10	332	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	6	0	0	10	0	0	476	0	0	342	115
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			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			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 50.7% ICU Level of Service A

Analysis Period (min) 15

HCM 6th TWSC

4: NY-77 (Alleghany Road) & Proposed Southerly Access/Vision Parkway

01/04/2023

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	0	6	1	0	8	28	410	9	9	312	108
Future Vol, veh/h	26	0	6	1	0	8	28	410	9	9	312	108
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	15	0	0	24	0
Mvmt Flow	28	0	6	1	0	9	30	436	10	10	332	115

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	858	858	166	687	968	441	447	0	0	446	0	0
Stage 1	352	352	-	501	501	-	-	-	-	-	-	-
Stage 2	506	506	-	186	467	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.9	7.3	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	266	297	856	350	256	621	1124	-	-	1125	-	-
Stage 1	643	635	-	556	546	-	-	-	-	-	-	-
Stage 2	552	543	-	804	565	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	253	283	856	335	244	621	1124	-	-	1125	-	-
Mov Cap-2 Maneuver	253	283	-	335	244	-	-	-	-	-	-	-
Stage 1	620	627	-	536	526	-	-	-	-	-	-	-
Stage 2	525	523	-	788	558	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.8	11.5	0.5	0.2
HCM LOS	C	B		

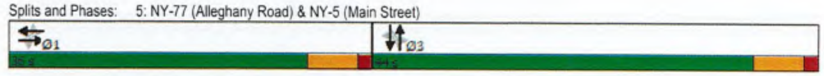
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1124	-	-	253	856	567	1125	-	-
HCM Lane V/C Ratio	0.027	-	-	0.109	0.007	0.017	0.009	-	-
HCM Control Delay (s)	8.3	0	-	21	9.2	11.5	8.2	0	-
HCM Lane LOS	A	A	-	C	A	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	162	96	109	170	83	139	251	64	28	212	77
Future Volume (vph)	101	162	96	109	170	83	139	251	64	28	212	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	300		0	260		0	325		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			115			100			100		
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		0.944			0.951			0.970			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1530	1700	0	1612	1628	0	1770	1799	0	1492	1495	0
Flt Permitted	0.513			0.505			0.494			0.456		
Satd. Flow (perm)	826	1700	0	857	1628	0	920	1799	0	716	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			35			22			31	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		776			1602			801			698	
Travel Time (s)		11.8			24.3			12.1			10.6	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	18%	7%	3%	12%	11%	11%	2%	0%	12%	21%	13%	47%
Adj. Flow (vph)	133	213	126	143	224	109	183	330	84	37	279	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	339	0	143	333	0	183	414	0	37	380	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		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		Perm	NA		Perm	NA	
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phase	1	1		1	1		3	3		3	3	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		24.5	24.5		24.5	24.5	
Total Split (s)	36.0	36.0		36.0	36.0		44.0	44.0		44.0	44.0	
Total Split (%)	45.0%	45.0%		45.0%	45.0%		55.0%	55.0%		55.0%	55.0%	
Maximum Green (s)	29.5	29.5		29.5	29.5		37.5	37.5		37.5	37.5	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
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	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	17.9	17.9		17.9	17.9		22.2	22.2		22.2	22.2	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.41	0.41		0.41	0.41	
v/c Ratio	0.49	0.58		0.51	0.60		0.49	0.55		0.13	0.60	
Control Delay	23.8	18.8		24.1	19.8		17.7	15.1		12.2	16.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.8	18.8		24.1	19.8		17.7	15.1		12.2	16.5	
LOS	C	B		C	B		B	B		B	B	
Approach Delay		20.2			21.1			15.9			16.2	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	32	72		34	73		38	83		6	76	
Queue Length 95th (ft)	81	149		85	151		88	160		23	151	
Internal Link Dist (ft)		696			1522			721			618	
Turn Bay Length (ft)	100			300			260			325		
Base Capacity (vph)	491	1028		509	982		678	1331		527	1109	
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	0.27	0.33		0.28	0.34		0.27	0.31		0.07	0.34	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 54.3	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 69.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: NY-77 (Alleghany Road) & NY-5 (Main Street)



Lanes, Volumes, Timings
6: Brickhouse Road/Proposed Access & NY-5 (Main Street)

01/04/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	310	9	16	267	129	1	0	1	31	0	13
Future Volume (vph)	64	310	9	16	267	129	1	0	1	31	0	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	120		350	150		0	200		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	125			75			100			25		
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		0.996				0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1772	0	1597	1743	1272	902	808	0	1433	1615	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1736	1772	0	1597	1743	1272	902	808	0	1433	1615	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		831			776			817			652	
Travel Time (s)		12.6			11.8			18.6			14.8	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	4%	7%	0%	13%	9%	27%	100%	0%	100%	26%	0%	0%
Adj. Flow (vph)	74	356	10	18	307	148	1	0	1	36	0	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	366	0	18	307	148	1	1	0	36	15	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					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
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 38.6% ICU Level of Service A

Analysis Period (min) 15

HCM 6th TWSC
6: Brickhouse Road/Proposed Access & NY-5 (Main Street)

01/04/2023

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	310	9	16	267	129	1	0	1	31	0	13
Future Vol, veh/h	64	310	9	16	267	129	1	0	1	31	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	120	-	350	150	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	4	7	0	13	9	27	100	0	100	26	0	0
Mvmt Flow	74	356	10	18	307	148	1	0	1	36	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	455	0	0	366	0	0	934	1000	361	853	857	307
Stage 1	-	-	-	-	-	-	509	509	-	343	343	-
Stage 2	-	-	-	-	-	-	425	491	-	510	514	-
Critical Hdwy	4.14	-	-	4.23	-	-	8.1	6.5	7.2	7.36	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	7.1	5.5	-	6.36	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.1	5.5	-	6.36	5.5	-
Follow-up Hdwy	2.236	-	-	2.317	-	-	4.4	4	4.2	3.734	4	3.3
Pot Cap-1 Maneuver	1095	-	-	1134	-	-	168	245	510	254	297	738
Stage 1	-	-	-	-	-	-	403	541	-	625	641	-
Stage 2	-	-	-	-	-	-	454	552	-	504	539	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1095	-	-	1134	-	-	154	225	510	237	272	738
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	225	-	237	272	-
Stage 1	-	-	-	-	-	-	376	504	-	583	631	-
Stage 2	-	-	-	-	-	-	438	543	-	469	502	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.3	20.4	19.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	154	510	1095	-	-	1134	-	-	237	738
HCM Lane V/C Ratio	0.007	0.002	0.067	-	-	0.016	-	-	0.15	0.02
HCM Control Delay (s)	28.6	12.1	8.5	-	-	8.2	-	-	22.9	10
HCM Lane LOS	D	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0	0	0.2	-	-	0	-	-	0.5	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	0	26	2	0	9	8	373	1	3	497	28
Future Volume (vph)	104	0	26	2	0	9	8	373	1	3	497	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	0		350
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850			0.887							0.850
Flt Protected	0.950				0.992			0.999				
Satd. Flow (prot)	1805	1615	0	0	1672	0	0	1656	0	0	3284	1615
Flt Permitted	0.950				0.992			0.999				
Satd. Flow (perm)	1805	1615	0	0	1672	0	0	1656	0	0	3284	1615
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		883			873			403			478	
Travel Time (s)		20.1			19.8			6.1			7.2	
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%	0%	0%	0%	0%	0%	0%	15%	0%	0%	10%	0%
Adj. Flow (vph)	111	0	28	2	0	10	9	397	1	3	529	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	28	0	0	12	0	0	407	0	0	532	30
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			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)	60		60	15		9	60		9	15		60
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 45.2% ICU Level of Service A

Analysis Period (min) 15

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	0	26	2	0	9	8	373	1	3	497	28
Future Vol, veh/h	104	0	26	2	0	9	8	373	1	3	497	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	350
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	15	0	0	10	0
Mvmt Flow	111	0	28	2	0	10	9	397	1	3	529	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	956	951	265	687	981	398	559	0	0	398	0	0
Stage 1	535	535	-	416	416	-	-	-	-	-	-	-
Stage 2	421	416	-	271	565	-	-	-	-	-	-	-
Critical Hdwy	7.3	6.5	6.9	7.3	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	227	262	739	350	251	656	1022	-	-	1172	-	-
Stage 1	502	527	-	618	595	-	-	-	-	-	-	-
Stage 2	614	595	-	717	511	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	221	258	739	333	247	656	1022	-	-	1172	-	-
Mov Cap-2 Maneuver	221	258	-	333	247	-	-	-	-	-	-	-
Stage 1	496	525	-	611	588	-	-	-	-	-	-	-
Stage 2	598	588	-	687	509	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31.3	11.6	0.2	0
HCM LOS	D	B		

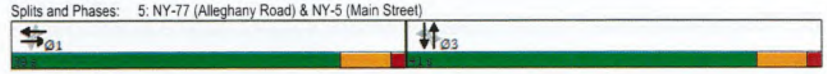
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1022	-	-	221	739	558	1172	-	-
HCM Lane V/C Ratio	0.008	-	-	0.501	0.037	0.021	0.003	-	-
HCM Control Delay (s)	8.6	0	-	36.6	10.1	11.6	8.1	0	-
HCM Lane LOS	A	A	-	E	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.5	0.1	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Volume (vph)	111	233	161	60	167	51	92	224	55	87	303	131
Future Volume (vph)	111	233	161	60	167	51	92	224	55	87	303	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	300		0	260		0	325		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			115			100			100		
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		0.939			0.965			0.970			0.955	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1347	1693	0	1805	1771	0	1752	1725	0	1687	1646	0
Flt Permitted	0.615			0.409			0.400			0.580		
Satd. Flow (perm)	872	1693	0	777	1771	0	738	1725	0	1030	1646	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			23			19			34	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		776			1602			801			698	
Travel Time (s)		11.8			24.3			12.1			10.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	34%	7%	3%	0%	4%	2%	3%	8%	2%	7%	9%	13%
Adj. Flow (vph)	117	245	169	63	176	54	97	236	58	92	319	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	117	414	0	63	230	0	97	294	0	92	457	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		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		Perm	NA		Perm	NA	
Protected Phases		1			1			3			3	
Permitted Phases	1			1			3			3		
Detector Phase	1	1		1	1		3	3		3	3	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		24.5	24.5		24.5	24.5	
Total Split (s)	39.0	39.0		39.0	39.0		41.0	41.0		41.0	41.0	
Total Split (%)	48.8%	48.8%		48.8%	48.8%		51.3%	51.3%		51.3%	51.3%	
Maximum Green (s)	32.5	32.5		32.5	32.5		34.5	34.5		34.5	34.5	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
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	None		None	None	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	19.3	19.3		19.3	19.3		22.5	22.5		22.5	22.5	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.40	0.40		0.40	0.40	
v/c Ratio	0.39	0.67		0.24	0.37		0.33	0.42		0.22	0.67	
Control Delay	19.8	20.5		17.2	15.1		16.6	14.1		13.9	19.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.8	20.5		17.2	15.1		16.6	14.1		13.9	19.0	
LOS	B	C		B	B		B	B		B	B	
Approach Delay		20.4			15.6			14.7			18.2	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)	28	95		14	48		20	58		18	102	
Queue Length 95th (ft)	81	225		48	120		68	152		59	259	
Internal Link Dist (ft)		696			1522			721			618	
Turn Bay Length (ft)	100			300			260			325		
Base Capacity (vph)	553	1094		493	1133		496	1167		693	1119	
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	0.21	0.38		0.13	0.20		0.20	0.25		0.13	0.41	

Intersection Summary	
Area Type: Other	
Cycle Length: 80	
Actuated Cycle Length: 56	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 17.6	Intersection LOS: B
Intersection Capacity Utilization 84.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: NY-77 (Alleghany Road) & NY-5 (Main Street)



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	350	3	2	375	38	6	0	18	124	0	61
Future Volume (vph)	18	350	3	2	375	38	6	0	18	124	0	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	120		350	150		0	200		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	125			75			100			25		
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		0.999				0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1754	0	1805	1827	1282	1626	1615	0	1388	1568	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	1754	0	1805	1827	1282	1626	1615	0	1388	1568	0
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		831			776			817			652	
Travel Time (s)		12.6			11.8			18.6			14.8	
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%	8%	33%	0%	4%	26%	11%	0%	0%	30%	0%	3%
Adj. Flow (vph)	19	372	3	2	399	40	6	0	19	132	0	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	375	0	2	399	40	6	19	0	132	65	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					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)	60		9	15		60	15		9	60		60
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 39.9%	ICU Level of Service A
Analysis Period (min) 15	

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	350	3	2	375	38	6	0	18	124	0	61
Future Vol, veh/h	18	350	3	2	375	38	6	0	18	124	0	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	120	-	350	150	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	8	33	0	4	26	11	0	0	30	0	3
Mvmt Flow	19	372	3	2	399	40	6	0	19	132	0	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	439	0	0	375	0	0	868	855	374	824	816	399
Stage 1	-	-	-	-	-	-	412	412	-	403	403	-
Stage 2	-	-	-	-	-	-	456	443	-	421	413	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.21	6.5	6.2	7.4	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.21	5.5	-	6.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.21	5.5	-	6.4	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.599	4	3.3	3.77	4	3.327
Pot Cap-1 Maneuver	1132	-	-	1195	-	-	263	298	677	262	314	649
Stage 1	-	-	-	-	-	-	600	598	-	572	603	-
Stage 2	-	-	-	-	-	-	567	579	-	559	597	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1132	-	-	1195	-	-	233	292	677	251	308	649
Mov Cap-2 Maneuver	-	-	-	-	-	-	233	292	-	251	308	-
Stage 1	-	-	-	-	-	-	590	588	-	562	602	-
Stage 2	-	-	-	-	-	-	509	578	-	534	587	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	13.1	26.6
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	233	677	1132	-	-	1195	-	-	251	649
HCM Lane V/C Ratio	0.027	0.028	0.017	-	-	0.002	-	-	0.526	0.1
HCM Control Delay (s)	20.9	10.5	8.2	-	-	8	-	-	34.2	11.2
HCM Lane LOS	C	B	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.1	0.1	0.1	-	-	0	-	-	2.8	0.3

Wetland and Waterbodies Delineation Report

for

NWC RTE 5 & RTE 77

Town of Pembroke

Genesee County, New York

for

Geis Construction

EARTH DIMENSIONS, INC.

Soils Investigations • Wetland Delineations

November 9, 2022
EDI Project Code: **W29I08c**

REPORT SUMMARIZING
THE RESULTS OF
A WETLAND DELINEATION SURVEY OF

NWC RTE 5 & RTE 77

Prepared for Submission to:

U.S. ARMY CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207

AND

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
6274 EAST AVON-LIMA ROAD
AVON, NEW YORK 14414-9519

Prepared By:

EARTH DIMENSIONS, INC.
1091 JAMISON ROAD
ELMA, NEW YORK 14059

Prepared For:

JEFF MARTIN
GEIS CONSTRUCTION
10020 AURORA HUDSON ROAD
STREETSBORO, OHIO 44241
JM@GEISCO.COM
(216)218-3508

REPORT DATE: November 9, 2022

EDI PROJECT CODE: W29I08c

PROJECT INFORMATION

Project Name	NWC Route 5 & Route 77
Street Address	Northwest Corner of Route 5 & Route 77
SBL Number	15.-1-24.1
Town	Pembroke
County	Genesee
State	New York
Latitude/Longitude (NAD83)	42.99759°N, -78.41208°W
Investigation Area	206.63± Acres
USGS 7.5 Minute Topographical Map	Corfu Quadrangle
Waterway	UNT to Murder Creek
Hydrologic Unit Code	04120104
Date of Delineation	August 19, 22 & 23, 2022
Consultant	Earth Dimensions, Inc. 1091 Jamison Road Elma, New York 14059
Point of Contact	Scott Livingstone (716)655-1717 slivingstone@earthdimensions.com
Engineer	Metzger Civil Engineering
Property Owner	Interchange Development LLC
Authority	Section 404, Article 24
Permit/Letter Being Requested	Jurisdictional Determination

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Figure 2: National Wetlands Inventory Map

Figure 3: NRCS Soil Survey Map

Figure 4: NYSDEC Environmental Resource Mapper

Figure 5: General Vegetation Map

Figure 6: Wetland Delineation Overview Map

Figure 6-1: Wetland Delineation Map

Figure 6-2: Wetland Delineation Map

Figure 6-3: Wetland Delineation Map

Figure 6-4: Wetland Delineation Map

Figure 7: Drainage Map

Figure 8: Site Aerial Photograph

Figure 9: Aerial Photo with wetlands

Figure 10: Soil Map with Wetlands

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EXECUTIVE SUMMARY

Geis Construction has proposed the development of a 206.63± acre parcel located along the west side of NYS Route 77 and north side of NYS Route 5 in the Town of Pembroke, County of Genesee, and State of New York. Geis Construction has retained Earth Dimensions, Inc. (EDI) to complete a wetland delineation report that would allow the U.S. Army Corps of Engineers (USACE) and New York State Department of Environmental Conservation (NYSDEC) to determine their jurisdictional authority over the investigation area, pursuant to Section 404 of the Clean Water Act and Articles 15 (Protection of Waters) and 24 (Freshwater Wetlands) of the New York State Environmental Conservation Law.

A preliminary review of available information pertaining to vegetation, soils, and hydrology in the project area was implemented prior to conducting a field investigation at the site. Sources of information included the United States Geological Survey (USGS), Natural Resources Conservation Service (NRCS), National Wetland Inventory (NWI), and NYSDEC Freshwater Wetland maps. The NRCS and NWI maps indicate the potential for wetlands under federal jurisdiction. Although no wetlands are depicted on the NYSDEC Resource Mapper, previous communications with NYSDEC has confirmed the presence of unmapped state wetlands within the project area.

EDI applied methodology specified by the Corps of Engineers Wetlands Delineation Manual (January 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region Version 2.0 (January 2012) to perform a delineation of Federal jurisdictional wetlands within the site. EDI identified eleven (11) wetland areas totaling 53.32± acres within the investigation area. A man-made excavated ditch was identified in the north-central portion of the site. No other drainageways or open water areas were identified. The identification number of the wetlands, their acreage and boundary flags are as follows:

TABLE 1: WETLAND SUMMARY

Wetland Identification #	Geographic Center (WGS84)		Boundary Flag #	Total Acreage On-site	Wetland Type (Cowardin)	Wetland Type (Reschke)	Jurisdictional Determination
	Latitude	Longitude					
Wetland 1	43.00099	-78.41070	W1-1 through W1-30	1.82±	PSS1B	Scrub-shrub	Jurisdictional
Wetland 2/3 (PFO)	43.00274	-78.41050	W2-1 through W2-21	0.28±	PFO1B	Hardwood Swamp	Jurisdictional

Wetland 2/3 (PEM)	43.00237	-78.41184	W3-1 through W3-24	0.94±	PEM1B	Emergent Marsh	Jurisdictional
Wetland 4	43.00005	-78.41602	W4-1 through W4-56	14.11±	PFO1B	Hardwood Swamp	Jurisdictional
Wetland 5	42.99832	-78.41739	W5-1 through W5-10	0.22±	PSS1B	Scrub-shrub Swamp	Jurisdictional
Wetland 6	42.99614	-78.41645	W6-1 through W6-175	31.19±	PSS1B	Scrub-shrub Swamp	Jurisdictional
Wetland 7	42.99385	-78.41503	W7-1 through W7-30	2.94±	PFO1B	Hardwood Swamp	Jurisdictional
Wetland 8	42.99474	-78.41523	W8-1 through W8-32	0.95±	PFO1E	Hardwood Swamp	Jurisdictional
Wetland 9	42.99444	-78.40613	W9-1 through W9-11	0.28±	PEM1B	Invasive Species Marsh	Jurisdictional
Wetland 10	42.99535	-78.40613	W10-1 through W10-12	0.38±	PEM1B	Invasive Species Marsh	Jurisdictional
Wetland 11	42.99849	-78.41017	W11-1 through W11-11	0.21±	PSS1B	Scrub-shrub Swamp	Jurisdictional
Total Wetland Acreage:				53.32±			

Table 2: Stream & Drainage Summary

Stream Identification #	Geographic Center (WGS84)		Waterway	DEC Class	Linear Feet On-site	Highwater Width (Ft)	Flow Regime	Substrate	Classification (Cowardin)	Jurisdictional Determination
	Latitude	Longitude								
Ditch 1	42.99906	-78.41030	N/A	N/A	684 feet	1 to 2 feet	Ephemeral	Silt	R6	Potentially Non-Jurisdictional

SECTION I: INTRODUCTION

Geis Construction has proposed the development of a 206.63± acre parcel located along the west side of NYS Route 77 and north side of NYS Route 5 in the Town of Pembroke, County of Genesee, and State of New York. The project has been given the name NWC Route 5 & Route 77 and is located on USGS 7.5 minute quadrangle map indexed as Corfu (Figure 1). The field work was completed on August 19, 22 & 23, 2022 using a Trimble Geo 7X GPS to locate wetland and drainage boundaries.

Geis Construction has retained Earth Dimensions, Inc. (EDI) to complete a wetland delineation study at this site. The investigation was designed to facilitate a determination of the extent of USACE and NYSDEC jurisdiction over the project area pursuant to Section 404 of the Clean Water Act and Articles 15 (Protection of Waters) and 24 (Freshwater Wetlands) of the New York State Environmental Conservation Law.

EDI has performed a wetland delineation study at the site under guidelines specified by the *Corps of Engineers Wetlands Delineation Manual*, dated January 1987 (referred to hereafter as the Corps Manual) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region version 2.0* (January 2012) (referred to hereafter as the Northcentral and Northeast Regional Supplement). The purpose of this report is to present EDI's methods, results, conclusions and recommendations with respect to the NWC Route 5 & Route 77 project site.

SECTION II: SITE DESCRIPTION

The NWC Route 5 & Route 77 project area is comprised of a 206.63± acre investigation area on the west side of Route 77 and north side of Route 5. The northern edge of the site borders the NYS Thruway exit ramp to Route 77. A portion of the site was historically used as a borrow area for construction of the NYS Thruway. The site is outlined on Figure 1 and depicted on the Wetland Delineation Map included in Appendix A (Figure 6).

The natural topography of the NWC Route 5 & Route 77 site is flat to gently sloping. The upland within the investigation area consisted of successional old field, successional shrubland, successional northern hardwood and row crop communities. The wetland areas were found to consist of emergent marsh, scrub-shrub swamp, hardwood swamp and invasive species marsh communities. The vegetative communities of the investigation area are described according to *Ecological Communities of New York State* (Edinger et al. 2014).

Section III: Preliminary Data Review

A. SUMMARY OF FINDINGS

Several sources of information may be reviewed to facilitate the completion of a wetland delineation study. In some cases, it is even possible to make a preliminary office wetland determination based upon available vegetation, soils, and hydrologic information for a project area. EDI completed a preliminary review of several data sources at the onset of this study. The results of the review are summarized as follows:

1. USGS 7.5 Minute Topographical Map

Figure 1 depicts the NWC Route 5 & Route 77 project site on the Corfu quadrangle map. The figure depicts the flat to gently sloping topography of the site. No drainage features or wetland areas are depicted within the investigation area.

2. USFWS National Wetlands Inventory Map

The National Wetlands Inventory (NWI) map obtained from the USFWS Wetland Mapper http://www.fws.gov/wetlands/Data/Mapper.html displays four (4) wetland types, PEM1E, PSS1/EM1E, PFO1/SS1E and PFO1E within the investigation area. The wetlands can be decoded as:

[P] Palustrine, [EM] Emergent, [1] Persistent, [E] Seasonally Flooded/Saturated

[P] Palustrine, [SS] Scrub-shrub, [1] Broad leaved-deciduous / [EM] Emergent, [1] Persistent, [E] Seasonally Flooded/Saturated

[P] Palustrine, [FO] Forested, [1] Broad leaved-deciduous / [SS] Scrub-shrub, [1] Broad leaved-deciduous, [E] Seasonally flooded/saturated

[P] Palustrine, [FO] Forested, [1] Broad leaved-deciduous, [E] Seasonally Flooded/Saturated

3. Natural Resources Conservation Service Soils Map

Figure 3 presents the project area outlined on a copy of the Genesee County Soil Survey map from the National Cooperative Soil Survey. As shown on that figure, the site has the following soil types:

Soil Conservation Service Legend

Map Unit Symbol	Map Unit Name	Hydric Rating
ApA	Appleton silt loam, 0 to 3% slopes	4

CaA	Canandaigua silt loam, 0 to 2% slopes	95
CbA	Canandaigua mucky silt loam, 0 to 2% slopes	95
ClB	Collamer silt loam, 2 to 6% slopes	0
DuB	Dunkirk silt loam, 2 to 6% slopes	0
DuC	Dunkirk silt loam, 6 to 12% slopes	0
FpA	Fredon gravelly loam, 0 to 3% slopes	10
GP	Gravel Pits	5
Ld	Lamson very fine sandy loam	90
MnA	Minoa very fine sandy loam, 0 to 2% slopes	5
NgA	Niagara silt loam, 0 to 2% slopes	5
PhB	Palmyra gravelly loam, 3 to 8% slopes	0
PsB	Phelps gravelly loam, 3 to 8% slopes	0
Um	Udorthents, smoothed	0

Appleton Series: The Appleton series consists of very deep, somewhat poorly drained soils formed in calcareous loamy till. They are on low ground moraines and on foot slopes of glaciated hills, ridges, and drumlins. Saturated hydraulic conductivity is moderately high or high in the surface and subsoil, and moderately low or moderately high in the substratum. Slope ranges from 0 to 15 percent. Mean annual temperature is 8°C and mean annual precipitation is 995 mm.

Canandaigua Series: The Canandaigua series consists of very deep, poorly and very poorly drained soils formed in silty glacio-lacustrine sediments. These soils are on lowland lake plains and in depressional areas on glaciated uplands. Slope ranges from 0 to 3 percent. Mean annual temperature is 49°F and mean annual precipitation is 39 inches.

Collamer Series: The Collamer series consists of very deep, moderately well drained soils formed in silty glacio-lacustrine sediments. They are on lake plains and till plains that have a thick mantle of lake sediments. Slope ranges from 0 to 25 percent. Mean annual precipitation is about 94 cm, and mean annual air temperature is about 9°C.

Dunkirk Series: The Dunkirk series consists of very deep, well drained, silty soils on lake plains and along lower valley sides formed in glacio-lacustrine sediments. Saturated hydraulic conductivity is moderately high or high in the mineral surface and sub-surface layers and moderately low to high in the subsoil and substratum. Slope ranges from 0 to 60 percent. Mean annual temperature is 49°F and mean annual precipitation is 38 inches.

Fredon Series: The Fredon series consists of very deep, poorly and somewhat poorly drained soils formed in glaciofluvial materials. Fredon soils are on outwash terraces and outwash plains. Saturated hydraulic conductivity is moderately high or high in the solum and high or very high in the substratum. Slope ranges from 0 to 8 percent. The mean annual temperature is about 48°F and the mean annual precipitation is 37 inches.

Lamson Series: The Lamson series consists of very deep, poorly drained and very poorly drained soils formed in glacio-fluvial, glacio-lacustrine and deltaic deposits. They are level and nearly level soils in low areas on glacial lake plains. Slope ranges from 0 to 3 percent but is mostly less than 2 percent. Saturated hydraulic conductivity is moderately high through high in the mineral soil. Mean annual air temperature is 49°F and mean annual precipitation is 37 inches.

Niagara Series: The Niagara series consists of very deep, somewhat poorly drained soils formed in silty glacio-lacustrine deposits. These soils are in level to slightly concave areas on lake plains and in valleys. Slope ranges from 0 to 15 percent. The mean annual air temperature is 48°F and mean annual precipitation is 37 inches.

Palmyra Series: The Palmyra series consists of very deep, well drained to somewhat excessively drained soils formed in glacial outwash. They are nearly level to very steep soils formed in loamy material overlying calcareous, stratified gravel and sand. Saturated hydraulic conductivity is moderately high or high in the solum and high or very high in the substratum. Slope ranges from 0 to 40 percent. Mean annual temperature is 48°F and mean annual precipitation is 37 inches.

Phelps Series: The Phelps series consists of very deep, moderately well drained soils formed in glacial outwash. They are nearly level and gently sloping soils formed in loamy material overlying calcareous, stratified gravel and sand. Saturated hydraulic conductivity is moderately high or high in the mineral solum and high or very high in the sand and gravel. Slope ranges from 0 to 8 percent. Mean annual temperature is about 48°F and mean annual precipitation is about 37 inches.

The U.S. Department of Agriculture's National Technical Committee for Hydric Soils Criteria has developed a list of soils that often display hydric soil characteristics. Hydric soil typically forms in places of the landscape where surface water periodically collects for some time and/or where groundwater discharges sufficient to create waterlogged or anaerobic soils. Such anaerobic soils can support the growth and survival of hydrophytic vegetation that is tolerant of such conditions. The Hydric Rating indicates the proportion of map units that meets the criteria for hydric soils. Soil units are designated as "hydric," "predominantly hydric," "partially hydric," "predominantly nonhydric," or "nonhydric" depending on the hydric rating of its respective components. "Hydric" means that all components listed for a given map unit are rated as being hydric. "Predominantly hydric" means components that comprise 66 to 99 percent of the map unit are rated as hydric. "Partially hydric" means components that comprise 33 to 66 percent of the map unit are rated as hydric. "Predominantly nonhydric" means components that comprise up to 33 percent of the map unit are rated as hydric. "Nonhydric" means that none of the components are rated as hydric. Wetland hydrologic conditions, hydric soils, and hydrophytic vegetation are the three criteria of a wetland.

4. NYSDEC Freshwater Wetlands Map

The NYSDEC Freshwater Wetlands map obtained from the online NYSDEC Environmental Resource Mapper displays no state jurisdictional Freshwater Wetlands within or adjacent to the investigation area. Previous correspondence with NYSDEC in 2009 has indicated that an unmapped Freshwater Wetland (FWW CR-31) is present along the western portion of the site.

B. RESULTS OF AGENCY INFORMATION REVIEW

The preliminary data review revealed that the Corps may have jurisdiction over wetlands at the project location. The evidence consisted of potential federally regulated wetlands on the NWI map (Figure 2) and hydric soils and soils with possible inclusions depicted on the NRCS map (Figure 3). Therefore, it was considered necessary to perform a field investigation at the site in order to determine the presence of federal and state protected wetlands. The methods specified in the Corps of Engineers Wetlands Delineation Manual (January 1987) and Northcentral and Northeast Regional Supplement Version 2.0 (January 2012) were employed during the field investigation. Procedures, results, and conclusions of the wetland delineation study are presented in the remainder of this report.

SECTION IV: FIELD INVESTIGATION PROCEDURES

WETLANDS:

Step 1

EDI applied methodology specified by the 1987 Corps of Engineers Wetlands Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region to perform a delineation of Federal jurisdictional wetlands within the site. EDI used the Level 2 Routine Determination method (on-site inspection necessary) since insufficient information was available for making a determination for the entire project area. This methodology is consistent with Part IV, Section D of the Corps Manual.

Step 2

EDI's initial evaluation of the project area revealed that no atypical situations existed. If an atypical situation had existed, EDI would have used methodology outlined in Part IV, Section F of the Corps manual and/or Section 5 of the Northcentral and Northeast Supplement.

Step 3

EDI made the determination that normal environmental conditions were present, as the area was not lacking hydrophytic vegetation or hydrologic indicators due to annual, seasonal or long-term fluctuations in precipitation, surface water, or groundwater levels. The Northcentral and Northeast Supplement defines the growing season as beginning when one of the following indicators of biological activity are evident in a given year: (1) above-ground growth and development of vascular plants and/or (2) soil temperature measured at 12" below ground surface reaches 41°F. The end of the growing season is defined as the point at which deciduous species lose their leaves or the last herbaceous plants cease flowering and their leaves become dry or brown, whichever comes latest.

Step 4

In order to accurately identify the limits of various vegetative communities and extent of wetlands on-site, a routine determination method was used. As depicted in Appendix A and included in Appendix B, forty-one (41) data points were used to characterize the site.

Step 5

The plant community inhabiting each observation point was characterized in accordance with methods specified in the Northcentral and Northeast Regional Supplement. Dominant plant species were identified within four vegetative strata (i.e. herb, sapling/shrub, tree and liana (woody vines) at each sampling point. The Northcentral and Northeast Regional Supplement defines the vegetative strata in the following manner:

Herb – A non-woody individual of a macrophytic species. Seedlings of woody plants (including vines) that are less than 3.28 feet in height are considered to be herbs.

Sapling/Shrub – A layer of vegetation composed of woody plants < 3.0 inches in diameter at breast height but greater than 3.28 feet in height, exclusive of woody vines.

Tree – A woody plant > 3.0 inches in diameter at breast height, regardless of height (exclusive of woody vines)

Liana – A layer of vegetation in forested plant communities that consist of woody vines greater than 3.28 feet in height.

As outlined in the manual, the quadrant sizes used for the vegetative strata were (i) a 3.28-foot radius for herbs; (ii) a ten-foot radius for saplings/shrubs and woody vines; and (iii) a 30-foot radius for trees. Dominant plant species were estimated using aerial coverage methods. Dominant species are defined in the Corps Manual as the most abundant plant species that when ranked in descending order of abundance and cumulatively totaled immediately exceed 50 percent of the total dominance measure for the stratum, plus any additional species comprising 20 percent or more of the total dominance measure.

The wetland indicator status (OBL, FACW, FAC, FACU, or UPL) listed for each identified species by the U.S. Fish and Wildlife Service in the National List of Plant Species that Occur in Wetlands: Northeast (Region 1) was recorded. The U.S. Fish and Wildlife wetland indicator status listings are defined as follows:

OBL – Plants that occur almost always (estimated probability >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated probability < 1 percent) in nonwetlands.

FACW – Plants that occur usually (estimated probability >67 percent to 99 percent) in wetlands, but also occur (estimated probability 1 percent to 33 percent) in nonwetlands.

FAC – Plants with a similar likelihood (estimated probability 33 percent to 67 percent) of occurring in both wetlands and nonwetlands.

FACU – Plants that occur sometimes (estimated probability 1 percent to <33 percent) in wetlands but occur more often (estimated probability >67 percent to 99 percent) in nonwetlands.

UPL – Plants that occur rarely (estimated probability < 1 percent) in wetlands but occur almost always (estimated probability >99 percent) in nonwetlands under natural conditions.

The plant community data was summarized on the data forms provided in the Northcentral and Northeast Regional Supplement included in this report as Appendix B.

Step 6

Plant data from each observation point were tested against the hydrophytic vegetation criterion specified in the Corps Manual and Northcentral and Northeast Regional Supplement. The Northcentral and Northeast Regional Supplement identifies a four-tiered approach for making a determination of whether or not the hydrophytic vegetation criteria is met for a sample plot. Indicator 1 (Rapid Test for Hydrophytic Vegetation) was first applied to determine if all dominant species across all strata are rated OBL and/or FACW. If Indicator 1 did not meet the hydrophytic vegetation criteria, Indicator 2 was then applied (dominance test); if greater than 50% of all plant species across all strata were rated OBL, FACW, or FAC, the hydrophytic vegetation criteria was considered met. In rare cases, when Indicators 1 and 2 did not meet the hydrophytic vegetation criteria but soils and hydrology criteria were met, Indicators 3 (Prevalence Index) and 4 (Morphological Adaptations) were used to make a final determination. All observation points that met the hydrophytic vegetation criterion were considered potential wetlands. Soils were then characterized.

Step 7

The Corps Manual specifies that soils need not be characterized (and are assumed hydric soils) at sampling points meeting the hydrophytic vegetation criterion if: (i) all dominant plant species have an indicator status of OBL, or (ii) all dominant species have an indicator status of OBL and/or FACW, and the wetland boundary is abrupt (at least one dominant OBL species must be present). All observation points sampled during this field investigation were examined directly for soil and hydrologic characteristics.

Step 8

At observation points requiring a soil evaluation, soil borings were performed by an EDI Soil Scientist using methods specified in the Northcentral and Northeast Regional Supplement. Soil pits were dug using a tile spade. Testpits were generally dug to a depth of 20 inches below ground surface. Soils were examined for any of the hydric soil indicators, as outlined in the Field Indicators of Hydric Soils in the United States. A determination was made as to whether or not the hydric soil criterion was met. Soils data was recorded on the data forms included in Appendix B of this report.

Step 9

EDI's Soil Scientist examined hydrologic indicators using methods specified by the Northcentral and Northeast Regional Supplement at each observation point. The wetland hydrology criterion was met if: (i) one or more primary field indicators was materially present, (ii) available hydrologic records provided necessary evidence, or (iii) two or more secondary indicators were present. Results were recorded on data forms taken from the Corps Manual and are included in this report as Appendix B.

Step 10

A wetland determination was made for every observation point. If a sample plot met the hydrophytic vegetation, hydric soil, and wetland hydrology criteria, the area was considered to be wetland.

Step 11

Based on the results of the transected data, wetland boundaries were established for each identified wetland using survey ribbon labeled "wetland delineation" and numbered consecutively along each wetland boundary. As outlined in the Corps Manual, the placement of flags was based on the limits of areas where all three parameters were met. Wetland flags were labeled W1-1 through W1-30, W2-1 through W2-21, W3-1 through W3-24, W4-1 through W4-56, W5-1 through W5-10, W6-1 through W6-175. W7-1 through W7-30, W8-1 through W8-32, W9-1 through W9-11, W10-1 through W10-12 and W11-1 through W11-11.

STREAMS & DRAINAGES:

The federally regulated Ordinary High Water (OHW) mark of streams within the Project area were delineated utilizing the definitional criteria as presented in Title 33, Code of Federal Regulations, Part 328, and the USACE Regulatory Guidance Letter 05-05 – Guidance on Ordinary High Water Mark Identification. Each stream is categorized in regard to its flow regime as perennial, intermittent, or ephemeral, as defined by the USACE. The Ordinary High Water (OHW) mark for each stream is surveyed using the Trimble Geo 7X GPS. Each stream is assigned a letter designation, and survey points are numbered consecutively. Substrate characteristics and water depth are noted. Streams classified as AA, A, B, C, C(t), C(ts) and D in the State of New York are regulated by NYSDEC under Article 15 Use and Protection of Waters. Streams are given classifications which designate the level of protection afforded to each waterbody. Class AA and A are assigned to sources of drinking water. Class B streams are best suited for swimming and other contact recreation, but not drinking water. Class C streams identify waters that support fishing and non-contact activities. A classification with (t) designated a stream with the potential to support trout populations. A classification of (ts) identifies waters that may support trout spawning. Class D waters are the lowest classification and are often highly imperiled.

SECTION V: RESULTS AND CONCLUSIONS

Earth Dimensions, Inc. (EDI) has completed a wetland delineation study at the NWC Route 5 & Route 77 site located in the Town of Pembroke, County of Genesee, and State of New York. A field investigation was conducted by a Soil Scientist and a Wetland Ecologist from EDI. The wetland delineation study identified eleven (11) wetlands totaling 53.32± acres present within the NWC Route 5 & Route 77 site. In addition, a 684-foot man made ditch was identified. No other drainage features of waterbodies were identified within the investigation area.

Figure 5 depicts the vegetative communities as they existed at the time of the investigation. The uplands within the investigation area were comprised of successional old field, successional shrubland, successional northern hardwood and row crop communities. The wetland areas were found to consist of emergent marsh, scrub-shrub swamp, hardwood swamp and invasive species marsh communities. The vegetative communities of the investigation area are described according to Ecological Communities of New York State (Edinger et al. 2014).

The successional old field community is present in the northern portion of the site and was historically used as a borrow area. The community is dominated by the following species: white ash (*Fraxinus americana*), Tatarian honeysuckle (*Lonicera tatarica*), Russian olive (*Elaeagnus angustifolia*), Canada goldenrod (*Solidago canadensis*), Timothy (*Phleum pratense*), gray goldenrod (*Solidago nemoralis*), Kentucky bluegrass (*Poa pratensis*), Queen Anne's lace (*Daucus carota*), orchardgrass (*Dactylis glomerata*) and sweet clover (*Melilotus officinalis*).

The successional shrubland community dominated the upland portions of the site outside of the active agricultural areas. The majority of this community is very dense. The community is dominated by the following species: black cherry (*Prunus serotina*), pin cherry (*Prunus pensylvanica*), black walnut (*Juglans nigra*), eastern cottonwood (*Populus deltoides*), Tatarian honeysuckle (*Lonicera tatarica*), staghorn sumac (*Rhus typhina*), gray dogwood (*Cornus racemosa*), multiflora rose (*Rosa multiflora*), common red raspberry (*Rubus idaeus*), garlic mustard (*Alliaria petiolata*), Canada goldenrod (*Solidago canadensis*), tall hairy agrimony (*Agrimonia gryposepala*) and summer grape (*Vitis aestivalis*).

The successional northern hardwood community is scattered throughout the site in small areas. The community is dominated by the following species: sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), black cherry (*Prunus serotina*), pignut hickory (*Carya glabra*), eastern cottonwood (*Populus deltoides*), white ash (*Fraxinus americana*), black walnut (*Juglans nigra*), black locust (*Robinia pseudoacacia*), staghorn sumac (*Rhus typhina*), Tatarian honeysuckle (*Lonicera tatarica*), gray dogwood (*Cornus racemosa*), multiflora rose (*Rosa multiflora*), Canada goldenrod (*Solidago canadensis*), Alleghany blackberry (*Rubus alleghaniensis*), wild parsnip (*Pastinoca sativa*), garlic mustard (*Alliaria petiolata*), Virginia creeper (*Parthenocissus quinquefolia*), poison ivy (*Toxicodendron radicans*) and summer grape (*Vitis aestivalis*).

The row crop community dominated the eastern portion of the site and was planted with corn (*Zea sp.*) during the investigation.

Wetland W1 is a 1.93± acre scrub-shrub swamp dominated by red maple (*Acer rubrum*), gray dogwood (*Cornus racemosa*), glossy buckthorn (*Frangula alnus*), calico aster (*Symphyotrichum lateriflorum*) and summer grape (*Vitis aestivalis*). Soils within wetland W1 are mapped as Canandaigua silt loam and had a topsoil color of 10YR3/1 with 5% 10YR5/8 mottles and a subsoil color of 10YR5/1 with 15% 10YR5/8 mottles. The texture is loam and very stony loam. This soil fits the NRCS F3 indicator (Depleted Matrix). Hydrology indicators present in Wetland W1 included Water-Stained Leaves (B9). Wetland W1 continues off-site to the east. It is EDI's professional opinion that Wetland W1 is Federally jurisdictional under the currently applicable post-Rapanos Rule due to a significant nexus to a traditionally navigable water.

Wetland W2 is a 0.25± acre hardwood swamp dominated by eastern cottonwood (*Populus deltoides*), gray dogwood (*Cornus racemosa*), green ash (*Fraxinus pennsylvanica*), Tatarian honeysuckle (*Lonicera tatarica*) and summer grape (*Vitis aestivalis*). Soils within wetland W2 are mapped as Phelps gravelly loam and had a soil color of 10YR3/1. The texture is loam. Hydric soils were not present due to the wetlands being created by historic soil borrow activities, and rock is very shallow (1 inch). Hydrology indicators present in Wetland W2 included Water Marks (B1) and Water-Stained Leaves (B9). Wetland W2 is a closed depressional wetland pocket with no apparent outlet. It is EDI's professional opinion that Wetland W2 is not Federally jurisdictional under the currently applicable post-Rapanos Rule due to lack of a significant nexus to a traditionally navigable water.

Wetland W3 is a 0.94± acre emergent marsh dominated by green ash (*Fraxinus pennsylvanica*), silky dogwood (*Cornus amomum*), Canadian rush (*Juncus canadensis*) and flat-top goldenrod (*Euthamia graminifolia*). Soils within wetland W3 are mapped as Udorthents, smoothed and had a soil color of 10YR5/3 (subsoil). The texture is fine sandy loam. Hydric soils were not present due to the wetlands being created by historic soil borrow activities, and rock is very shallow (5 inches). Hydrology indicators present in Wetland W3 included Water-Stained Leaves (B9). Wetland W3 is a closed depressional wetland pocket with no apparent outlet. It is EDI's professional opinion that Wetland W3 is not Federally jurisdictional under the currently applicable post-Rapanos Rule due to lack of a significant nexus to a traditionally navigable water.

Wetland W4 is a 14.11± acre hardwood swamp dominated by eastern cottonwood (*Populus deltoides*), green ash (*Fraxinus pennsylvanica*), European buckthorn (*Rhamnus cathartica*), multiflora rose (*Rosa multiflora*), wrinkleleaf goldenrod (*Solidago rugosa*), sensitive fern (*Onoclea sensibilis*), calico aster (*Symphyotrichum lateriflorum*), jumpseed (*Polygonum virginianum*) and summer grape (*Vitis aestivalis*). Soils within wetland W4 are mapped as Canandaigua silt loam and had a topsoil color of 10YR3/1 with 5% 10YR5/8 mottles and a subsoil color of 10YR4/3-5/4. The texture is loam. This soil fits the NRCS F6 indicator (Redox Dark Surface). Hydrology indicators present in Wetland W4 included Water-Stained Leaves (B9). Wetland W4 continues off-site to the west where it appears to connect with a USGS blueline drainageway off site. The drainageway is an unnamed tributary to Murder Creek, west of the site. It is EDI's professional opinion that Wetland W4 is Federally jurisdictional under the currently applicable post-Rapanos Rule due to a significant nexus to a traditionally navigable water. It is also EDI's professional opinion that wetland W4 is part of Freshwater Wetland CR-31 and is jurisdictional under Article 24 of New York State Conservation Law.

Wetland W5 is a 0.22± acre scrub-shrub swamp dominated by eastern cottonwood (*Populus deltoides*), gray dogwood (*Cornus racemosa*), green ash (*Fraxinus pennsylvanica*), sensitive fern (*Onoclea sensibilis*) and calico aster (*Symphyotrichum lateriflorum*). Soils within wetland W5 are mapped as Canandaigua silt loam and had a topsoil color of 10YR3/1 with 2% 10YR5/8 mottles and a subsoil color of 10YR5/2 with 15% 10YR5/6 mottles. The texture is fine sandy loam. This soil fits the NRCS S5 indicator (Sandy Redox). Hydrology indicators present in Wetland W5 included Water-Stained Leaves (B9). Wetland W5 continues off-site to the west where it appears to connect with a USGS blueline drainageway off site. The drainageway is an unnamed tributary to Murder Creek, west of the site. It is EDI's professional opinion that Wetland W5 is Federally jurisdictional under the currently applicable post-Rapanos Rule due to a significant nexus to a traditionally navigable water. It is also EDI's professional opinion that wetland W5 is part of Freshwater Wetland CR-31 and is jurisdictional under Article 24 of New York State Conservation Law.

Wetland W6 is a 31.19± acre scrub-shrub swamp dominated by eastern cottonwood (*Populus deltoides*), green ash (*Fraxinus pennsylvanica*), gray dogwood (*Cornus racemosa*), European buckthorn (*Rhamnus cathartica*), fowl mannagrass (*Glyceria striata*), jumpseed (*Polygonum virginianum*), wrinkleleaf goldenrod (*Solidago rugosa*), calico aster (*Symphyotrichum lateriflorum*) and summer grape (*Vitis aestivalis*). Soils within wetland W6 are mapped as Lamson very fine sandy loam and had a topsoil color of 10YR3/1 with 3-7% 10YR5/8 mottles and a subsoil color of 10YR5/1-5/2 with 5-15% 10YR5/6-5/8 mottles. The texture is loam, silt loam and fine sandy loam. Soils within this wetland fit the NRCS S5 indicator (Sandy Redox) and F3 indicator (Depleted Matrix). Hydrology indicators present in Wetland W6 included Water-Stained Leaves (B9). Wetland W6 continues off-site to the west where it appears to connect with a USGS blueline drainageway off site. The drainageway is an unnamed tributary to Murder Creek, west of the site. It is EDI's professional opinion that Wetland W6 is Federally jurisdictional under the currently applicable post-Rapanos Rule due to a significant nexus to a traditionally navigable water. It is also EDI's professional opinion that wetland W6 is part of Freshwater Wetland CR-31 and is jurisdictional under Article 24 of New York State Conservation Law.

Wetland W7 is a 2.94 ± acre hardwood swamp dominated by eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), fowl mannagrass (*Glyceria striata*), shallow sedge (*Carex lurida*), creeping Jenny (*Lysimachia nummularia*) and summer grape (*Vitis aestivalis*). Soils within wetland W7 are mapped as Lamson very fine sandy loam and had a topsoil color of 10YR3/1 with 2% 10YR5/8 mottles and a subsoil color of 10YR5/1 with 7% 10YR5/8 mottles. The texture is loam. This soil fits the NRCS F3 indicator (Depleted matrix). Hydrology indicators present in Wetland W7 included Water Marks (B1) and Water-Stained Leaves (B9). Wetland W7 is a closed wetland pocket created by historic soil borrow activities. It is EDI's professional opinion that Wetland W7 is not Federally jurisdictional under the currently applicable post-Rapanos Rule due to lack of a significant nexus to a traditionally navigable water. It is also EDI's professional opinion that wetland W7 is within 50 meters of

NYSDEC Freshwater Wetland CR-31 and is jurisdictional under Article 24 of New York State Conservation Law.

Wetland W8 is a 0.95± acre hardwood swamp dominated by eastern cottonwood (*Populus deltoides*), green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus americana*), fowl mannagrass (*Glyceria striata*) and water plantain (*Alisma subcordatum*). Soils within wetland W8 are mapped as Gravel Pits and had a topsoil color of 10YR2/1 and a subsoil color of 10YR5/1 with 15% 10YR5/6 mottles. The texture is mucky loam and very gravelly loam. This soil fits the NRCS F3 indicator (Depleted matrix). Hydrology indicators present in Wetland W8 included Water Marks (B1) and Water-Stained Leaves (B9). Wetland W8 is a closed wetland pocket created by historic soil borrow activities. It is EDI's professional opinion that Wetland W8 is not Federally jurisdictional under the currently applicable post-Rapanos Rule due to lack of a significant nexus to a traditionally navigable water. It is also EDI's professional opinion that wetland W8 is within 50 meters of NYSDEC Freshwater Wetland CR-31 and is jurisdictional under Article 24 of New York State Conservation Law.

Wetland W9 is a 0.28± acre invasive species marsh dominated by common reed (*Phragmites australis*). Soils within wetland W9 are mapped as Dunkirk silt loam and had a topsoil color of 10YR3/1 with 2% 10YR5/8 mottles and a subsoil color of 10YR5/4. The texture is loam. This soil fits the NRCS F6 indicator (Redox Dark Surface). Hydrology indicators present in Wetland W9 included Water-Stained Leaves (B9). Wetland W9 is a vegetated portion of a roadside ditch. It is EDI's professional opinion that Wetland W9 is not Federally jurisdictional under the currently applicable post-Rapanos Rule due to lack of a significant nexus to a traditionally navigable water.

Wetland W10 is a 0.38± acre invasive species dominated by common reed (*Phragmites australis*). Soils within wetland W10 are mapped as Canandaigua silt loam and had a topsoil color of 10YR3/1 with 3% 10YR5/8 mottles and a subsoil color of 10YR5/1 with 5% 10YR5/8 mottles. The texture is loam. This soil fits the NRCS F3 indicator (Depleted matrix). Hydrology indicators present in Wetland W8 included Water-Stained Leaves (B9). Wetland W10 is a vegetated portion of a roadside ditch that has no apparent connection to a drainageway. It is EDI's professional opinion that Wetland W10 is not Federally jurisdictional under the currently applicable post-Rapanos Rule due to lack of a significant nexus to a traditionally navigable water.

Wetland W11 is a 0.21± acre scrub-shrub swamp dominated by pussy willow (*Salix discolor*), creeping bentgrass (*Agrostis stolonifera*), common boneset (*Eupatorium perfoliatum*) and purple loosestrife (*Lythrum salicaria*). Soils within wetland W11 are mapped as Collamer silt loam and had a topsoil color of 7.5YR3/1 with 5% 7.5YR5/8 mottles and a subsoil color of 7.5YR5/2 with 25% 7.5YR5/6 mottles. The texture is silt loam. This soil fits the NRCS F3 indicator (Depleted Matrix). Hydrology indicators present in Wetland W11 included Water-Stained Leaves (B9). Wetland W11 drains into a man-made excavated ditch which appears to enter wetland W1 in the northern portion of the site. It is EDI's professional opinion that Wetland W11 is Federally jurisdictional under the currently applicable post-Rapanos Rule due to a significant nexus to a traditionally navigable water.

Ditch 1 is a man-made ditch in the northern portion of the site that contained no ordinary high watermark or defined bed/banks. The ditch begins at the north edge of wetland W11 and flows northward into wetland W1. This ephemeral channel is not a stream by NYSDEC standards. The substrate consists of silt, with moderately dense woody vegetation along the edges. Within the project area, Ditch 1 is approximately 2 feet wide with no apparent water present. The ditch has been identified as ephemeral based on the lack of saturation, inundation, or actual flow noted during several field visits. Additionally, no scour marks were noted, a large cottonwood tree is present growing in the middle of the ditch that had no drift marks, and there is dense leaf litter that would have been moved if there was flow in the ditch.

A map which depicts the site boundaries and the location of all observation points established during the field survey is included as Figure 6 in Appendix A of this report. Data forms are included as Appendix B. Appendix C includes representative photographs of the project area. Appendix D notes the references used during the preparation of this report and during the field investigation. Appendix E provides the names, addresses and phone numbers of the survey personnel involved in the wetland delineation study.

Section VI: Recommendations

Eleven (11) wetland areas and one (1) ditch were identified during the course of a field investigation based upon the three parameter technique (vegetation, soils, and hydrology) outlined in the Corps Manual and Northcentral and Northeast Regional Supplement. It is EDI's professional opinion that all wetlands identified are regulated by the USACE under Section 404 of the Clean Water Act. It is also EDI's opinion that wetlands W4, W5, W6, W7 and W8 are part of Freshwater Wetland CR-31 and would be regulated by NYSDEC under Article 24 of the New York Conservation Law. USACE and NYSDEC approach their regulatory analyses by first considering avoidance of wetlands and minimization of wetland losses. EDI recommends the following:

(1) Submit this report to USACE and NYSDEC with a request for a wetland boundary confirmation and jurisdictional determination.

(2) If no impacts are proposed to federal or state regulated wetlands or state regulated 100-foot adjacent area based on the outcome of the jurisdictional determination, it is the professional opinion of EDI that the project may proceed without the need for Section 404 or Article 24 Permits.

(3) If any NYSDEC regulated upland adjacent area or federal or state jurisdictional wetland impacts are proposed, it is EDI's recommendation that a Joint Application for Permit and supporting documentation be submitted to the USACE and NYSDEC with a request for a Section 404 Permit, Section 401 Water Quality Certification and/or an Article 24 Permit.

NWC RTE 5 & RTE 77

APPENDIX A - FIGURES

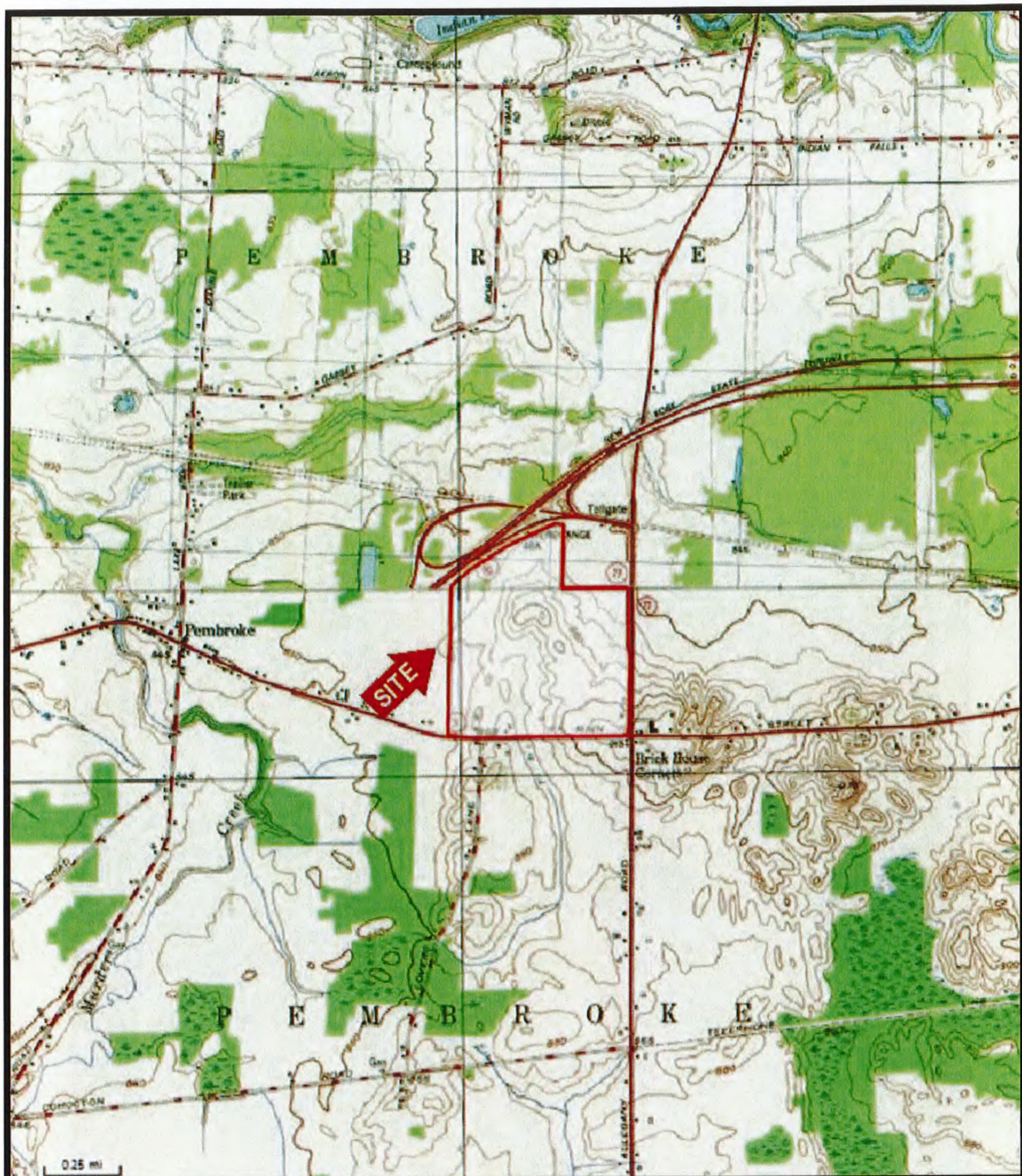


FIGURE 1: USGS 7.5 MINUTE TOPOGRAPHICAL MAP

Corfu Quadrangle / U.S. Geological Survey

NWC Route 5 & Route 77

Town of Pembroke, Genesee County, New York

FIGURE 2: NATIONAL WETLANDS INVENTORY MAP

http://www.fws.gov/wetlands/data/mapper.HTML (Visited 9-2-22)

NWC Route 5 & Route 77

Town of Pembroke, Genesee County, New York

FIGURE 3: NRCS SOIL SURVEY MAP

http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (Visited 9-2-22)

NWC Route 5 & Route 77

Town of Pembroke, Genesee County, New York

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

- 8-Digit Hydrologic Units

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 1:24,000.

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: Genesee County, New York
Survey Area Data: Version 22, Aug 29, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 15, 2020—Jun 17, 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.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
ApA	Appleton silt loam, 0 to 3 percent slopes	4	1.6	0.8%
CaA	Canandaigua silt loam, 0 to 2 percent slopes	95	17.8	8.5%
CbA	Canandiagua mucky silt loam, 0 to 2 percent slopes	95	1.1	0.5%
ClB	Collamer silt loam, 2 to 6 percent slopes	0	64.7	30.8%
DuB	Dunkirk silt loam, 2 to 6 percent slopes	0	17.5	8.4%
DuC	Dunkirk silt loam, 6 to 12 percent slopes	0	21.3	10.1%
FpA	Fredon gravelly loam, 0 to 3 percent slopes	10	4.4	2.1%
GP	Gravel pits	5	1.6	0.8%
Ld	Lamson very fine sandy loam	90	36.8	17.5%
MnA	Minoa very fine sandy loam, 0 to 2 percent slopes	5	3.0	1.5%
NgA	Niagara silt loam, 0 to 2 percent slopes	5	13.8	6.6%
PhB	Palmyra gravelly loam, 3 to 8 percent slopes	0	4.2	2.0%
PsB	Phelps gravelly loam, 3 to 8 percent slopes	0	5.0	2.4%
Um	Udorthents, smoothed	0	17.1	8.1%
Totals for Area of Interest			**210.1**	**100.0%**

FIGURE 4: NYSDEC ENVIRONMENTAL RESOURCE MAPPER

https://gisservices.dec.ny.gov/gis/erm/ (Visited 9-2-22)

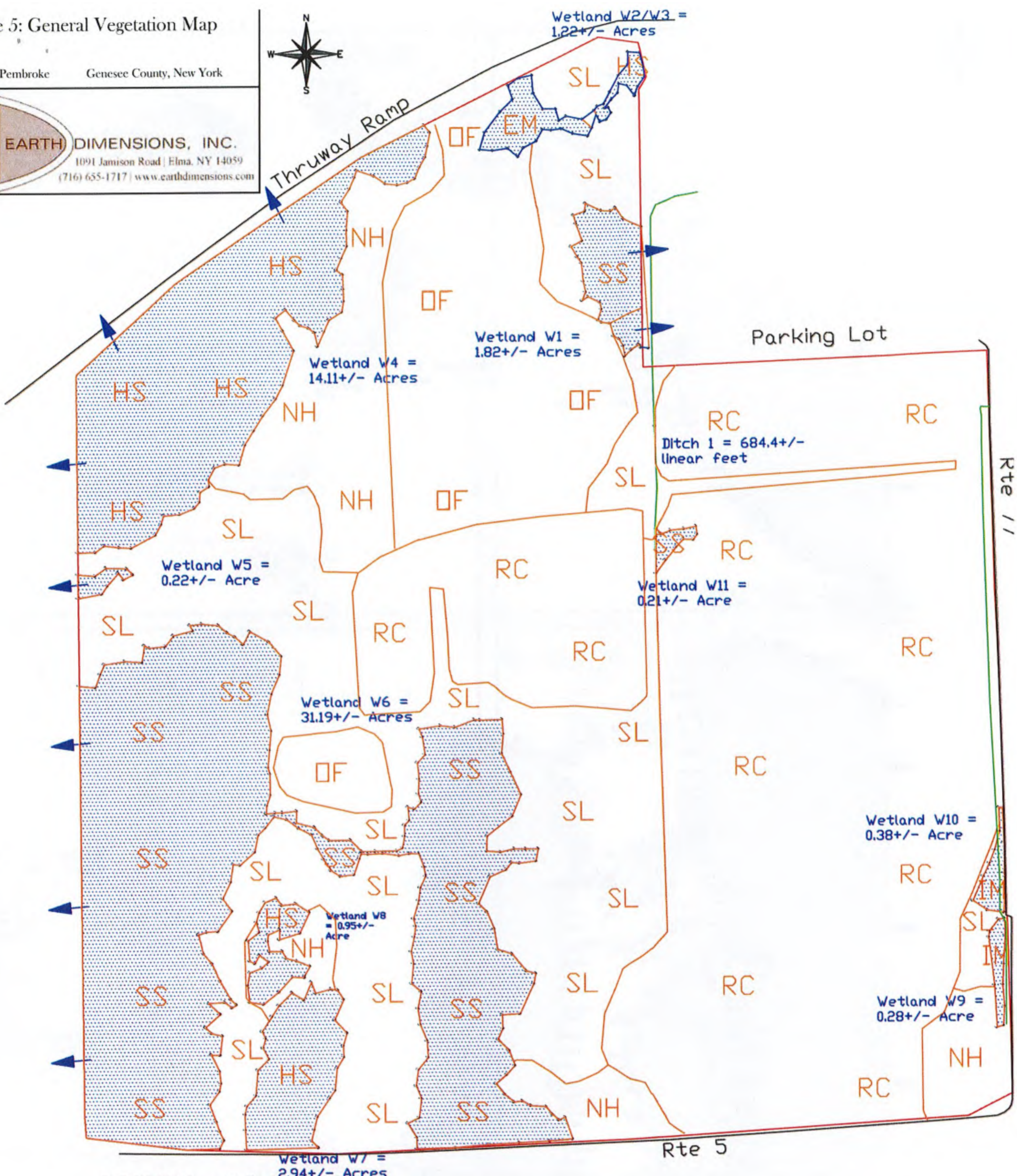
NWC Route 5 & Route 77

Town of Pembroke, Genesee County, New York

Figure 5: General Vegetation Map

Town of Pembroke Genesee County, New York

EARTH DIMENSIONS, INC.
1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | www.earthdimensions.com



NWC Rte 5 & Rte 77

LEGEND

Limits of Investigation	NH Northern Hardwood
Community Boundary	RC Row Crop
W1-1 Wetland Boundary Flag	IM Invasive Species Marsh
Wetland Area	EM Emergent Marsh
DF Successional Old Field	SS Scrub-shrub
SL Successional Shrubland	HS Hardwood Swamp

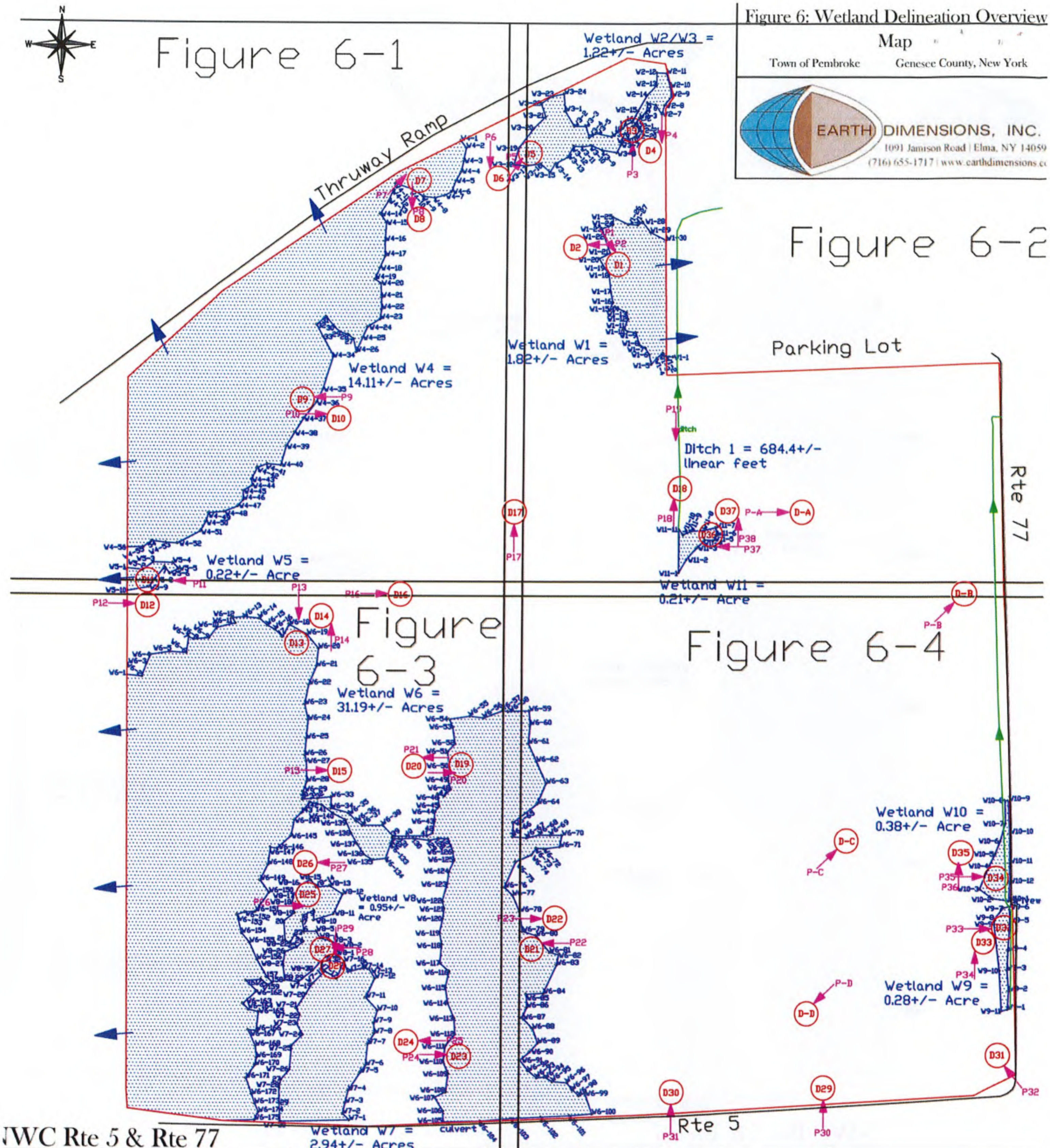
Scale: 0 200' 400'

Map Date: September 2, 2022/ TJS for EDI
Revised:

Base Map Provided By: Trimble Geo 7X

File Name: Delineation map.dwg

EDI Project Code: W29I08c



LEGEND

- Limits of Investigation
- Drainages
- W1-1 Wetland Boundary Flag
- Wetland Area
- P1 Photo Location
- D1 Data Point Location

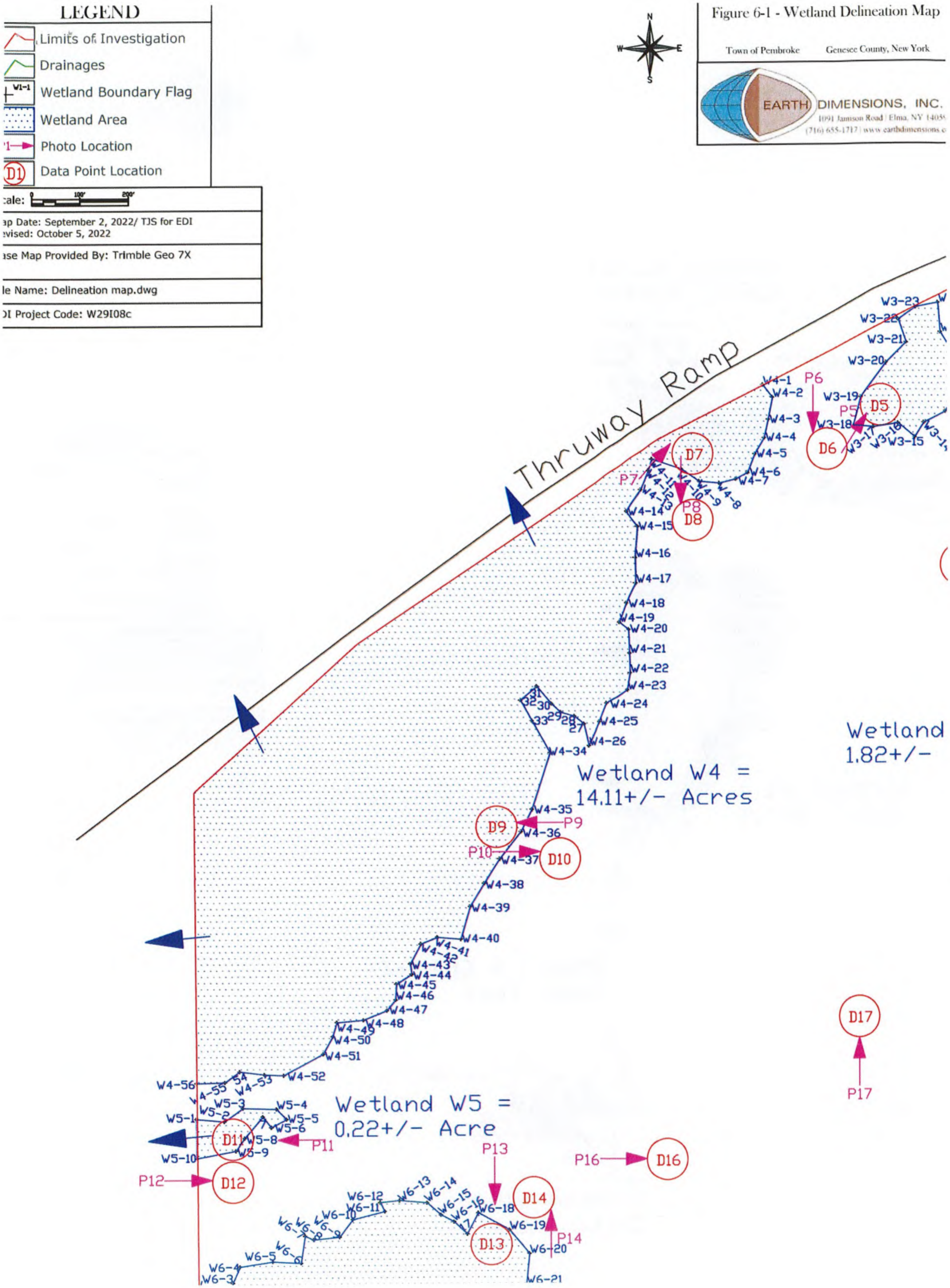
Scale: 0 200' 400'

Map Date: September 2, 2022/ TJS for EDI
Revised: November 8, 2022

Base Map Provided By: Trimble Geo 7X

File Name: Delineation map.dwg

EDI Project Code: W29I08c



LEGEND
Limits of Investigation
Drainages
Wetland Boundary Flag
Wetland Area
Photo Location
Data Point Location
:ale:
100'
200'
ap Date: September 2, 2022/ TJS for EDI
evised: October 5, 2022
ase Map Provided By: Trimble Geo 7X
le Name: Delineation map.dwg
)I Project Code: W29I08c
Figure 6-1 - Wetland Delineation Map
Town of Pembroke
Genesee County, New York
EARTH DIMENSIONS, INC.
1091 Jamison Road | Elma, NY 1405
(716) 655-1717 | www.earthdimensions.c
N
S
E
W
Thruway Ramp
Wetland W4 =
14.11+/- Acres
Wetland W5 =
0.22+/- Acre
Wetland
1.82+/-
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D16
D17
P5
P6
P7
P8
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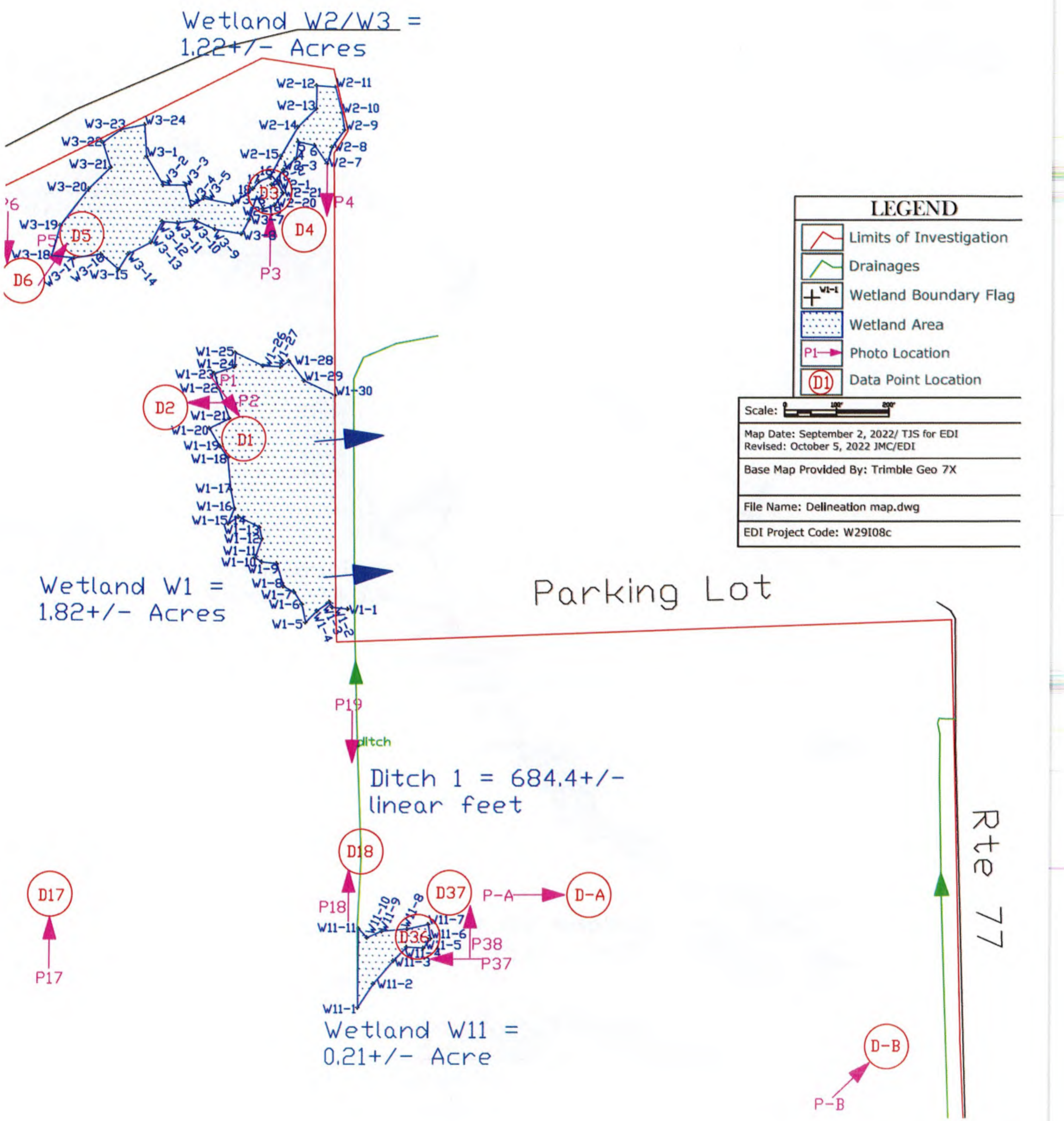
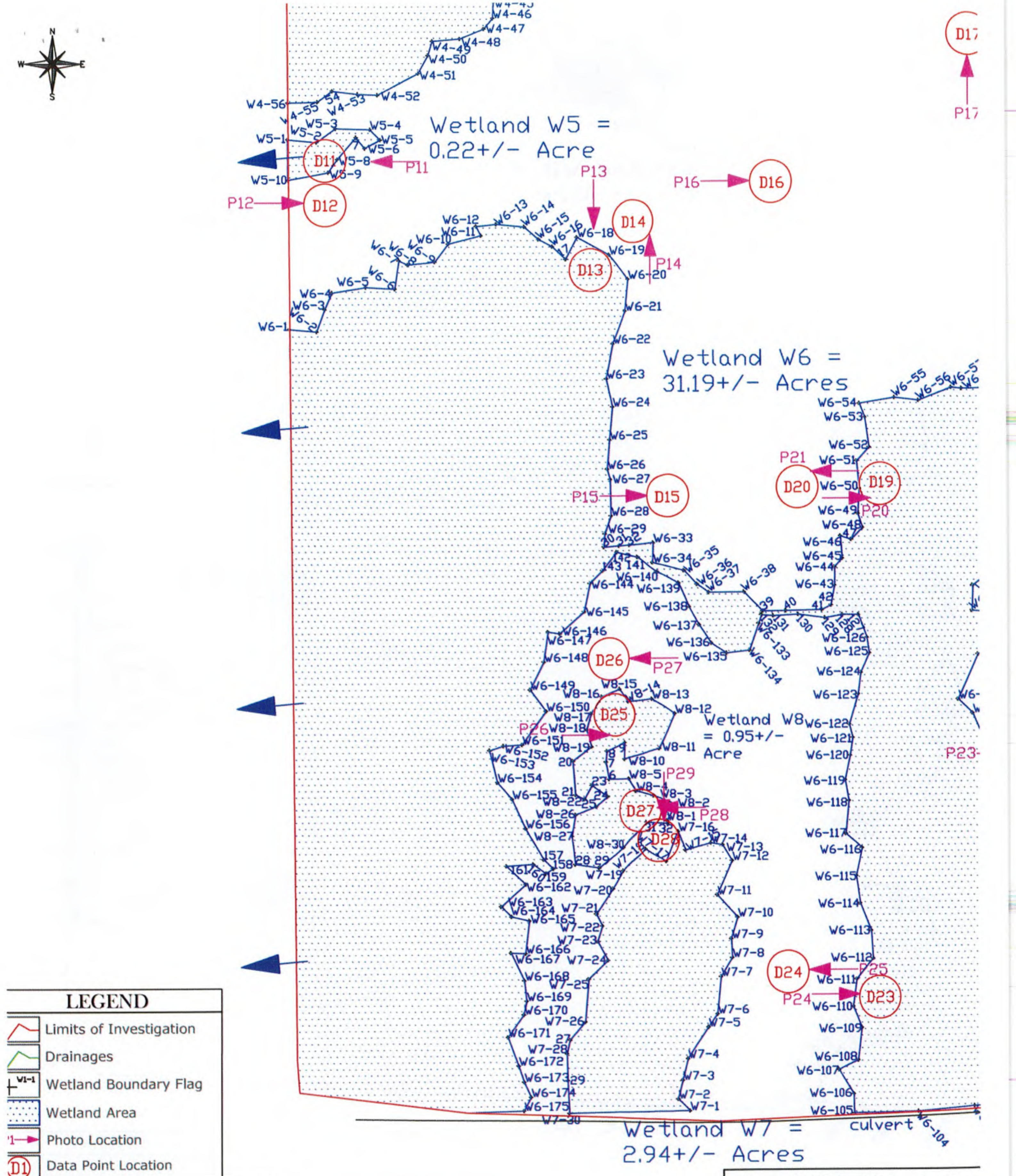
W6-14
W6-15
W6-16
W6-18
W6-19
W6-20
W6-21

Figure 6-2 - Wetland Delineation Map

Town of Pembroke Genesee County, New York

EARTH DIMENSIONS, INC.
1091 Jamison Road | Elma, NY 1405
(716) 655-1717 | www.earthdimensions.c





:ale: 100' 200'

ıp Date: September 2, 2022/ TJS for EDI
ɛvised:

ıse Map Provided By: Trimble Geo 7X

le Name: Delineation map.dwg

ƆI Project Code: W29I08c

Figure 6-3 - Wetland Delineation Map

Town of Pembroke Genesee County, New York

EARTH DIMENSIONS, INC.
1091 Jamison Road | Elma, NY 1405
(716) 655-1717 | www.earthdimensions.c

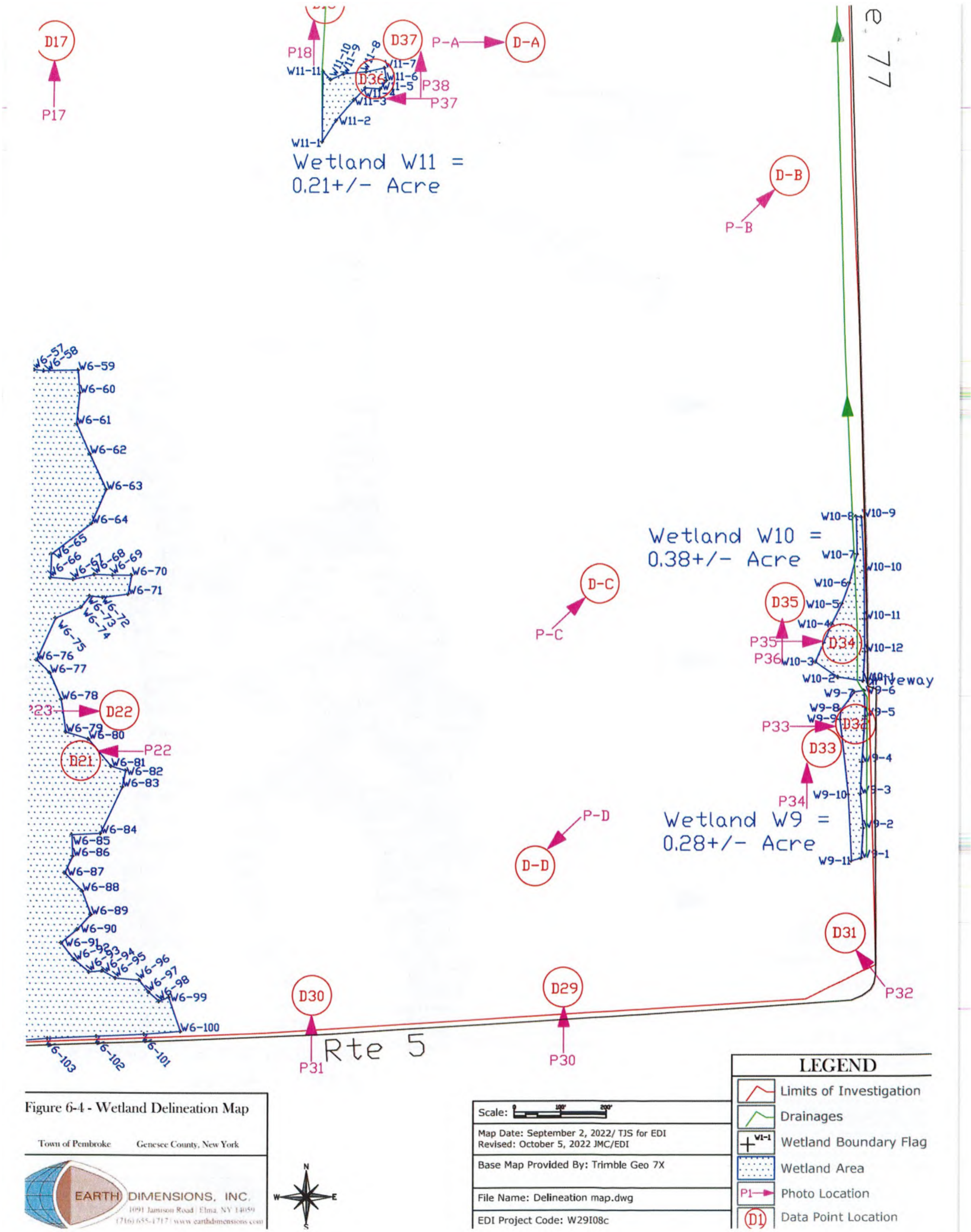


Figure 6-4 - Wetland Delineation Map

Town of Pembroke Genesee County, New York

FIGURE 7: DRAINAGE MAP

https://streamstats.usgs.gov/ss/ (Visited 9-2-22)

NWC Route 5 & Route 77

Town of Pembroke, Genesee County, New York

FIGURE 8: SITE AERIAL PHOTOGRAPH

https://www.arcgis.com/apps/webappviewer/index.html (Visited 9-2-22)

NWC Route 5 & Route 77

Town of Pembroke, Genesee County, New York

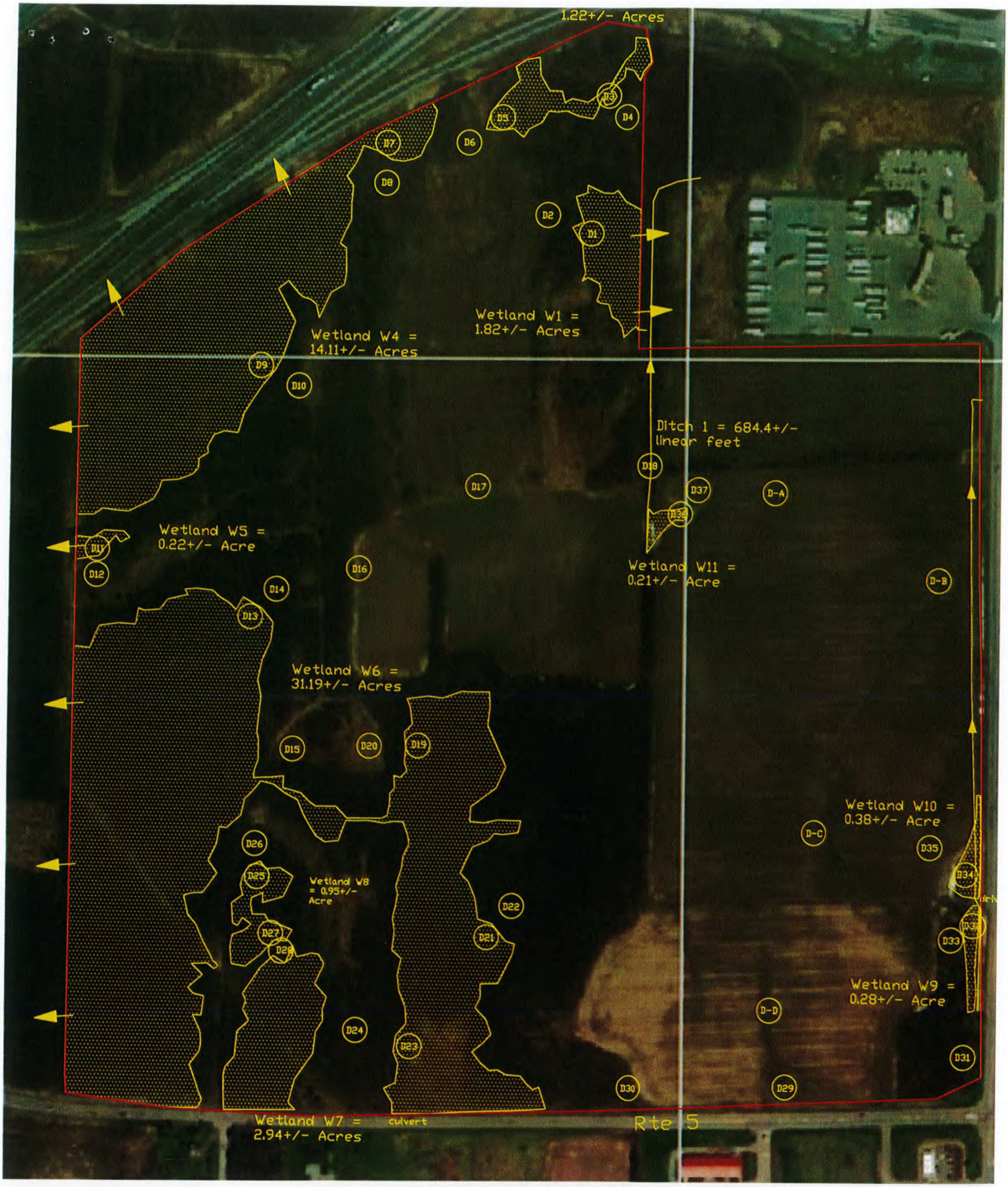


Figure 9: Aerial Photo With Wetlands

https://www.arcgis.com/apps/webappviewer/index.html (Visited 9/2/22)

NWC Route 5 and Route 77

Town of Pembroke, Genesee County, New York

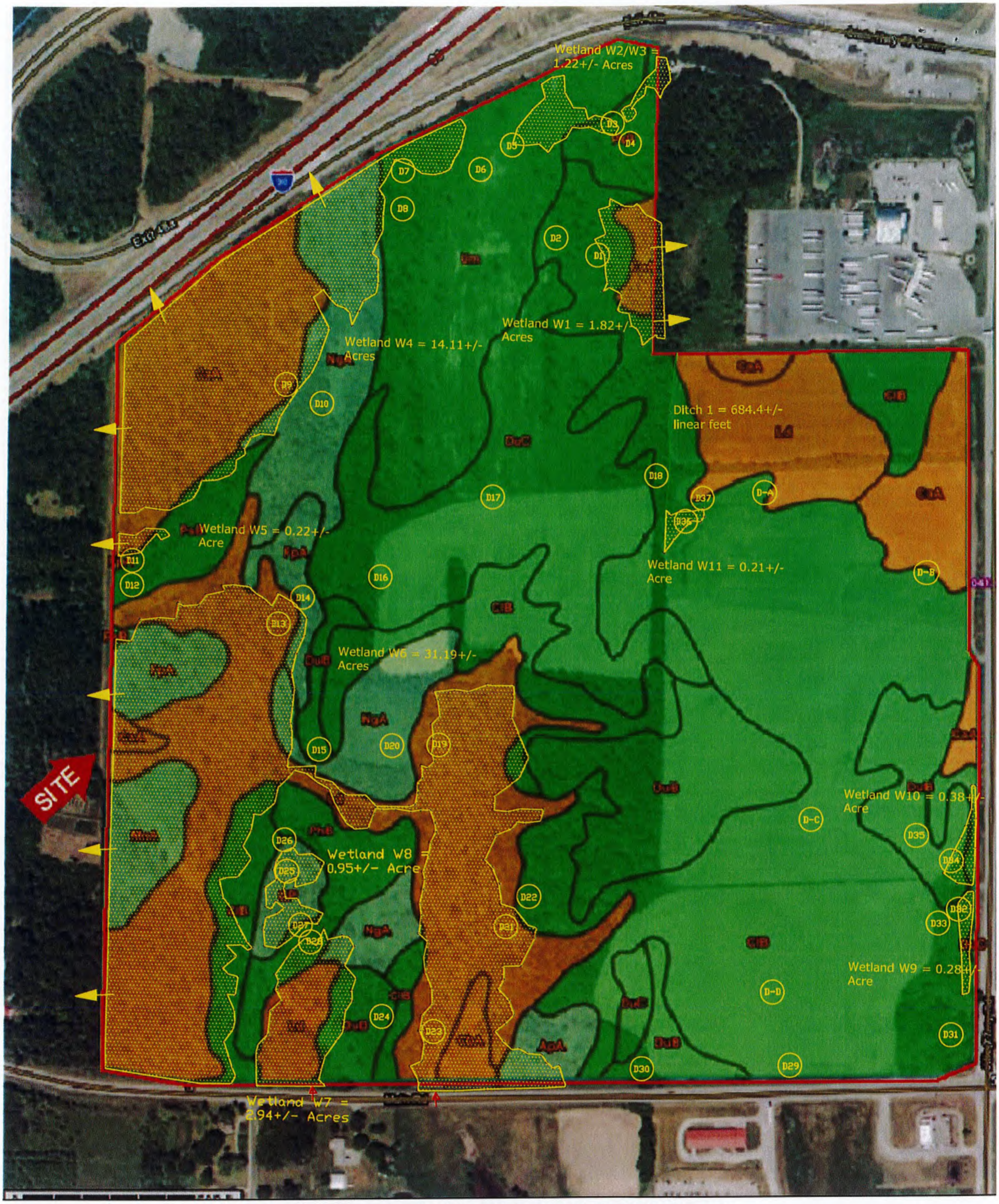


Figure 10: Soils Map With Wetlands

http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (Visited 9/2/22)

NWC Route 5 and Route 77

Town of Pembroke, Genesee County, New York

NWC RTE 5 & RTE 77

APPENDIX B – DATA SHEETS

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D1

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): 0

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: CANANDAIGUA SILT LOAM, 0-2% SLOPES NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	**Is the Sampled Area within a Wetland?** Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: W1

Remarks: (Explain alternative procedures here or in a separate report.)

- W1-1 → W1-30 (OPEN)
- DENSE

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches): N/A	
Water Table Present?	Yes ___ No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches): N/A	**Wetland Hydrology Present?** Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants. Sampling Point: D1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	12	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	12 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Cornus racemosa	45	Y	FAC
2. Frangula alnus	40	Y	FAC
3. Lonicera tatarica	15	N	FACU
4.			
5.			
6.			
7.			
	100 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Symphyotrichum lateriflorum	35	Y	FAC
2. Solidago rugosa	6	N	FAC
3. Carex blanda	5	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	46 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	40	Y	FACU
2.			
3.			
4.			
	40 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is < 3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Scrub Shrub Swamp PSS1B

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P1 **Direction of Photo** South

- very dense shrubs

Wetland W7

Project Code: W29I08c

SOIL Sampling Point: D1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR3/1	95	10YR5/8	5	C	M	l	
5-16	10YR5/1	85	10YR5/8	15	C	M	VSTl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D2

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): LAKE Plain Local relief (concave, convex, none): CONVEX Slope (%): 5

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: COLLAMER SILT LOAM, 2-6% SLOPES NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____ No X		
Wetland Hydrology Present?	Yes ____ No X	If yes, optional Wetland Site ID:	N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND SCRUB/SHRUB COMMUNITY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____ No X	Depth (inches): N/A	
Water Table Present?	Yes ____ No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes ____ No X	Depth (inches): N/A	**Wetland Hydrology Present?** Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants.

Sampling Point: D2

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Prunus serotina	15	Y	FACU
2. Populus deltoides	15	Y	FAC
3.			
4.			
5.			
6.			
7.			
	30 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Lonicera tatarica	65	Y	FACU
2. Cornus racemosa	15	N	FAC
3. Rhamnus cathartica	10	N	FAC
4.			
5.			
6.			
7.			
	90 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Lonicera tatarica	16	Y	FACU
2. Fraxinus americana	9	Y	FACU
3. Geum aleppicum	5	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1. Vitis aestivalis	30	Y	FACU
2.			
3.			
4.			
	30 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 17% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	–	x 1 =	–
FACW species	–	x 2 =	–
FAC species	45	x 3 =	135
FACU species	135	x 4 =	540
UPL species	–	x 5 =	–
Column Totals:	180 (A)		675 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is < 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional Shrubland

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P2 **Direction of Photo** West

- very dense shrubs

SOIL

Sampling Point: D2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	100					VSL	
6-16	10YR 5/4	100					VSL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D3

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): 0

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: PHELPS GRAVELLY LOAM, 3-8% SLOPES NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	**Is the Sampled Area within a Wetland?** Yes X No ___
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: WZ

Remarks: (Explain alternative procedures here or in a separate report.)

- WZ-1 → WZ-21 (CLOSED/ISOLATED)
- OLD BORROW PIT PRESUMABLY ASSOCIATED WITH CONSTRUCTION OF NYS THRUWAY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1) — 14"
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches): N/A	
Water Table Present?	Yes ___ No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches): N/A	**Wetland Hydrology Present?** Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D3

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	70	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	70 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Cornus racemosa	15	Y	FAC
2. Fraxinus pennsylvanica	12	Y	FACW
3. Lonicera tatarica	10	Y	FACU
4. Cornus amomum	5	N	FACW
5.			
6.			
7.			
	42 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	6	Y	FACW
2. Apocynum Cannabinum	3	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	9 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	15	Y	FACU
2.			
3.			
4.			
	15 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
__ 3 - Prevalence Index is < 3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Hardwood Swamp PFO2B

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P3 **Direction of Photo** North

Wetland W2

SOIL Sampling Point: D3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1"	10YR 3/1	100					l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: BEDROCK?
Depth (inches): 1"

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8 • 19 • 2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D4

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): OUTWASH Plain Local relief (concave, convex, none): NONE Slope (%): 2

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: PHELPS GRAVELLY LOAM, 3-8% SLOPES NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND SCRUB/SHRUB COMMUNITY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____ No X	Depth (inches): N/A	
Water Table Present?	Yes ____ No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes ____ No X	Depth (inches): N/A	Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants.

Sampling Point: D4

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	20	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	20 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Lonicera tatarica	50	Y	FACU
2. Cornus racemosa	25	Y	FAC
3. Rhamnus cathartica	15	N	FAC
4.			
5.			
6.			
7.			
	90 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Lonicera tatarica	18	Y	FACU
2. Solidago canadensis	6	Y	FACU
3. Solidago juncea	2	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	26 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. Vitis aestivalis	30	Y	FACU
2.			
3.			
4.			
	30 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	-	x 1 = -
FACW species	-	x 2 = -
FAC species	50	x 3 = 150
FACU species	116	x 4 = 464
UPL species	-	x 5 = -
Column Totals:	166 (A)	614 (B)

Prevalence Index = B/A = 3.69

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤ 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional Shrubland

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P4 **Direction of Photo** South

- very dense shrubs

SOIL Sampling Point: D4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/3	100					VSTL	
5-11	10YR5/4	100					VSTL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: BEDROCK?

Depth (inches): 11"

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D5

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): BORROW PIT Local relief (concave, convex, none): NONE Slope (%): <1

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: UDORTHENTS, SMOOTHED NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil X, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: W3

Remarks: (Explain alternative procedures here or in a separate report.)

- W3-1 -> W3-22 (CLOSED/ISOLATED)
- BORROW PIT PRESUMABLY ASSOCIATED WITH CONSTRUCTION OF NYS THRUWAY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes ___ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): N/A

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants.

Sampling Point: D5

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	10	Y	FACW
2. Cornus amomum	6	Y	FACW
3.			
4.			
5.			
6.			
7.			
	16 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Juncus canadensis	40	Y	OBL
2. Euthamia graminifolia	18	Y	FAC
3. Daucus carota	12	N	FACU
4. Mimulus ringens	10	N	OBL
5. Scirpus atrovirens	9	N	OBL
6. Carex scoparia	8	N	FACW
7. Phleum pratense	8	N	FACU
8. Lythrum salicaria	5	N	FACW
9. Solidago rugosa	3	N	FAC
10.			
11.			
12.			
	113 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤ 3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Emergent Marsh PEM1B

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P5 **Direction of Photo** North east

- Borrow area

SOIL Sampling Point: D5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR5/3	100					fsl	SUBSOIL

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: BEDROCK?

Depth (inches): 5"

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D6

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Borrow Pit Local relief (concave, convex, none): NONE Slope (%): 1-2

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: Udorthents, smoothed NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil X, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND FIELD /BORROW AREA PRESUMABLY FROM CONSTRUCTION OF NYS THRUWAY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes ___ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D6

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus americana	8	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover	8		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Poa pratensis	20	Y	FACU
2. Daucus carota	16	Y	FACU
3. Dactylis glomerata	15	Y	FACU
4. Melilotus officinalis	15	Y	FACU
5. Centaurea stoebe	10	N	UPL
6. Cichorium intybus	9	N	FACU
7. Andropogon gerardii	7	N	FACU
8. Euthamia graminifolia	6	N	FAC
9. Rudbeckia hirta	2	N	FACU
10. Apocynum cannabinum	1	N	FAC
11.			
12.			
= Total Cover	101		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	-	x 1 = -
FACW species	-	x 2 = -
FAC species	7	x 3 = 21
FACU species	92	x 4 = 368
UPL species	10	x 5 = 50
Column Totals:	109 (A)	439 (B)

Prevalence Index = B/A = 4.02

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is < 3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional old field

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P6 **Direction of Photo** South

-Borrow Area

SOIL

Sampling Point: D6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR5/4	100					FSL	SUBSOIL

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D7

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): NONE Slope (%): 1

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: CANANDAIGUA SILT LOAM, 0-2% Slopes NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___
Hydric Soil Present?	Yes ___	No X
Wetland Hydrology Present?	Yes X	No ___

Is the Sampled Area within a Wetland? Yes X No ___

If yes, optional Wetland Site ID: W4

Remarks: (Explain alternative procedures here or in a separate report.)

• W4-1 -> W4-56 (OPEN)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): N/A
Water Table Present?	Yes ___	No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): N/A

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D7

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	75	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	75 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Fraxinus pennsylvanica	50	Y	FACW
2. Rhamnus cathartica	10	N	FAC
3.			
4.			
5.			
6.			
7.			
	60 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Symphyotrichum lateriflorum	35	Y	FAC
2. Polygonum virginianum	18	Y	FAC
3. Poa palustris	10	N	FACW
4. Apocynum cannabinum	6	N	FAC
5. Geum aleppicum	5	N	FAC
6. Solidago rugosa	3	N	FAC
7.			
8.			
9.			
10.			
11.			
12.			
	77 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. Vitis aestivalis	15	Y	FACU
2.			
3.			
4.			
	15 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
__ 3 - Prevalence Index is < 3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Hardwood Swamp
PFO1B

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P7 **Direction of Photo** Northeast

- numerous dead ash trees

Wetland W4

SOIL Sampling Point: D7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/3	100					l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: ROCK / BOULDER
Depth (inches): 5"

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022
Applicant/Owner: Geis Construction State: New York Sampling Point: D8
Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1
Landform (hillslope, terrace, etc.): LAKE Plain Local relief (concave, convex, none): CONVEX Slope (%): 2
Subregion (LRR or MLRA) LRRL Lat: ____ Long: ____ Datum: NAD83
Soil Map Unit Name: NIAGARA SILT LOAM, 0-2% Slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND SCRUB/SHRUB COMMUNITY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): N/A
Water Table Present? Yes ____ No X Depth (inches): N/A
Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D8

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	35	Y	FAC
2. Fraxinus americana	18	Y	FACU
3.			
4.			
5.			
6.			
7.			
	53 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Lonicera tatarica	40	Y	FACU
2. Cornus racemosa	30	Y	FAC
3. Fraxinus americana	10	N	FACU
4.			
5.			
6.			
7.			
	80 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Solidago canadensis	50	Y	FACU
2. Polygonum virginianum	10	N	FAC
3. Lonicera tatarica	9	N	FACU
4. Carex blanda	6	N	FAC
5. Geum aleppicum	3	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	78 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1. Vitis aestivalis	25	Y	FACU
2.			
3.			
4.			
	25 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	-	x 1 = -
FACW species	-	x 2 = -
FAC species	84	x 3 = 252
FACU species	152	x 4 = 608
UPL species	-	x 5 = -
Column Totals:	236 (A)	860 (B)

Prevalence Index = B/A = 3.64

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤ 3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: S. Northern Hardwoods

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P8 **Direction of Photo** South

SOIL

Sampling Point: D8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/3	100					l	
5-12	10YR5/3	100					l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: BEDROCK?

Depth (inches): 12"

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D9

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): <1

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: CANANDAIGUA SILT LOAM, 0-2% slopes NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: W4

Remarks: (Explain alternative procedures here or in a separate report.)

• W4-1 → W4-56 (OPEN)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season W ater Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____ No X	Depth (inches): N/A	
Water Table Present?	Yes ____ No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes ____ No X	Depth (inches): N/A	**Wetland Hydrology Present? Yes X No ____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants.

Sampling Point: D9

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	40	Y	FAC
2. Fraxinus pennsylvanica	15	Y	FACW
3.			
4.			
5.			
6.			
7.			
	55 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Rhamnus cathartica	50	Y	FAC
2. Rosa multiflora	20	Y	FACU
3. Fraxinus pennsylvanica	10	N	FACW
4.			
5.			
6.			
7.			
	80 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Solidago rugosa	35	Y	FAC
2. Onoclea sensibilis	15	Y	FACW
3. Symphyotrichum lateriflorum	12	N	FAC
4. Agrimonia gryposepala	12	N	FACU
5. Euthamia graminifolia	10	N	FAC
6. Polygonum virginianum	8	N	FAC
7.			
8.			
9.			
10.			
11.			
12.			
	92 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	15	Y	FACW
2.			
3.			
4.			
	15 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ______	x 1 = ______
FACW species ______	x 2 = ______
FAC species ______	x 3 = ______
FACU species ______	x 4 = ______
UPL species ______	x 5 = ______
Column Totals: ______ (A)	______ (B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index is < 3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Hardwood Swamp PFO1B

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P9 **Direction of Photo** West

Wetland W4

Project Code: W29I08c

SOIL

Sampling Point: D9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR3/1	95	10YR5/6	5	C	M	l	
8-16	10YR5/4	100					l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: A10

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): LAKE Plain Local relief (concave, convex, none): CONVEX Slope (%): 5

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: NIAGARA SILT LOAM, 0-2%. SLOPE NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland?	Yes ___ No X
Hydric Soil Present?	Yes ___ No X		
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID:	N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND WOODS WITH DENSE SHRUB UNDERSTORY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches): N/A	
Water Table Present?	Yes ___ No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches): N/A	Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D10

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Prunus Serotina	65	Y	FACU
2. Populus deltoides	15	N	FAC
3.			
4.			
5.			
6.			
7.			
	80 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Lonicera tatarica	19	Y	FACU
2. Prunus Serotina	18	Y	FACU
3. Fraxinus americana	10	N	FACU
4. Carya glabra	5	N	FACU
5.			
6.			
7.			
	52 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Rosa multiflora	15	Y	FACU
2. Fraxinus americana	15	Y	FACU
3. Rubus idaeus	9	Y	FACU
4. Geum aleppicum	6	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	10	Y	FACU
2. Parthenocissus quinquefolia	8	Y	FACU
3.			
4.			
	18 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	-	x 1 = -
FACW species	-	x 2 = -
FAC species	21	x 3 = 63
FACU species	174	x 4 = 696
UPL species	-	x 5 = -
Column Totals:	195 (A)	759 (B)

Prevalence Index = B/A = 3.89

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤ 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: S. Northern Hardwood

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P10 **Direction of Photo** East

SOIL Sampling Point: D/10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	100					l	
6-16	10YR 5/4	100					fsl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D11

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE Slope (%): <1

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: CANANDAIGUA SILT LOAM, 0-2% SLOPES NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	**Is the Sampled Area within a Wetland?** Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: W5

Remarks: (Explain alternative procedures here or in a separate report.)

•W5-1 → W5-10 (OPEN)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches): N/A	
Water Table Present?	Yes ___ No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches): N/A	**Wetland Hydrology Present?** Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D11

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	25	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	25 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Cornus racemosa	60	Y	FAC
2. Fraxinus pennsylvanica	28	Y	FACW
3. Rosa multiflora	10	N	FACU
4. Populus deltoides	8	N	FAC
5.			
6.			
7.			
	106 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Onoclea sensibilis	20	Y	FACW
2. Symphyotrichum lateriflorum	18	Y	FAC
3. Solidago gigantea	13	N	FACW
4. Solidago rugosa	10	N	FAC
5. Rosa multiflora	6	N	FACU
6. Impatiens capensis	5	N	FACW
7. Geum aleppicum	3	N	FAC
8.			
9.			
10.			
11.			
12.			
	75 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is < 3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Scrub Shrub Swamp PSS1B

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P11 **Direction of Photo** West

- very dense shrubs

Wetland W5

SOIL Sampling Point: D11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	98	10YR 5/8	2	C	M	fsl	
4-16	10YR 5/2	85	10YR 5/6	15	C	M	fsl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- / Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D12

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Till Plain Local relief (concave, convex, none): CONVEX Slope (%): 2

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: FREDON GRAVELLY LOAM, 0-3% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	**Is the Sampled Area within a Wetland?**	Yes ___ No X
Hydric Soil Present?	Yes ___ No X	If yes, optional Wetland Site ID:	N/A
Wetland Hydrology Present?	Yes ___ No X		

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND SCRUB/SHRUB COMMUNITY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches): N/A	
Water Table Present?	Yes ___ No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches): N/A	**Wetland Hydrology Present?** Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D12

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	35	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	35 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus americana	45	Y	FACU
2. Lonicera tatarica	25	Y	FACU
3. Cornus racemosa	18	N	FAC
4. Rosa multiflora	15	N	FACU
5. Populus deltoides	6	N	FAC
6.			
7.			
	109 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus americana	15	Y	FACU
2. Agrimonia gryposepala	11	Y	FACU
3. Rubus idaeus	6	N	FACU
4. Symphyotrichum lateriflorum	5	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	37 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	20	Y	FACU
2.			
3.			
4.			
	20 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 17% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	-	x 1 = -
FACW species	-	x 2 = -
FAC species	64	x 3 = 192
FACU species	137	x 4 = 548
UPL species	-	x 5 = -
Column Totals:	201 (A)	740 (B)

Prevalence Index = B/A = 3.68

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤ 3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional Shrubland

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P12 **Direction of Photo** East

- very dense

SOIL

Sampling Point: D12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	10YR4/2	100					fsl	
5-16	10YR5/4	100					lfs	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D13

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE Slope (%): <1

Subregion (LRR or MLRA) LRRL Lat: ____ Long: ____ Datum: NAD83

Soil Map Unit Name: LAMSON VERY FINE SANDY LOAM NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	**Is the Sampled Area within a Wetland?** Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: W6

Remarks: (Explain alternative procedures here or in a separate report.)

• W6

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches): N/A	
Water Table Present?	Yes ___ No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches): N/A	**Wetland Hydrology Present?** Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants. Sampling Point: D13

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	25	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	25 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Cornus racemosa	50	Y	FAC
2. Fraxinus pennsylvanica	40	Y	FACW
3. Rosa multiflora	10	N	FACU
4.			
5.			
6.			
7.			
	100 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Solidago rugosa	40	Y	FAC
2. Symphyotrichum lateriflorum	20	Y	FAC
3. Onoclea sensibilis	10	N	FACW
4. Rosa multiflora	8	N	FACU
5. Rubus idaeus	6	N	FACU
6. Geum aleppicum	4	N	FAC
7.			
8.			
9.			
10.			
11.			
12.			
	88 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1. Vitis aestivalis	15	Y	FACU
2.			
3.			
4.			
	15 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is < 3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Scrub-Shrub Swamp PSS1B

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P13 **Direction of Photo** South

- very dense

Wetland W6

SOIL

Sampling Point: D13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR3/1	93	10YR5/8	7	C	M	l	
11-16	10YR5/2	85	10YR5/6	15	C	M	fsl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D14

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): ______ Local relief (concave, convex, none): NONE Slope (%): 1

Subregion (LRR or MLRA): LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: DUNKIRK SILT LOAM, 6-12% SLOPES NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	**Is the Sampled Area within a Wetland?** Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND SCRUB/SHRUB COMMUNITY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes ___ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants. Sampling Point: D14

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	20	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	20 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Rosa multiflora	60	Y	FACU
2. Lonicera tatarica	18	Y	FACU
3. Cornus racemosa	10	N	FAC
4.			
5.			
6.			
7.			
	88 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Rosa multiflora	15	Y	FACU
2. Rubus idaeus	10	Y	FACU
3. Symphyotrichum lateriflorum	6	N	FAC
4. Prunella vulgaris	3	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	34 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	20	Y	FACU
2.			
3.			
4.			
	20 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 17% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	-	x 1 = -
FACW species	-	x 2 = -
FAC species	39	x 3 = 117
FACU species	123	x 4 = 492
UPL species	-	x 5 = -
Column Totals:	162 (A)	609 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is < 3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional Shrubland

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P14 **Direction of Photo** North

- very dense

Project Code: W29I08c

SOIL

Sampling Point: D14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR4/1	100					l	
9-16	10YR5/4	95	10YR5/6	5	C	M	fsl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D15

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): LAKE Plain Local relief (concave, convex, none): CONVEX Slope (%): 3

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: NIAGARA SILT LOAM, 0-2% SLOPES NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland?	Yes ___ No X
Hydric Soil Present?	Yes ___ No X		
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID:	N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND SCRUB/SHRUB COMMUNITY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches): N/A
Water Table Present?	Yes ___ No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches): N/A

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D15

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Lonicera tatarica	18	Y	FACU
2. Elaeagnus angustifolia	15	Y	FACU
3.			
4.			
5.			
6.			
7.			
	33 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Solidago canadensis	35	Y	FACU
2. Phleum pratense	20	Y	FACU
3. Poa pratensis	12	N	FACU
4. Solidago juncea	10	N	FACU
5. Euthamia graminifolia	8	N	FAC
6. Daucus carota	8	N	FACU
7. Rubus idaeus	5	N	FACU
8. Cirsium arvense	2	N	FACU
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	–	x 1 = –
FACW species	–	x 2 = –
FAC species	8	x 3 = 24
FACU species	125	x 4 = 500
UPL species	–	x 5 = –
Column Totals:	133 (A)	524 (B)

Prevalence Index = B/A = 3.93

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤ 3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional old Field

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P15 **Direction of Photo** East

SOIL Sampling Point: D15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR4/3	100					l	
4-16	10YR5/4	100					VSTl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D16

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Till Plain Local relief (concave, convex, none): CONVEX Slope (%): 2

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: DUNKIRK SILT LOAM, 6-12% Slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	**Is the Sampled Area within a Wetland?**	Yes ___ No X
Hydric Soil Present?	Yes ___ No X	If yes, optional Wetland Site ID:	N/A
Wetland Hydrology Present?	Yes ___ No X		

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND CORN FIELD

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches): N/A	
Water Table Present?	Yes ___ No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches): N/A	**Wetland Hydrology Present?** Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants. Sampling Point: D16

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			

Herb Stratum (Plot size: 5')			
1. Zea sp.	90	Y	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
= Total Cover			

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
= Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	-	x 1 =
FACW species	-	x 2 =
FAC species	-	x 3 =
FACU species	-	x 4 =
UPL species	-	x 5 =
Column Totals:	N/A (A)	N/A (B)

Prevalence Index = B/A = N/A

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤ 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Row Crop

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P16 **Direction of Photo** East

Corn Field

SOIL Sampling Point: D16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR5/3	100					l	
4-16	10YR5/4	100					grl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.19.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D17

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): BORROW Pit Local relief (concave, convex, none): CONVEX Slope (%): 5

Subregion (LRR or MLRA) LRRL Lat: ____ Long: ____ Datum: NAD83

Soil Map Unit Name: DUNKIRK SILT LOAM, 6-12% SLOPES NWI classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND FIELD / BORROW AREA PRESUMABLY ASSOCIATED WITH CONSTRUCTION OF NYS THRUWAY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): N/A

Water Table Present? Yes ____ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants. Sampling Point: D17

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Poa pratensis	20	Y	FACU
2. Daucus carota	15	Y	FACU
3. Solidago nemoralis	12	Y	FACU
4. Melilotus officinalis	11	N	FACU
5. Digitaria sanguinalis	9	N	FACU
6. Poa annua	8	N	FACU
7. Solidago juncea	6	N	FACU
8. Centaurea stoebe	4	N	UPL
9. Juncus tenuis	3	N	FAC
10.			
11.			
12.			
	88 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	-	x 1 = -
FACW species	-	x 2 = -
FAC species	3	x 3 = 9
FACU species	81	x 4 = 324
UPL species	4	x 5 = 20
Column Totals:	88 (A)	353 (B)

Prevalence Index = B/A = 4.01

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is < 3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional old field

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P17 **Direction of Photo** North

-Borrow Area

Project Code: W29I08c

SOIL Sampling Point: D17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR6/1	100					Sil	SUBSOIL

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): ?

Type: ?

Depth (inches): 14"

Hydric Soil Present? Yes ___ No X

Remarks:

AREA PREVIOUSLY EXCAVATED; SOIL COLOR IS REFLECTIVE OF DEEP SUBSOIL REMAINING.

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8-19-2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D/8

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): RIDGE Local relief (concave, convex, none): CONVEX Slope (%): 3

Subregion (LRR or MLRA) LRRL Lat: ___ Long: ___ Datum: NAD83

Soil Map Unit Name: COLLAMER SILT LOAM, 2-6% Slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	**Is the Sampled Area within a Wetland?** Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND WOODS (Hedge Row)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes ___ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants.

Sampling Point: D18

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Carya glabra	70	Y	FACU
2. Acer saccharum	15	N	FACU
3.			
4.			
5.			
6.			
7.			
	85 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Carya glabra	30	Y	FACU
2. Lonicera tatarica	10	N	FACU
3. Prunus serotina	10	N	FACU
4. Cornus racemosa	6	N	FAC
5.			
6.			
7.			
	56 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Alliaria petiolata	8	Y	FACU
2. Fraxinus americana	6	Y	FACU
3. Lonicera tatarica	2	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	16 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	12	Y	FACU
2.			
3.			
4.			
	12 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species –	x 1 = –
FACW species –	x 2 =
FAC species 6	x 3 = 18
FACU species 163	x 4 = 652
UPL species –	x 5 = –
Column Totals: 169 (A)	670 (B)

Prevalence Index = B/A = 3.96

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤ 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional N. Hardwood

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P18 **Direction of Photo** North

Hedge Row

SOIL Sampling Point: D18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR4/3	100					l	
3-16	10YR5/4	100					vsl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

* DOES NOT MEET COLLAMER CLASSIFICATION - TILL, NOT LAKE SEDIMENTS

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8-23-2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D19

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): <1

Subregion (LRR or MLRA) LRRL Lat: ___ Long: ___ Datum: NAD83

Soil Map Unit Name: LAMSON VERY FINE SANDY LOAM NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: W6

Remarks: (Explain alternative procedures here or in a separate report.)

• W6-1 -> W6-175 (OPEN)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes ___ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): N/A

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants. Sampling Point: D19

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Cornus racemosa	70	Y	FAC
2. Rhamnus cathartica	25	Y	FAC
3. Fraxinus pennsylvanica	10	N	FACW
4.			
5.			
6.			
7.			
= Total Cover	105		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Symphyotrichum lateriflorum	18	Y	FAC
2. Glyceria striata	12	Y	OBL
3. Polygonum virginianum	10	N	FAC
4. Geum aleppicum	8	N	FAC
5. Fraxinus pennsylvanica	5	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
= Total Cover	53		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	10	Y	FACU
2.			
3.			
4.			
= Total Cover	10		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- __ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- __ 3 - Prevalence Index is ≤ 3.0[1]
- __ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- __ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Scrub Shrub Swamp PSS1B

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P20 **Direction of Photo** East

- very dense shrubs

Wetland W6

SOIL

Sampling Point: D/9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR3/1	95	10YR5/8	5	C	M	Sil	
5-16	10YR5/1	95	10YR5/8	5	C	M	Sil	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

Project Code: W29l08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.23.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D20

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): LAKE Plain Local relief (concave, convex, none): CONVEX Slope (%): 2

Subregion (LRR or MLRA) LRRL Lat: ____ Long: ____ Datum: NAD83

Soil Map Unit Name: NIAGARA SILT LOAM, 0-2% SLOPES NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND SCRUB/SHRUB COMMUNITY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): N/A

Water Table Present? Yes ____ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D20

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Prunus serotina	30	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	30 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Lonicera tatarica	45	Y	FACU
2. Rosa multiflora	25	Y	FACU
3. Prunus serotina	15	N	FACU
4. Cornus racemosa	10	N	FAC
5. Rhamnus cathartica	8	N	FAC
6.			
7.			
	103 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Rubus idaeus	15	Y	FACU
2. Alliaria petiolata	12	Y	FACU
3. Lonicera tatarica	10	N	FACU
4. Rosa multiflora	9	N	FACU
5. Geum aleppicum	6	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	52 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	20	Y	FACU
2.			
3.			
4.			
	20 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P21 Direction of Photo West

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	-	x 1 = -
FACW species	-	x 2 =
FAC species	24	x 3 = 72
FACU species	181	x 4 = 724
UPL species	-	x 5 = -
Column Totals:	205 (A)	796 (B)

Prevalence Index = B/A = 3.88

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤ 3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional shrubland

Hydrophytic Vegetation Present? Yes ____ No X

SOIL Sampling Point: D20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/1	100					Sil	
5-16	10YR5/4	100					l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.23.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D21

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE Slope (%): 1

Subregion (LRR or MLRA) LRRL Lat: ____ Long: ____ Datum: NAD83

Soil Map Unit Name: LAMSON VERY FINE SANDY LOAM NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____		Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present? Yes X No ____		
Wetland Hydrology Present? Yes X No ____		If yes, optional Wetland Site ID: W6

Remarks: (Explain alternative procedures here or in a separate report.)

• W6-1 - W6-175 (OPEN)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): N/A

Water Table Present? Yes ____ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): N/A

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D21

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	10	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Cornus racemosa	80	Y	FAC
2. Rhamnus cathartica	10	N	FAC
3. Fraxinus pennsylvanica	8	N	FACW
4.			
5.			
6.			
7.			
	98 = Total Cover		

Herb Stratum (Plot size: 5')			
1. Symphyotrichum lateriflorum	35	Y	FAC
2. Polygonum virginianum	10	N	FAC
3. Solidago rugosa	8	N	FAC
4. Geum aleppicum	8	N	FAC
5. Rosa multiflora	5	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	66 = Total Cover		

Woody Vine Stratum (Plot size: 30')			
1. Vitis aestivalis	10	Y	FACW
2.			
3.			
4.			
	10 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- __ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- __ 3 - Prevalence Index is < 3.0[1]
- __ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- __ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Scrub-Shrub Swamp PSS2B

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P22 **Direction of Photo** West

- very dense shrubs

Wetland W6

Project Code: W29I08c

SOIL

Sampling Point: D21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR3/1	97	10YR5/8	3	C	M	S.l	
6-16	10YR5/4	100					l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8·23·2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D22

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): LAKE Plain Local relief (concave, convex, none): CONVEX Slope (%): 5

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: COLLAMER SILT LOAM, 2-6% SLOPES NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)
UPLAND SCRUB/SHRUB Community

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches): N/A	
Water Table Present?	Yes ___ No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches): N/A	**Wetland Hydrology Present?** Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants.

Sampling Point: D22

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Prunus serotina	15	Y	FACU
2. Prunus pensylvanica	10	Y	FACU
3.			
4.			
5.			
6.			
7.			
	25 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus americana	30	Y	FACU
2. Lonicera tatarica	30	Y	FACU
3. Rosa multiflora	12	N	FACU
4. Cornus racemosa	10	N	FAC
5. Malus sp.	10	N	NI
6. Carya glabra	5	N	FACU
7.			
	97 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Rosa multiflora	18	Y	FACU
2. Fraxinus americana	10	Y	FACU
3. Rubus occidentalis	8	N	UPL
4. Geum aleppicum	6	N	FAC
5. Polygonum virginianum	5	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	47 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	25	Y	FACU
2.			
3.			
4.			
	25 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P23 Direction of Photo East

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	-	x 1 = -
FACW species	-	x 2 = -
FAC species	21	x 3 = 63
FACU species	155	x 4 = 621
UPL species	8	x 5 = 40
Column Totals:	184 (A)	723 (B)

Prevalence Index = B/A = 3.93

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤ 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional Shrubland

Hydrophytic Vegetation Present? Yes ____ No X

SOIL   Sampling Point: D22

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/2	100					l	
5-16	10YR5/4	100					l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.23.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: DZ3

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE Slope (%): 1

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: LAMSON VERY FINE SANDY LOAM NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: W6

Remarks: (Explain alternative procedures here or in a separate report.)

- W6-1 → W6-175 (OPEN)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches): N/A	
Water Table Present?	Yes ___ No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches): N/A	Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants. Sampling Point: D23

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	10	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	50	Y	FACW
2. Cornus racemosa	35	Y	FAC
3. Rosa multiflora	10	N	FACU
4.			
5.			
6.			
7.			
	95 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Polygonum virginianum	20	Y	FAC
2. Symphyotrichum lateriflorum	18	Y	FAC
3. Fraxinus pennsylvanica	10	N	FACW
4. Rosa multiflora	8	N	FACU
5. Geum aleppicum	6	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	62 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	20	Y	FACU
2.			
3.			
4.			
	20 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
__ 3 - Prevalence Index is < 3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Scrub Shrub Swamp PSS1B

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P24 **Direction of Photo** East

Wetland W6

Project Code: W29I08c

SOIL

Sampling Point: D23

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR3/1	97	10YR5/8	3	C	M	l	
4-8	10YR5/1	95	10YR5/8	5	C	M	l	
8-16	10YR5/4	100					l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.23.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D24

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Lake Pln. Local relief (concave, convex, none): CONVEX Slope (%): 3

Subregion (LRR or MLRA) LRRL Lat: ___ Long: ___ Datum: NAD83

Soil Map Unit Name: COLLAMER SILT LOAM, 2-6% Slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND SCRUB/SHRUB COMMUNITY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes ___ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants.

Sampling Point: D24

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus americana	8	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	8 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Lonicera tatarica	50	Y	FACU
2. Cornus racemosa	12	N	FAC
3. Rhamnus cathartica	10	N	FAC
4. Fraxinus americana	8	N	FACU
5.			
6.			
7.			
	80 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus americana	30	Y	FACU
2. Solidago canadensis	10	N	FACU
3. Agrimonia gryposepala	9	N	FACU
4. Polygonum virginianum	5	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	54 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	30	Y	FACU
2.			
3.			
4.			
	30 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species -	x 1 = -
FACW species -	x 2 = -
FAC species 27	x 3 = 81
FACU species 145	x 4 = 580
UPL species -	x 5 = -
Column Totals: 172 (A)	661 (B)

Prevalence Index = B/A = 3.84

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤ 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional Shrubland

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P25 **Direction of Photo** West

SOIL Sampling Point: D24

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR4/2	100					l	
9-16	10YR5/4	100					l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8·24·2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D25

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE Slope (%): 0

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: GRAVEL PITS NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil X, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present? Yes X No ___	
Wetland Hydrology Present? Yes X No ___	If yes, optional Wetland Site ID: W8

Remarks: (Explain alternative procedures here or in a separate report.)

· W8-1 → W8-32 (CLOSED)
· OLD BORROW PIT

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes ___ No X Depth (inches): N/A

Saturation Present? Yes ___ No X Depth (inches): N/A
(includes capillary fringe)

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants.

Sampling Point: D25

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	70	Y	FAC
2. Acer rubrum	15	N	FAC
3.			
4.			
5.			
6.			
7.			
	85 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	20	Y	FACW
2. Ulmus americana	10	Y	FACW
3.			
4.			
5.			
6.			
7.			
	30 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Glyceria striata	7	Y	OBL
2. Alisma subcordatum	5	Y	OBL
3. Fraxinus pennsylvanica	3	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	15 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤ 3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Hardwood Swamp
PFO1E

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P26 **Direction of Photo** East

- Historically excavated

Wetland W8

Project Code: W29I08c

SOIL

Sampling Point: D25

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR2/1	100					mucky l	
2-7	10YR5/1	85	10YR5/6	15	C	m	vgrl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: BEDROCK(?)
Depth (inches): 7"

Hydric Soil Present? Yes X No ___

Remarks:
OLD BORROW PIT WITH MATURE TREES - SOIL IS ORANIC ACCUMULATION OVER SUBSOIL

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.24.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D26

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): CONVEX Slope (%): 3

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: PALMYRA GRAVELLY LOAM, 3-8% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND SCRUB/SHRUB COMMUNITY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes ___ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D26

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Prunus Serotina	30	Y	FACU
2. Populus deltoides	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
	40 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Lonicera tatarica	30	Y	FACU
2. Prunus Serotina	20	Y	FACU
3. Cornus racemosa	18	Y	FACU
4. Rosa multiflora	12	N	FACU
5. Fraxinus americana	10	N	FACU
6.			
7.			
	90 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Rosa multiflora	12	Y	FACU
2. lonicera tatarica	10	Y	FACU
3. Agrimonia gryposepala	5	N	FACU
4. Symphyotrichum lateriflorum	3	N	FAC
5. Polygonum virginianum	3	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	33 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	20	Y	FACU
2.			
3.			
4.			
	20 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 13% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	-	x 1 = -
FACW species	-	x 2 = -
FAC species	16	x 3 = 48
FACU species	167	x 4 = 668
UPL species	-	x 5 = -
Column Totals:	183 (A)	716 (B)

Prevalence Index = B/A = 3.91

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤ 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional Shrubland

Hydrophytic Vegetation Present? Yes __ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # 927 **Direction of Photo** West

Project Code: W29I08c

SOIL

Sampling Point: D26

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/1	100					l	
5-16	10YR 5/4	100					grl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.24.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D21

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): CONVEX Slope (%): 2

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: PALMYRA GRAVELLY LOAM, 3-8% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	**Is the Sampled Area within a Wetland?** Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND WOODS

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes ___ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D27

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Juglans nigra	25	Y	FACU
2. Prunus serotina	20	Y	FACU
3. Populus deltoides	20	Y	FAC
4. Fraxinus americana	10	N	FACU
5.			
6.			
7.			
	75 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Rosa multiflora	35	Y	FACU
2. Fraxinus americana	20	Y	FACU
3. Lonicera tatarica	10	N	FACU
4. Prunus pensylvanica	10	N	FACU
5. Ostrya virginiana	5	N	FACU
6.			
7.			
	80 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Rosa multiflora	20	Y	FACU
2. Rubus allegheniensis	15	Y	FACU
3. Rubus occidentalis	9	N	UPL
4. Solidago juncea	5	N	FACU
5. Symphyotrichum lateriflorum	5	N	FAC
6. Polygonum virginianum	2	N	FAC
7.			
8.			
9.			
10.			
11.			
12.			
	56 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Parthenocissus quinquefolia	15	Y	FACU
2. Vitis aestivalis	12	Y	FACU
3.			
4.			
	27 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 11% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	-	x 1 = -
FACW species	-	x 2 = -
FAC species	27	x 3 = 81
FACU species	202	x 4 = 808
UPL species	9	x 5 = 45
Column Totals:	238 (A)	934 (B)

Prevalence Index = B/A = 3.92

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is < 3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: S. Northern Hardwood

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P28 **Direction of Photo** West

SOIL

Sampling Point: D27

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/3	100					l	
5-16	10YR5/4	100					grl	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8-24-2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D28

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE Slope (%): <1

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: LAMSON VERY FINE SANDY LOAM NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID: W7

Remarks: (Explain alternative procedures here or in a separate report.)

• W7-1 -> W7-30 (CLOSED)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____ No X	Depth (inches): ______
Water Table Present?	Yes ____ No X	Depth (inches): ______
Saturation Present? (includes capillary fringe)	Yes ____ No X	Depth (inches): ______

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants. Sampling Point: D28

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	35	Y	FAC
2. Acer saccharinum	20	Y	FACW
3. Acer rubrum	18	Y	FAC
4.			
5.			
6.			
7.			
	73 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	15	Y	FACW
2. Acer rubrum	8	Y	FAC
3.			
4.			
5.			
6.			
7.			
	23 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Glyceria striata	20	Y	OBL
2. Carex lurida	12	Y	OBL
3. Lysimachia nummularia	10	Y	FACW
4. Symphyotrichum lateriflorum	9	N	FAC
5. Bidens frondosa	8	N	FACW
6. Carex crinita	6	N	OBL
7. Polygonum virginianum	5	N	FAC
8.			
9.			
10.			
11.			
12.			
	70 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	10	Y	FACW
2.			
3.			
4.			
	10 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 89% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤ 3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Hardwood Swamp PFO1B

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P29 **Direction of Photo** South

Wetland W7

SOIL

Sampling Point: D28

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR3/1	98	10YR5/8	2	C	M	l	
7-16	10YR5/1	93	10YR5/8	7	C	M	l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.24.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D29

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): LAKE Plain Local relief (concave, convex, none): NONE Slope (%): 2

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: COLLAMER SILT LOAM, 2-6% Slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	**Is the Sampled Area within a Wetland?** Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

- UPLAND CORN FIELD
- AREA IN FIELD WITH AERIAL PHOTO IRREGULARITY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes ___ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants. Sampling Point: D29

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Zea sp	95	Y	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW , or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW , or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = N/A

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is < 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Row Crop

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P30 **Direction of Photo** North

- Corn field

Project Code: W29I08c

SOIL

Sampling Point: D29

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR4/2	100					Sil	
7-16	10YR5/4	100					Sil	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1)
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7) (**LRR R, MLRA 149B**)
__ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
__ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
__ Loamy Mucky Mineral (F1) (**LRR K, L**)
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

__ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
__ Coast Prairie Redox (A16) (**LRR K, L, R**)
__ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
__ Dark Surface (S7) (**LRR K, L, M**)
__ Polyvalue Below Surface (S8) (**LRR K, L**)
__ Thin Dark Surface (S9) (**LRR K, L**)
__ Iron-Manganese Masses (F12) (**LRR K, L, R**)
__ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
__ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
__ Red Parent Material (TF2)
__ Very Shallow Dark Surface (TF12)
__ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: NONE
Depth (inches): N/A

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.24.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D30

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONVEX Slope (%): 15

Subregion (LRR or MLRA) LRRL Lat: ____ Long: ____ Datum: NAD83

Soil Map Unit Name: DUNKIRK SILT LOAM, 2-6% SLOPES NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?**	Yes ____ No X
Hydric Soil Present?	Yes ____ No X	If yes, optional Wetland Site ID:	N/A
Wetland Hydrology Present?	Yes ____ No X		

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND WOODS

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____ No X	Depth (inches): N/A	
Water Table Present?	Yes ____ No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes ____ No X	Depth (inches): N/A	**Wetland Hydrology Present?** Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D30

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer Saccharum	45	Y	FACU
2. Acer rubrum	35	Y	FAC
3.			
4.			
5.			
6.			
7.			
	80 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Rhus typhina	40	Y	UPL
2. Acer saccharum	10	N	FACU
3. Lonicera tatarica	10	N	FACU
4. Rosa multiflora	8	N	FACU
5.			
6.			
7.			
	68 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Alliaria petiolata	45	Y	FACU
2. Toxicodendron radicans	10	N	FAC
3. Solidago juncea	8	N	FACU
4. Polygonum virginianum	6	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	69 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	15	Y	FACU
2. Toxicodendron radicans	8	Y	FAC
3.			
4.			
	23 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	-	x 1 = -
FACW species	-	x 2 = -
FAC species	59	x 3 = 177
FACU species	141	x 4 = 564
UPL species	40	x 5 = 200
Column Totals:	240 (A)	941 (B)

Prevalence Index = B/A = 3.92

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤ 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: S. Northern Hardwood

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P31 **Direction of Photo** North

SOIL Sampling Point: D30

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/2	100					l	
5-16	10YR5/4	100					l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: NONE
Depth (inches): N/A

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.24.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D31

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Fill PAD Local relief (concave, convex, none): CONVEX Slope (%): 2

Subregion (LRR or MLRA) LRRL Lat: ____ Long: ____ Datum: NAD83

Soil Map Unit Name: COLLAMER SILT LOAM, 2-6% Slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND WOODS OVER VERY OLD FILL

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): N/A

Water Table Present? Yes ____ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants. Sampling Point: D31

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Juglans nigra	45	Y	FACU
2. Robinia pseudoacacia	25	Y	FACU
3. Acer negundo	10	N	FAC
4.			
5.			
6.			
7.			
	80 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Lonicera tatarica	40	Y	FACU
2. Rhus typhina	20	Y	UPL
3. Juglans nigra	10	N	FACU
4.			
5.			
6.			
7.			
	70 = Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Pastinaca Sativa	70	Y	UPL
2. Rosa multiflora	18	N	FACU
3. Rubus allegheniensis	6	N	FACU
4. Solidago Canadensis	2	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	96 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Vitis aestivalis	20	Y	FACU
2.			
3.			
4.			
	20 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species -	x 1 = -
FACW species -	x 2 = -
FAC species 10	x 3 = 30
FACU species 166	x 4 = 664
UPL species 90	x 5 = 450
Column Totals: 266 (A)	1144 (B)

Prevalence Index = B/A = 4.30

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤ 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: S. Northern Hardwood

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P32 **Direction of Photo** Northwest

Project Code: W29I08c

SOIL

Sampling Point: D31

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/1	100					l	Fill

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L, M**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: HARD Fill
Depth (inches): N/A

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.24.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D32

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): CONCAVE Slope (%): 1

Subregion (LRR or MLRA) LRRL Lat: ____ Long: ____ Datum: NAD83

Soil Map Unit Name: DUNKIRK SILT LOAM, 6-12% slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: W9

Remarks: (Explain alternative procedures here or in a separate report.)

- W9-1 -> W9-11 (CLOSED) - PHRAGMITES
- WIDE ROADSIDE DITCH/RETENSION AREA

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes ___ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): N/A

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants.

Sampling Point: D32

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Phragmites australis	105	Y	FACW
2. Lythrum salicaria	2	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
= Total Cover	107		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤ 3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Invasive Species Marsh PEM1B

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P33 **Direction of Photo** East

- Roadside ditch / linear wetland

wetland W9

Project Code: W29I08c

SOIL

Sampling Point: D32

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/1	98	10YR 5/8	2	C	M	l	
11-16	10YR 5/4	100					l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.24.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D33

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): CONVEX Slope (%): 10

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: COLLAMER SILT LOAM, 2-6% SLOPES NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND SCRUB/SHRUB COMMUNITY

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes ___ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants. Sampling Point: D33

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Juglans nigra	15	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	15 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. Rhus typhina	40	Y	UPL
2. Lonicera tatarica	30	Y	FACU
3. Juglans nigra	10	N	FACU
4.			
5.			
6.			
7.			
	80 = Total Cover		
Herb Stratum (Plot size: 5')			
1. Alliaria petiolata	45	Y	FACU
2. Poa pratensis	12	N	FACU
3. Polygonum virginianum	10	N	FAC
4. Fraxinus americana	6	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	73 = Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. Vitis aestivalis	35	Y	FACU
2.			
3.			
4.			
	35 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species –	x 1 = –
FACW species –	x 2 = –
FAC species 10	x 3 = 30
FACU species 153	x 4 = 612
UPL species 40	x 5 = 200
Column Totals: 203 (A)	842 (B)

Prevalence Index = B/A = 4.14

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤ 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Successional Shrubland

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P34 **Direction of Photo** North

SOIL

Sampling Point: D33

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	10YR4/2	100					l	
5-16	10YR5/4	100					l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.24.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D34

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): 1

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: CANANDAIGUA SILT LOAM, 0-2% slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: W10

Remarks: (Explain alternative procedures here or in a separate report.)

- W10-1 → W10-12 (CLOSED) - PHRAGMITES
- WIDE ROAD SIDE DITCH/DETENSION AREA

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	X Water-Stained Leaves (B9)
___ High Water Table (A2)	___ Aquatic Fauna (B13)
___ Saturation (A3)	___ Marl Deposits (B15)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)
___ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches): N/A
Water Table Present?	Yes ___ No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches): N/A

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants.

Sampling Point: D34

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Phragmites australis	100	Y	FACW
2. Symphyotrichum lateriflorum	5	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	105 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is < 3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Invasive Species Marsh

PEM1B

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P35 **Direction of Photo** East

- Road side ditch / linear wetland

Wetland W10

SOIL Sampling Point: D34

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR3/1	97	10YR5/8	3	C	M	l	
6-16	10YR5/1	95	10YR5/8	5	C	M	l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (**LRR R, MLRA 149B**)
- __ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- __ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- __ Loamy Mucky Mineral (F1) (**LRR K, L**)
- __ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- __ Coast Prairie Redox (A16) (**LRR K, L, R**)
- __ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- __ Dark Surface (S7) (**LRR K, L, M**)
- __ Polyvalue Below Surface (S8) (**LRR K, L**)
- __ Thin Dark Surface (S9) (**LRR K, L**)
- __ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- __ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- __ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- __ Red Parent Material (TF2)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: NONE
Depth (inches): N/A

Hydric Soil Present? Yes X No ____

Remarks:

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.24.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D35

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Lake Plain Local relief (concave, convex, none): CONVEX Slope (%): 7

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: COLLAMER SILT LOAM, 2-6% Slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND CORN FIELD

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): N/A

Water Table Present? Yes ____ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants. Sampling Point: D35

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			

Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			

Herb Stratum (Plot size: 5')			
1. Zea sp.	100	Y	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
= Total Cover			

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
= Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = N/A

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤ 3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Row Crop

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P36 **Direction of Photo** North

- Corn field

SOIL — Sampling Point: D35

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR4/2	100					l	
8-16	10YR5/4	100					l	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: NONE
Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8·24·2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D36

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): 3

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: COLLAMER SILT LOAM, 2-6% SLOPES NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	If yes, optional Wetland Site ID: W11

Remarks: (Explain alternative procedures here or in a separate report.)

· W11-1 → W11-11 (CLOSED)

· DITCH FLOWS THROUGH NORTH SIDE

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): N/A

Water Table Present? Yes ___ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): N/A

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

Sampling Point: D36

VEGETATION : Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix discolor	65	Y	FACW
2. Fraxinus pennsylvanica	10	N	FACW
3.			
4.			
5.			
6.			
7.			
= Total Cover	75		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Agrostis stolonifera	25	Y	FACW
2. Eupatorium perfoliatum	15	Y	FACW
3. Lythrum salicaria	15	Y	FACW
4. Solidago gigantea	14	N	FACW
5. Scirpus cyperinus	10	N	OBL
6. Symphyotrichum puniceum	8	N	FACW
7. Symphyotrichum lateriflorum	6	N	FAC
8. Solidago rugosa	3	N	FAC
9. Juncus tenuis	2	N	FAC
10.			
11.			
12.			
= Total Cover	98		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is < 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Scrub-Shrub Swamp

PSS 2B

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P37 **Direction of Photo** West

Wetland W22

SOIL Sampling Point: D36

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-7	7.5YR 3/1	95	7.5YR 5/8	5	C	M	SiL	
7-16	7.5YR 5/2	75	7.5YR 5/6	25	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 8.24.2022

Applicant/Owner: Geis Construction State: New York Sampling Point: D37

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: 15.-1-24.1

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): CONVEX Slope (%): 5

Subregion (LRR or MLRA) LRRL Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: LAMSON VERY FINE SANDY LOAM NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	If yes, optional Wetland Site ID: N/A

Remarks: (Explain alternative procedures here or in a separate report.)

UPLAND CORN FIELD

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): N/A

Water Table Present? Yes ____ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): N/A

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants.

Sampling Point: D37

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. Zea	100	Y	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = N/A

Hydrophytic Vegetation Indicators:

- __ 1 - Rapid Test for Hydrophytic Vegetation
- __ 2 - Dominance Test is >50%
- __ 3 - Prevalence Index is < 3.0[1]
- __ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- __ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Row Crop

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P38 **Direction of Photo** North

- Corn field

SOIL Sampling Point: D37

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR4/2	100					Sil	
9-16	10YR5/4	90	10YR5/6	10	C	M	l+	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: NONE

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 10/31/22

Applicant/Owner: Geis Construction State: New York Sampling Point: D-A

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: ______

Landform (hillslope, terrace, etc.): Lake plain Local relief (concave, convex, none): convex Slope (%): 3%

Subregion (LRR or MLRA) LRRR Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: Collamer silt loam, 2-6% slopes NW I classification: ______

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil X, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	**Is the Sampled Area within a Wetland?** Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID: ______

Remarks: (Explain alternative procedures here or in a separate report.)

Corn Field

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season W ater Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No X	Depth (inches): ______	
Water Table Present?	Yes ___ No X	Depth (inches): ______	
Saturation Present? (includes capillary fringe)	Yes ___ No X	Depth (inches): ______	**Wetland Hydrology Present?** Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants. Sampling Point: D-A

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is < 3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Corn field

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P-A **Direction of Photo** East

-only corn stubble, no other veg.

Project Code: W29I08c

SOIL

Sampling Point: D-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 4/2	100					silt loam	gravelly
4-20	10YR 6/8	100					silt loam	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ____ No X

Remarks:

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 10/31/22

Applicant/Owner: Geis Construction State: New York Sampling Point: D-B

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: ____

Landform (hillslope, terrace, etc.): lake plain Local relief (concave, convex, none): Convex Slope (%): 3%

Subregion (LRR or MLRA) LRRR Lat: ____ Long: ____ Datum: NAD83

Soil Map Unit Name: Collamer silt loam 2-6% slopes NW I classification: ____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

Corn Field

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season W ater Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants. Sampling Point: D-B

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- __ 1 - Rapid Test for Hydrophytic Vegetation
- __ 2 - Dominance Test is >50%
- __ 3 - Prevalence Index is < 3.0[1]
- __ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- __ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Corn field

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P-B **Direction of Photo** Northeast

- Corn stubble, no other veg.

SOIL

Sampling Point: D-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-7"	10YR4/2	100					silt loam	
7-20	10YR5/8	100					silt loam	gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (**LRR R, MLRA 149B**)
- __ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- __ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- __ Loamy Mucky Mineral (F1) (**LRR K, L**)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- __ Coast Prairie Redox (A16) (**LRR K, L, R**)
- __ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- __ Dark Surface (S7) (**LRR K, L, M**)
- __ Polyvalue Below Surface (S8) (**LRR K, L**)
- __ Thin Dark Surface (S9) (**LRR K, L**)
- __ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- __ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- __ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- __ Red Parent Material (TF2)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes ____ No X

Remarks:

Project Code: W29I08c

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 10/31/22

Applicant/Owner: Geis Construction State: New York Sampling Point: D-C

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: ______

Landform (hillslope, terrace, etc.): lake plain Local relief (concave, convex, none): Convex Slope (%): 4%

Subregion (LRR or MLRA) LRRR Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: Collamer silt loam 2-6% slopes NWI classification: ______

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil X, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___	No X	**Is the Sampled Area within a Wetland?**	Yes ___ No X
Hydric Soil Present?	Yes ___	No X		
Wetland Hydrology Present?	Yes ___	No X	If yes, optional Wetland Site ID: ______	

Remarks: (Explain alternative procedures here or in a separate report.)

Corn Field

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project Code: W29I08c

VEGETATION : Use scientific names of plants.

Sampling Point: D-C

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤ 3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Corn Field

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # P-C **Direction of Photo** North east

- Corn stubble, no other veg.

SOIL Sampling Point: D-C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	10YR4/2	100					silt loam	
10-20	7.5YR5/6	100					silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: None

Depth (inches): N/A

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: NWC Route 5 & Route 77 Town/County: Pembroke/Genesee County Sampling Date: 10/31/22

Applicant/Owner: Geis Construction State: New York Sampling Point: D-D

Investigator(s): Scott Livingstone & Tom Somerville Section, Township, Range: ______

Landform (hillslope, terrace, etc.): lake plain Local relief (concave, convex, none): none Slope (%): ______

Subregion (LRR or MLRA) LRRR Lat: ______ Long: ______ Datum: NAD83

Soil Map Unit Name: Collamer silt loam 2-6% slopes NWI classification: ______

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil X, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS : Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	If yes, optional Wetland Site ID: ______

Remarks: (Explain alternative procedures here or in a separate report.)

corn field

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ______

Water Table Present? Yes ___ No X Depth (inches): ______

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ______

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION : Use scientific names of plants.

Sampling Point: D-D

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			

Sapling/Shrub Stratum (Plot size: 15')			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			

Herb Stratum (Plot size: 5')			
1. N/A			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
= Total Cover			

Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
= Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW , or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW , or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation
__ 2 - Dominance Test is >50%
__ 3 - Prevalence Index is < 3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Community Type: Corn field

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Photo # D-D **Direction of Photo** Southwest

- corn Stubble, no other veg.

SOIL

Sampling Point: D-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	100					loam	
8-20	7.5YR 5/6	100					loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____________

Depth (inches): ____________

Hydric Soil Present? Yes ____ No X

Remarks:

NWC RTE 5 & RTE 77

APPENDIX C - SITE PHOTOGRAPHS

<u>Photo 1</u>: Facing southeast. Depicts the scrub-shrub swamp community of wetland W1 at data point D1.

<u>Photo 2</u>: Facing west. Depicts the successional shrubland community at data point D2.

<u>Photo 3</u>: Facing north. Depicts the hardwood swamp community of wetland W2 at data point D3.

<u>Photo 4</u>: Facing south. Depicts the successional shrubland community at data point D4.

<u>Photo 5</u>: Facing northeast. Depicts the emergent marsh community of wetland W3 at data point D5.

<u>Photo 6</u>: Facing south. Depicts the successional old field community at data point D6.

Photo 7: Facing northeast. Depicts the hardwood swamp community of wetland W4 at data point D7.

Photo 8: Facing south. Depicts the successional old field community at data point D8.

Photo 9: Facing west. Depicts the hardwood swamp community of wetland W4 at data point D9.

Photo 10: Facing east. Depicts the successional northern hardwood community at data point D10.

Photo 11: Facing west. Depicts the scrub-shrub swamp community of wetland W5 at data point D11.

Photo 12: Facing east. Depicts the successional shrubland community at data point D12.

Photo 13: Facing south. Depicts the scrub-shrub swamp community of wetland W6 at data point D13.

Photo 14: Facing north. Depicts the successional shrubland community at data point D14.

Photo 15: Facing east. Depicts the successional old field community at data point D15.

Photo 16: Facing east. Depicts the row crop (corn) community at data point D16.

Photo 17: Facing north. Depicts the successional old field community at data point D17.

Photo 18: Facing north. Depicts the successional northern hardwood community at data point D18.

Photo 19: Facing north. Depicts the man-made ditch in the northern portion of the site.

Photo 20: Facing east. Depicts the scrub-shrub swamp community of wetland W6 at data point D19.

Photo 21: Facing west. Depicts the successional shrubland community at data point D20.

Photo 22: Facing west. Depicts the scrub-shrub swamp community of wetland W6 at data point D21.

Photo 23: Facing east. Depicts the successional shrubland community at data point D22.

Photo 24: Facing east. Depicts the scrub-shrub swamp community of wetland W6 at data point D23.

Photo 25: Facing west. Depicts the successional shrubland community at data point D24.

Photo 26: Facing east. Depicts the hardwood swamp community of wetland W8 at data point D25.

Photo 27: Facing west. Depicts the successional northern hardwood community at data point D26.

Photo 28: Facing west. Depicts the successional northern hardwood community at data point D27.

Photo 29: Facing south. Depicts the hardwood swamp community of wetland W7 at data point D28.

Photo 30: Facing north. Depicts the row crop (corn) community at data point D29.

Photo 31: Facing north. Depicts the successional northern hardwood community at data point D30.

Photo 32: Facing northwest. Depicts the successional northern hardwood community at data point D31.

Photo 33: Facing east. Depicts the invasive species marsh of wetland W9 at data point D32.

Photo 34: Facing north. Depicts the successional shrubland community at data point D33.

Photo 35: Facing east. Depicts the invasive species marsh of wetland W10 at data point D34.

Photo 36: Facing north. Depicts the row crop (corn) community at data point D35.

Photo 37: Facing west. Depicts the scrub-shrub swamp community of wetland W11 at data point D36..

Photo 38: Facing north. Depicts the row crop (corn) community at data point D37.

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APPENDIX D - REFERENCES

INFORMATIONAL REFERENCES USED BY EARTH DIMENSIONS INC.

Andrus, R.E. 1980. Sphagnaceae (Peat Moss Family) of New York State. Contributions to a Flora of New York State III, R.S. Mitchell (Ed.), Bulletin No. 442, New York State Museum, Albany, New York. 89 pp.

Benyus, J.M. 1989. The Field Guide to Wildlife Habitats of the Eastern United States. Fireside, Simon & Shuster, Inc., New York. 335 pp.

Britton, N.L., and H.A. Brown. 1970. An Illustrated Flora of the Northern United States and Canada, Volumes 1, 2, and 3. Dover Publications, Inc., New York. 2052 pp.

Brockman, C.F., R. Merrilees, and H.S. Zim. 1968. Trees of North America: A Field Guide to the Major Native and Introduced Species North of Mexico. Western Publishing, Inc. New York, New York. 280 pp.

Brown, L. 1979. Grasses: An Identification Guide. Peterson Nature Library. Houghton Mifflin Co., Boston. 240 pp.

Cobb, B. 1963. A Field Guide to the Ferns and Related Families. Houghton Mifflin Co., Boston. 281 pp.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. Laroe. 1979. Classification of Wetlands and Deep Water Habitats of the United States. U.S. Fish and Wildlife Service, Washington, D.C. FWS/OBS-79-31. 103 pp.

Eggers, S.D., and D.M. Reed. 1997. Wetland Plants and Plant Communities of Minnesota and Wisconsin. Second Edition. U.S. Army Corps of Engineers, St. Paul District, Minnesota. 263 pp.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mass. 100 pp. plus appendices.

Hotchkiss, N. 1970. Common Marsh Plants of the United States and Canada. U.S. Department of the Interior, Bureau of Sport Fisheries and Wildlife, Washington, D.C., Resource Publication 93.

Hurley, L.M. 1990. Field Guide to the Submerged Aquatic Vegetation of Chesapeake Bay. U.S. Fish and Wildlife Service, Chesapeake Bay Estuary Program, Annapolis, Maryland. 51 pp.

Knobel, E. 1977. Field Guide to the Grasses, Sedges, and Rushes of the United States. Dover publications, Inc., New York. 83 pp.

Little, E.L. 1980. The Audubon Society Field Guide to North American Trees (Eastern Region). Alfred A. Knopf, New York. 714 pp.

Magee, D.W. 1981. Freshwater Wetlands. University of Massachusetts Press, Pembroke. 245 pp.

Mitchell, R.S., and G.C. Tucker. 1997. Revised Checklist of New York State Plants. Contributions to a Flora of New York State IV, R.S. Mitchell (Ed.). Bulletin No. 490, New York State Museum, Albany, New York. 400 pp.

Munsell Color Chart. (Munsell Color 1975).

National Wetland Inventory Maps. U.S. Department of the Interior, Fish and Wildlife Service, National Wetland Inventory, St. Petersburg, Florida. http://wetlandsfws.er.usgs.gov

Niering, W.C., and N.C. Olmstead. 1979. The Audubon Society Field Guide to North American Wildflowers (Eastern Region). Alfred A. Knopf, New York. 887 pp.

New York State Code of Rules and Regulations (NYCRR). 1989. Protected Native Plants. NYCRR Part 193.3, June, 1989. New York State Department of Environmental Conservation.

New York Natural Heritage Program. 2002. New York Rare Plant Status List, February, 1989. S.M. Young, (Ed.), New York State Department of Environmental Conservation and The Nature Conservancy publication. 26 pp.

New York State Department of Environmental Conservation Freshwater Wetlands Maps, NYSDEC Environmental Resource Mapper, http://www.dec.ny.gov/imsmaps/ERM/viewer.htm

Newcomb, L. 1977. Newcomb's Wildflower Guide. Little, Brown and Co., Boston. 490 pp.

Ogden, E.C. 1981. Field Guide to Northeastern Ferns. Contributions to a Flora of New York State III, R.S. Mitchell (Ed.), Bulletin No. 444, New York State Museum, Albany, New York. 122 pp.

Peattie, D.C. 1991. A Natural History of Trees of Eastern and North America. Houghton Mifflin Co., Boston. 606 pp.

Peterson, RT., and M. McKenny. 1968. A Field Guide to Wildflowers of Northeastern and Northcentral North America. Houghton Mifflin Co., Boston. 420 pp.

Petrides, G.A. 1972. A Field Guide to Trees and Shrubs. Houghton Mifflin Co., Boston. 428 pp.

Prescott, G.W. 1969. How to Know the Aquatic Plants. Second Edition. William C. Brown Co., Dubuque, Iowa. 171 pp.

Raynal, D.J., and D. J. Leopold. 1999. Landowner's Guide to State-Protected Plants of Forests in New York State. New York Center for Forestry Research and Development, SUNY-ESF, Syracuse, New York. 92pp.

Reed, Porter B. Jr. 1988. National List of Plant Species that Occur in Wetlands: Northeast (Region 1). U.S. Fish and Wildlife Service, Washington, D.C. Biol. Rept. 88 (26.1). 112 pp.

Reschke, C. 2002. Ecological Communities of New York State. New York Natural Heritage Program. NYSDEC, Latham, N.Y. (2nd Ed.) 136 pp.

Soil Conservation Service. 1975. Soil Taxonomy: A Basic System of Soil Classification for Making and Interpreting Soil Surveys. U.S.D.A., Soil Conservation Service, U.S. Handbook 436.

Soil Conservation Service. 1988. New York Hydric Soils and Soils with Hydric Inclusions, revised July, 1988, Soil Conservation Service, Syracuse, New York, Technical Guide, Section II. 23 pp.

Simonds,R.L., and H.H. Tweedie. 1978. Wildflowers of the Great Lakes Region. Chicago Review Press, Chicago. 96 pp.

Symonds, G.W.D. 1958. The Tree Identification Book. Quill, New York. 272 pp.

Symonds, G.W.D. 1963. The Shrub Identification Book. William Morrow & Co., New York. 379 pp.

Tiner, R. W. Jr. 1988. A Field Guide to Nontidal Wetland Identification. Maryland Department of Natural Resources and U.S. Fish and Wildlife Service Cooperative Publication. Maryland Department of Natural Resources, Annapolis, Maryland. 283 pp. + 198 color plates.

United States Department and Agriculture & the Natural Resources Conservation Service (USDA, NRCS).Soil Conservation Service Soil Survey of Genesee County, New York. U.S.D.A., Soil Conservation Service. 1986 http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

USDA, NRCS. 2009. The PLANTS Database (http://plants.usda.gov, 12/14/09). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

United States Geological Survey maps, Denver, Colorado. Corfu Quadrangle.

U.S. Army Corps of Engineers. 2009. Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-09-19. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Fish and Wildlife Service, A Wetlands and Deepwater Habitats Classification. May 3, 2002, http: //www.nwi.fws.gov/. June 16, 2002.

Zander, R.H., and G.J. Pierce. 1979. Flora of the Niagara Frontier Region. Bulletin of the Buffalo Society of Natural Sciences, Vol. 16 (Suppl. 2), Buffalo, New York. 110 pp

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APPENDIX E - WETLAND INVESTIGATION PERSONNEL

Soils and Hydrology Sampling
Scott Livingstone, Senior Soil Scientist
Earth Dimensions, Inc.
1091 Jamison Road
Elma, New York 14059
(716) 655-1717

Vegetation Sampling
Thomas Somerville, Ecologist
Earth Dimensions, Inc.
1091 Jamison Road
Elma, New York 14059
(716) 655-1717

Report Preparation
Thomas Somerville, Ecologist
Earth Dimensions, Inc.
1091 Jamison Road
Elma, New York 14059
(716) 655-1717

STORMWATER POLLUTION PREVENTION PLAN
FOR

Distribution Center 90
Town of Pembroke
New York

December 19, 2020

Project M-2220

Prepared by:
Metzger Civil Engineering, PLLC
8245 Sheridan Drive
Williamsville, NY 14221
Phone 716-633-2601
meteng@roadrunner.com

Michael J. Metzger, P.E.
License No. 066786

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This Stormwater Pollution Prevention Plan was prepared and numbered in general conformance with the guidelines set forth in the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activities - Permit No. GP-0-20-001.

1a. Background Information:

The project consists of the construction of 6 Multi use buildings primarily to serve as distribution warehousing and storage of goods near to the New York State I-90 Thruway, exit 48A. The project will include roadways, parking and related infrastructure to service these buildings. The new development will sit on a 210.7 acre parcel which is currently undeveloped. The land has been disturbed by past agricultural usage.

1b. Site Map:

A site map has been included on the cover sheet of the plan set which is part of this SWPPP.

1c. Soils:

The site is shown on the Genesee County Soils Survey as having 15 different soil types. The primary soil type is Collamer silt loam (CiB) type soils. This soil type is classified as belonging to the hydrologic soil group (HSG) "A". Depth to bedrock is beyond 60".

1d. Construction Phasing:

Sequencing for all phases:

1. Installation of a stabilized construction entrances.
2. Installation of silt protection on all areas downstream of proposed disturbance.
3. Clearing and grubbing.
4. Removal and stockpiling of topsoil and fill.
5. Construction of the bioretention area and stormwater pond.
6. Infrastructure construction (drainage, water and sanitary sewers).
7. Install temporary Drop Inlet protection per the design plans.
8. Excavation and construction of the roadways.
9. Building Construction.
10. Removal of the control measures upon establishment of grass as outlined herein.

1e. Pollution Prevention Measures:

A stabilized construction entrance will be required for each phase of construction and maintained until the final paving has been installed as outlined by "New York State Guidelines for Erosion and Sediment Control section 5A.73". This entrance must be kept clean to ensure no mud is allowed to enter the public roadway. Dust must be controlled by sweeping and or truck washing. All truck tire wash water must be properly contained on site and concrete truck wash out must be contained and disposed of properly. Drop inlet protection and silt socks are to be installed as detailed on the design plans.

1f. Soil Stabilization:

The site will be seeded and grassed as soon as possible upon fine grading of any particular area. Any disturbed area or temporary stockpile left idle must be stabilized within 14 calendar days after last being worked. All sediment controls are to remain in place until turf has been established and the site is stabilized as defined in the SPDES General Permit.

1g. Site Map:

A site map and details have been included in the design plans for this site.

1h. Details:

The size, material specifications, maintenance and installation requirements of stormwater pollution prevention devices are given on the detail sheets for this project. Drop inlet protection is to be inspected daily by the contractor and emptied and repaired as needed. Silt sock is to be replaced when torn or if captured silt reached 50% of the sock height. The stabilized construction entrance shall be resurfaced before the stone becomes impregnated with silt to the point where trucks are tracking silt onto the roadway.

1i. Inspection schedule:

A "trained contractor" must be on site daily when soil disturbance activities are being performed and must inspect, clean and repair as required all stormwater pollution prevention devices on site.

The inspection of all stormwater pollution prevention devices will be the responsibility of a "qualified professional" before, during and after construction as outlined in the SPDES General Permit for Construction Activity GP-0-20-001 included in this SWPPP.

All devices must be in place prior to work in any upstream area and maintained at all times during construction. A "qualified inspector" must inspect all stormwater pollution prevention practices:

a. Prior to construction.
b. Every 7 days (minimum), twice every seven days if current site disturbance exceeds 5 acres in size.
c. Prior to issuance of the Notice of Termination.

1j. Pollution prevention measures:

The site is to be kept free of litter by providing on site waste receptacles. Contractors are to be instructed not to place litter in open excavations or the rear of open bed trucks.

Contractors are to ensure that construction chemicals are handled in strict compliance with OSHA standards. This includes proper storage containers and labeling of chemicals. On site storage of chemicals should be avoided whenever possible. Chemicals are to be protected from rain and wind. Chemical spills are to be reported immediately to NYSDEC spill response. Spill kits and /or absorbent materials must be kept on site and employees shall be trained in their use.

Long term on site storage of construction debris should be avoided whenever possible. On site construction debris is to be kept in a fashion to prevent the pollution via wind or stormwater runoff.

The site is to be serviced by two bioretention areas and wet detention ponds. Drop inlet protection will be placed around all storm inlets. A stabilized construction entrance is to be employed as noted on the design drawings. The "General Contractor" will ultimately be responsible for all subcontracted work, and therefore, the installation, maintenance and removal of SWPPP devices.

1k. Stormwater discharges from sources other than construction

This site has no additional storm water discharges.

1l. Elements that are NOT in compliance with New York State Standards and Specifications for Erosion and Sediment Control

The Erosion and Sediment Control elements for this site have been designed to be in general compliance with the New York State Standards and Specifications for Erosion and Sediment Control.

2a Permanent stormwater management practices

The site will have two bioretention areas and on site wet detention ponds. These will be served an outlet control structure.

2b Site map

A site map has been provided as part of the overall engineering design.

2c. Stormwater analysis

A complete set of Stormwater calculations have been included as Appendix D of this plan.

2d. Soil Test Analysis

This site was tested in 1969 as part of a joint project by the United States Department of Agriculture, Soil Conservation Service and Cornell University. The results of their soil survey revealed that the soils found on this site have this profile:

0 - 40"   ML – Silt loam

Seasonal high groundwater is found at 1.5'

Bedrock was is found between 5' - 40' of grounds surface.

2e. Infiltration Test Results

This site was tested in 1969 as part of a joint project by the United States Department of Agriculture, Soil Conservation Service and Cornell University. The results of their soil survey revealed that the soils found on this site have these infiltration rates:

0-40"   0.2 - 2.0 inches per hour

2f. Post Construction Operation and Maintenance Plan

Practice	Frequency	By
Removal of Trash and Debris from the storm water piping	Continuous	Owner
Maintaining the bioretention Areas Plants and vegetation	Seasonally	Owner
Maintaining the ponds vegetation	Seasonally	Owner
Inspection of pond, catch basins, bioretention areas, outlet structures and storm piping	Annually	Owner
Cleaning of, catch basins, outlet structures and storm piping	As needed	Owner
Removal of accumulated silt From pond bottoms	When silt reaches	Owner

3a. Enhanced Phosphorus Removal Standards

This site does not lie in any watershed identified in New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activities - Permit No. GP-0-20-00 and is therefore not subject to enhanced phosphorus removal standards.

APPENDIX A
NOTICE OF INTENT

STORMWATER POLLUTION PREVENTION PLAN

NOI for coverage under Stormwater General Permit for Construction Activity

version 1.35

(Submission #: HPQ-20RJ-YXH86, version 1)

Details

Originally Started By	Michael Metzger
Alternate Identifier	Distribution Center 90
Submission ID	HPQ-20RJ-YXH86
Submission Reason	New
Status	Draft

Form Input

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)
Horizon Acres Associates, Inc.

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
Martin

Owner/Operator Contact Person First Name
Jeffrey

Owner/Operator Mailing Address
10029 Aurora-Hudson Road

City
Streetsboro

State
Ohio

Zip
44241

Phone
914-906-3838

Email
jm@geisco.net

Federal Tax ID
852043967

Project Location

Project/Site Name
Distribution Center 90

Street Address (Not P.O. Box)
8524 Alleghany Road

Side of Street
West

City/Town/Village (THAT ISSUES BUILDING PERMIT)
Pembroke

State
NY

Zip
14036

DEC Region
8

County
GENESEE

Name of Nearest Cross Street
Main Street - Route 5

Distance to Nearest Cross Street (Feet)
0

Project In Relation to Cross Street
North

Tax Map Numbers Section-Block-Parcel
15-1-24.1

Tax Map Numbers
NONE PROVIDED

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
42.998918619834654,-78.40777764642824

Project Details

2. What is the nature of this project?
New Construction

3. Select the predominant land use for both pre and post development conditions.

Pre-Development Existing Landuse
Cultivated Land

Post-Development Future Land Use
Commercial

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)
210.7

Total Area to be Disturbed (acres)
103.7

Existing Impervious Area to be Disturbed (acres)
0

Future Impervious Area Within Disturbed Area (acres)
79

5. Do you plan to disturb more than 5 acres of soil at any one time?
Yes

---

6. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

A (%)
33

B (%)
9

C (%)
30

D (%)
28

7. Is this a phased project?
Yes

8. Enter the planned start and end dates of the disturbance activities.

Start Date
03/01/2023

End Date
12/20/2028

9. Identify the nearest surface waterbody(ies) to which construction site runoff will discharge.
Ledge Creek

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

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 D (provided the map unit name is inclusive of slopes greater than 25%), E or F on the USDA Soil Survey?
No

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)?
No

16. What is the name of the municipality/entity that owns the separate storm sewer system?
NONE PROVIDED

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.

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
Michael J. Metzger, PE

Contact Name (Last, Space, First)
Metzger Michael

Mailing Address
8245 Sheridan Drive

City
Williamsville

State
NY

Zip
14221

Phone
7166332601

Email
meteng@roadrunner.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

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

Construction Road Stabilization
Dust Control
Stabilized Construction Entrance
Storm Drain Inlet Protection

Biotechnical

None

Vegetative Measures

Seeding

Permanent Structural

Riprap Slope Protection
Rock Outlet Protection

Other

Silt sock

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
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).

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet)
6.803

29. Post-construction SMP Identification
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)
2.311

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)
2.273

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.

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

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).
2.311

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)?
No

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)
4.73

CPv Provided (acre-feet)
4.79

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)
23.00

Post-Development (CFS)
22.90

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)
107.08

Post-Development (CFS)
107.08

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
Owner

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.
Using the five step process outlined in the Stormwater Design Manual the minimum RRV is being met by Bio-retention and conservation of natural areas. The remaining WQV is being met by two on site wet detention ponds with outlet control structures.

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)
93.40

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)
0

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
0

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)
0

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)
0

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)
0

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)
0

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)
0

Total Contributing Impervious Acres for Vegetated Swale (RR-5)
0

Total Contributing Impervious Acres for Rain Garden (RR-6)
0

Total Contributing Impervious Acres for Stormwater Planter (RR-7)
0

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)
0

Total Contributing Impervious Acres for Porous Pavement (RR-9)
0

Total Contributing Impervious Acres for Green Roof (RR-10)
0

Standard SMPs with RRv Capacity

Total Contributing Impervious Acres for Infiltration Trench (I-1)
0

Total Contributing Impervious Acres for Infiltration Basin (I-2)
0

Total Contributing Impervious Acres for Dry Well (I-3)
0

Total Contributing Impervious Acres for Underground Infiltration System (I-4)
0

Total Contributing Impervious Acres for Bioretention (F-5)
79.0

Total Contributing Impervious Acres for Dry Swale (O-1)
0

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)
0

Total Contributing Impervious Acres for Wet Pond (P-2)
72.8

Total Contributing Impervious Acres for Wet Extended Detention (P-3)
0

Total Contributing Impervious Acres for Multiple Pond System (P-4)
0

Total Contributing Impervious Acres for Pocket Pond (P-5)
6.2

Total Contributing Impervious Acres for Surface Sand Filter (F-1)
0

Total Contributing Impervious Acres for Underground Sand Filter (F-2)
0

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)
0

Total Contributing Impervious Acres for Organic Filter (F-4)
0

Total Contributing Impervious Acres for Shallow Wetland (W-1)
0

Total Contributing Impervious Acres for Extended Detention Wetland (W-2)
0

Total Contributing Impervious Acres for Pond/Wetland System (W-3)
0

Total Contributing Impervious Acres for Pocket Wetland (W-4)
0

Total Contributing Impervious Acres for Wet Swale (O-2)
0

Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR PRETREATMENT ONLY)

Total Contributing Impervious Area for Hydrodynamic
0

Total Contributing Impervious Area for Wet Vault
0

Total Contributing Impervious Area for Media Filter
0

"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.
None

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
0.21

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?
No

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

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

DISTRIBUTION CENTER 90

Owner/Operator Information

Owner/Operator (Company Name/Private Owner/Municipality Name)

HORIZON ACRES ASSOCIATES, INC

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.

MICHAEL	J	METZGER
First name	MI	Last Name

Signature

Date

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: DISTRIBUTION CENTER 90

eNOI Submission Number: HPQ-20RJ-YXH86

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.

JEFFREY L. MARTIN

Owner/Operator First Name M.I. Last Name

Signature

12.20.22

Date

APPENDIX B
NYSDEC SPDES GENERAL PERMIT

STORMWATER POLLUTION PREVENTION PLAN

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

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.**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

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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

*Discharge*s 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

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 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;

(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.

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 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.

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

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.

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*

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.

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:

(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.

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 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.

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*

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

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*

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;

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 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

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 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;

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.

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

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 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.

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:

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

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; <u>and</u> all areas of disturbance have achieved *final stabilization*; <u>and</u> all temporary, structural erosion and sediment control measures have been removed; <u>and</u> all post-construction stormwater management practices have been constructed in conformance with the SWPPP and are operational;

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,

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

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.

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:

(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, 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

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

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.

R. Other Permits

Nothing in this permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

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

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 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.

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.

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 .

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

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.

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 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.

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

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* <u>and</u> 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

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

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* <u>or</u> *alter the hydrology from pre to post development* conditions, <u>and</u> are not listed in Table 1

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

Figure 1 - New York City Watershed East of the Hudson

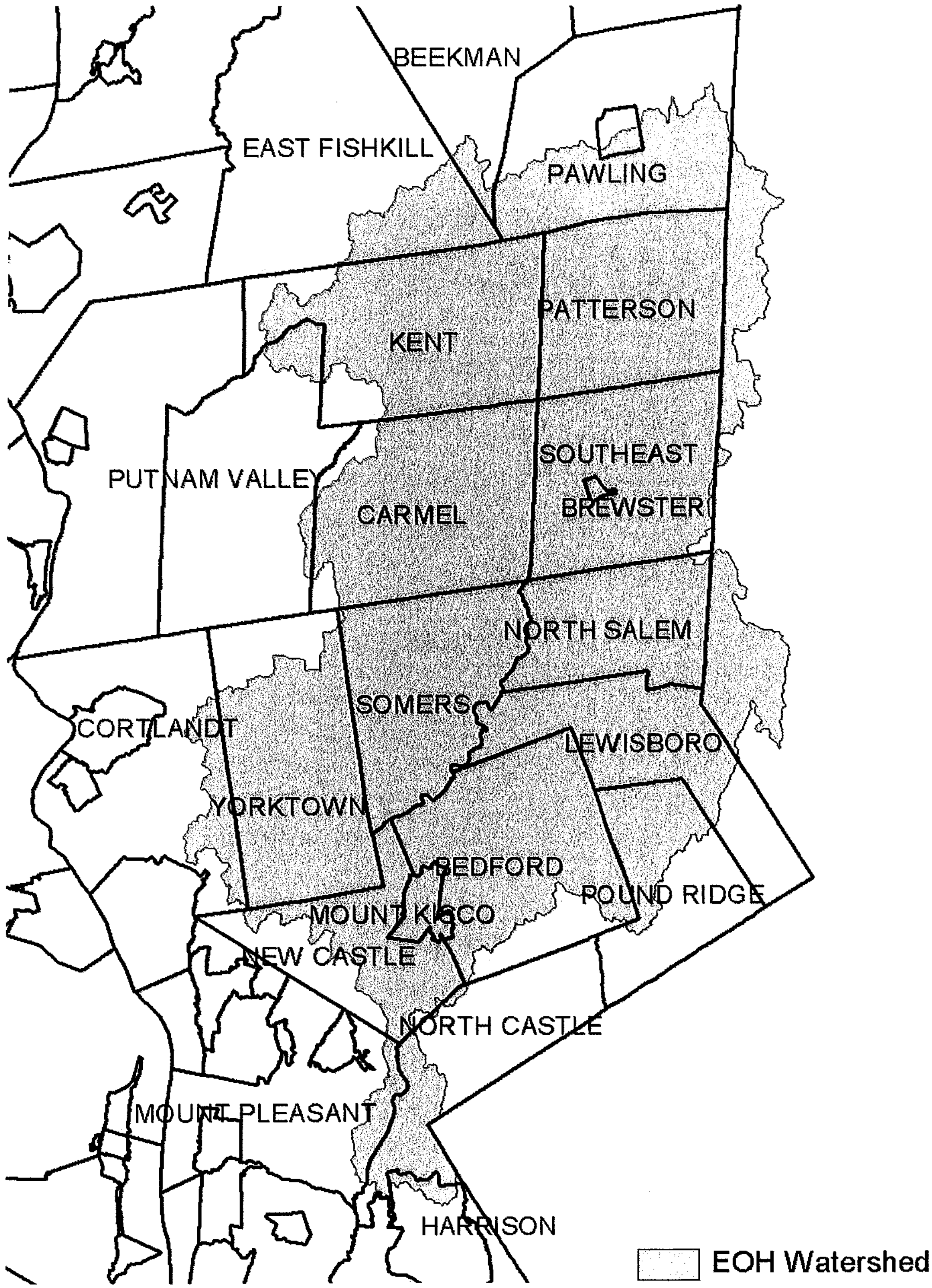


Figure 2 - Onondaga Lake Watershed

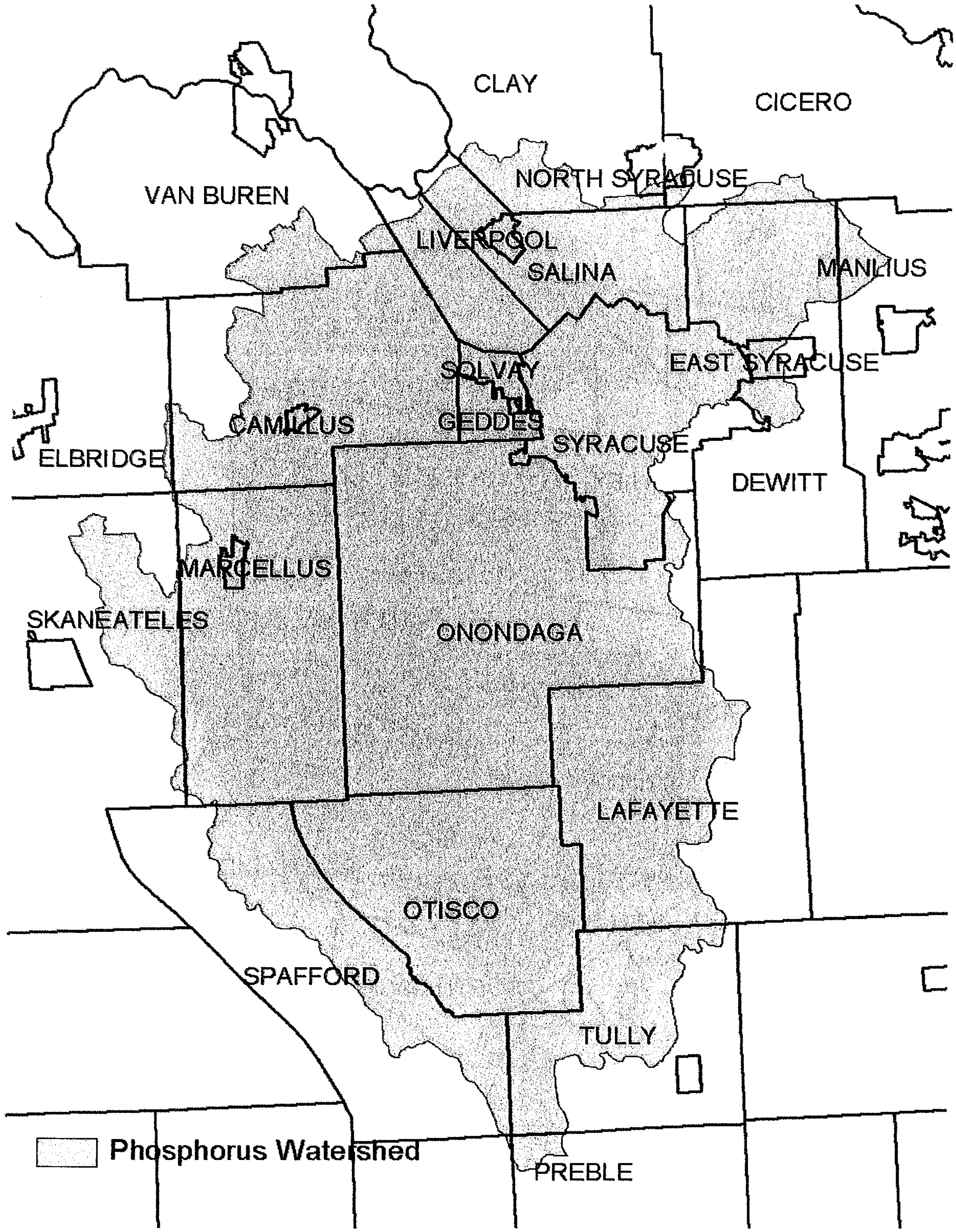


Figure 3 - Greenwood Lake Watershed

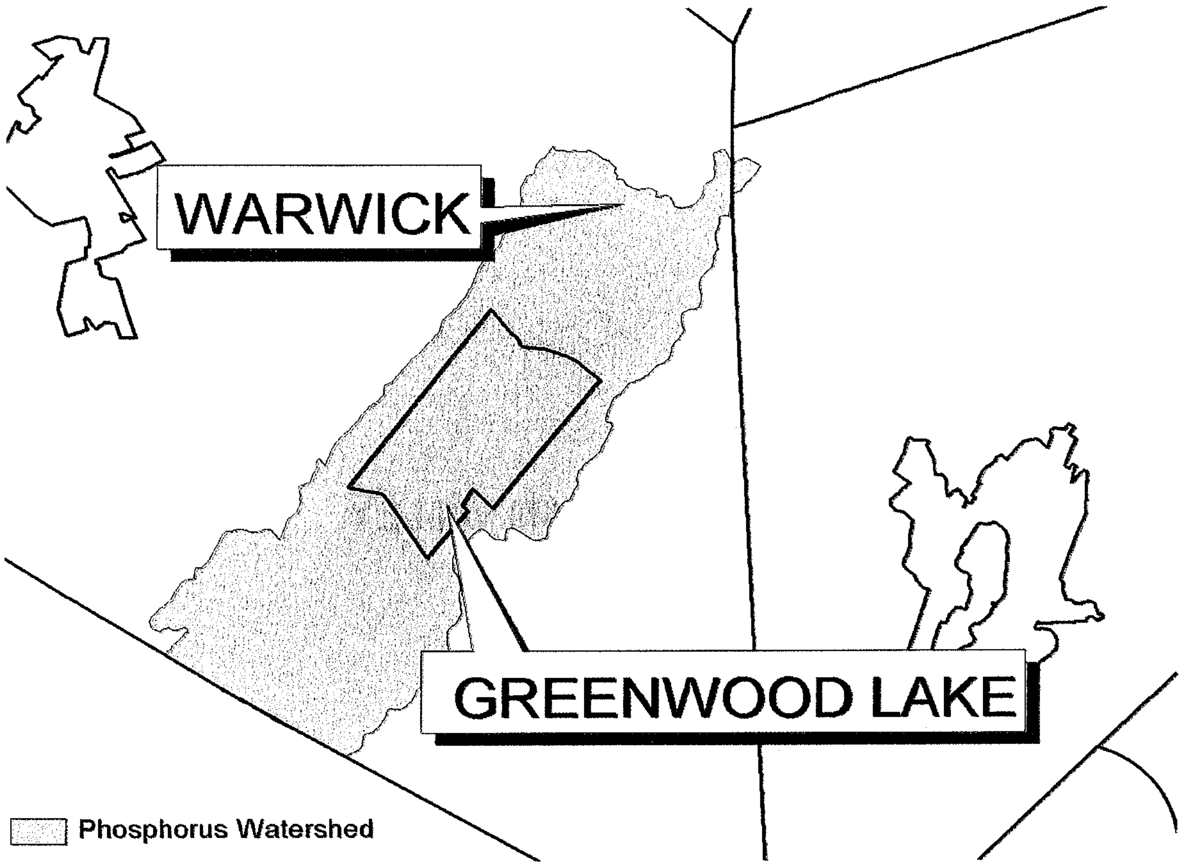


Figure 4 - Oscawana Lake Watershed

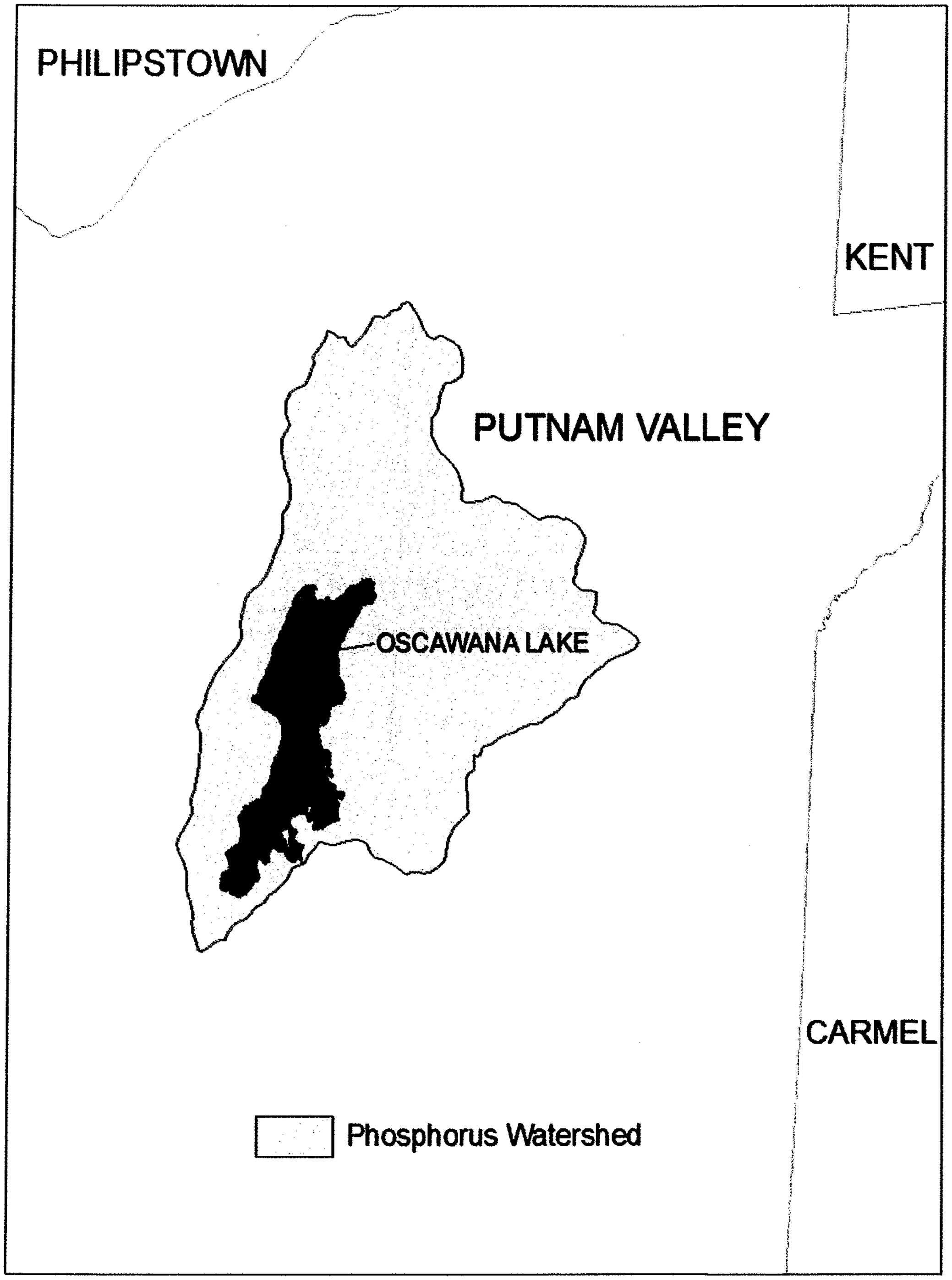
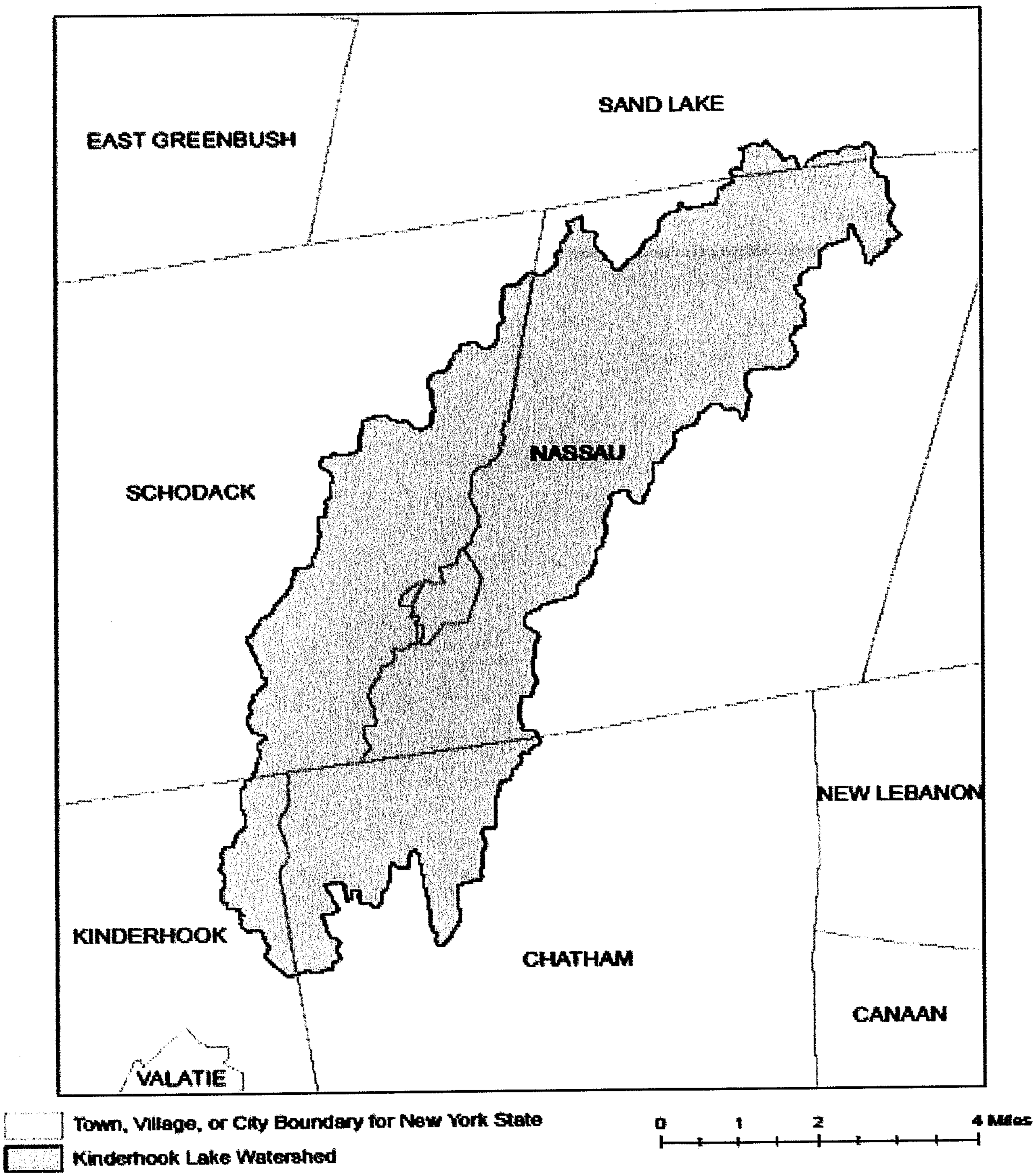


Figure 5 - Kinderhook Lake Watershed



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

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

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

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

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

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

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

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

APPENDIX C
CERTIFICATION STATEMENTS

STORMWATER POLLUTION PREVENTION PLAN

Stormwater Pollution Prevention Plan
<u>Contractors Certification Statement</u>

I, the undersigned, hereby certify that I have read and understand this Stormwater Pollution Prevention Plan (SWPPP) and have reviewed the related drawings and specifications prepared by Metzger Civil Engineering, PLLC.

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 operator must comply with the terms and conditions 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 of Contracting Firm

____
Address

____
Phone Number

____
Name of Trained individual
Responsible for SWPPP implementation

____
Signature of Contracting Firm officer

____
Printed Name of Contacting Firm officer

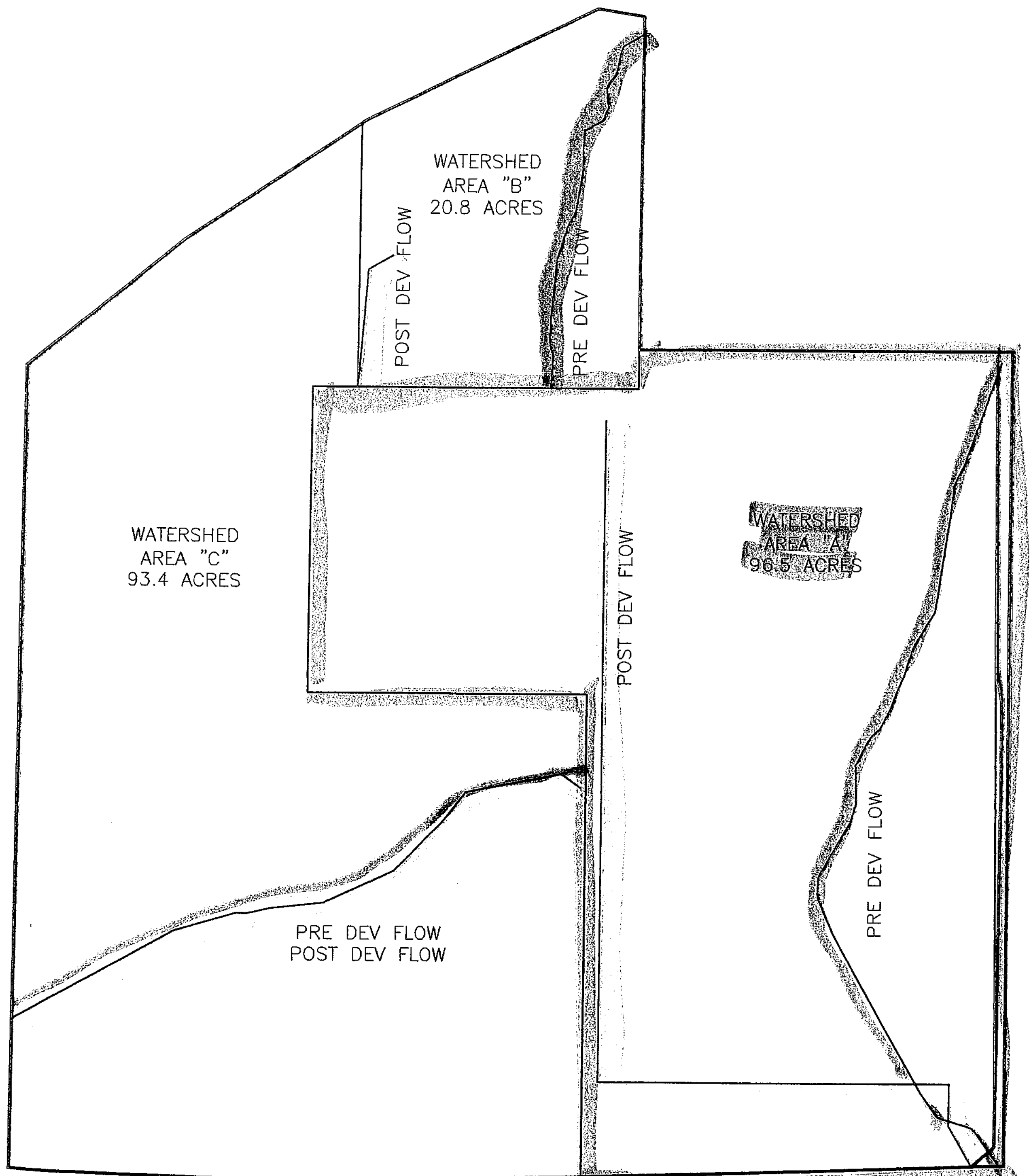
____
Date

APPENDIX D-1

AREA A

Stormwater Calculations - Pre development

USDA TR-55 Method


WATERSHED
AREA "B"
20.8 ACRES
POST DEV FLOW
PRE DEV FLOW
WATERSHED
AREA "C"
93.4 ACRES
POST DEV FLOW
WATERSHED
AREA "A"
96.5 ACRES
PRE DEV FLOW
PRE DEV FLOW
POST DEV FLOW

WinTR-55 Current Data Description

--- Identification Data ---

User:	ARH	Date:	12/1/2022
Project:		Units:	English
SubTitle:	Area A Pre	Areal Units:	Acres
State:	New York		
County:	Erie		
Filename:	\\Stationa\f\MCE\M2220 Alleghany Road (Geis)\DOCS\Area A Pre.w55		

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
Area A Pre		Outlet	96.5	59	.596

Total area: 96.50 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.2	2.69	3.25	3.84	4.48	6.0	1.8

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ARH

Area A Pre
Erie County, New York

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.2	2.69	3.25	3.84	4.48	6.0	1.8

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ARH

Area A Pre
Erie County, New York

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 10-Yr (cfs)	25-Yr (cfs)	100-Yr (cfs)	1-Yr (cfs)
SUBAREAS				
Area A Pre	17.51	34.90	128.93	0.23
REACHES				
OUTLET	17.51	34.90	128.93	0.23

ARH

Area A Pre
Erie County, New York

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 10-Yr (cfs) (hr)	25-Yr (cfs) (hr)	100-Yr (cfs) (hr)	1-Yr (cfs) (hr)
SUBAREAS				
Area A Pre	17.51	34.90	128.93	0.23
	12.36	12.31	12.27	17.97
REACHES				
OUTLET	17.51	34.90	128.93	0.23

ARH

Area A Pre
Erie County, New York

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
Area A Pre	96.50	0.596	59	Outlet	

Total Area: 96.50 (ac)

ARH

Area A Pre
Erie County, New York

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
Area A Pre							
SHEET	100	0.0220	0.240				0.276
SHALLOW	2754	0.0220	0.050				0.320
					Time of Concentration		.596

ARH

Area A Pre
Erie County, New York

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use		Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
Area A Pre	Brush - brush, weed, grass mix	(fair)	A	32	35
	Brush - brush, weed, grass mix	(fair)	B	8.6	56
	Brush - brush, weed, grass mix	(fair)	C	28.9	70
	Brush - brush, weed, grass mix	(fair)	D	27	77
	Total Area / Weighted Curve Number			96.5	59
				====	==

APPENDIX D-2

AREA A

Stormwater Calculations - Post Developement

USDA TR-55 Method

WinTR-55 Current Data Description

--- Identification Data ---

User: ARH
Project:
SubTitle: Area A Post
State: New York
County: Erie
Filename: \\Stationa\f\MCE\M2220 Alleghany Road (Geis)\DOCS\Area A Post.w55

Date: 12/1/2022
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
Area A Pos		Outlet	96.5	89	1.456

Total area: 96.50 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.2	2.69	3.25	3.84	4.48	6.0	1.8

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ARH

Area A Post
Erie County, New York

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.2	2.69	3.25	3.84	4.48	6.0	1.8

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ARH

Area A Post
Erie County, New York

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 10-Yr (cfs)	25-Yr (cfs)	100-Yr (cfs)	1-Yr (cfs)
SUBAREAS				
Area A Pos	86.69	108.45	189.56	34.58
REACHES				
OUTLET	86.69	108.45	189.56	34.58

ARH

Area A Post
Erie County, New York

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 10-Yr (cfs) (hr)	25-Yr (cfs) (hr)	100-Yr (cfs) (hr)	1-Yr (cfs) (hr)
SUBAREAS				
Area A Pos	86.69 12.77	108.45 12.81	189.56 12.79	34.58 12.82
REACHES				
OUTLET	86.69	108.45	189.56	34.58

ARH

Area A Post
Erie County, New York

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
Area A Pos	96.50	1.456	89	Outlet	

Total Area: 96.50 (ac)

ARH

Area A Post
Erie County, New York

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
Area A Pos							
SHEET	100	0.0220	0.240				0.276
SHALLOW	129	0.0200	0.025				0.012
CHANNEL	3198	0.0020	0.012	1.76	34.73	0.761	1.168
					Time of Concentration		1.456

ARH

Area A Post
Erie County, New York

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use		Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
Area A Pos	Open space; grass cover > 75%	(good)	A	7.5	39
	Open space; grass cover > 75%	(good)	B	2.6	61
	Open space; grass cover > 75%	(good)	C	7.4	74
	Open space; grass cover > 75%	(good)	D	6.2	80
	Paved parking lots, roofs, driveways		A	24	98
	Paved parking lots, roofs, driveways		B	6.6	98
	Paved parking lots, roofs, driveways		C	21.8	98
	Paved parking lots, roofs, driveways		D	20.4	98
	Total Area / Weighted Curve Number			96.5	89
				====	==

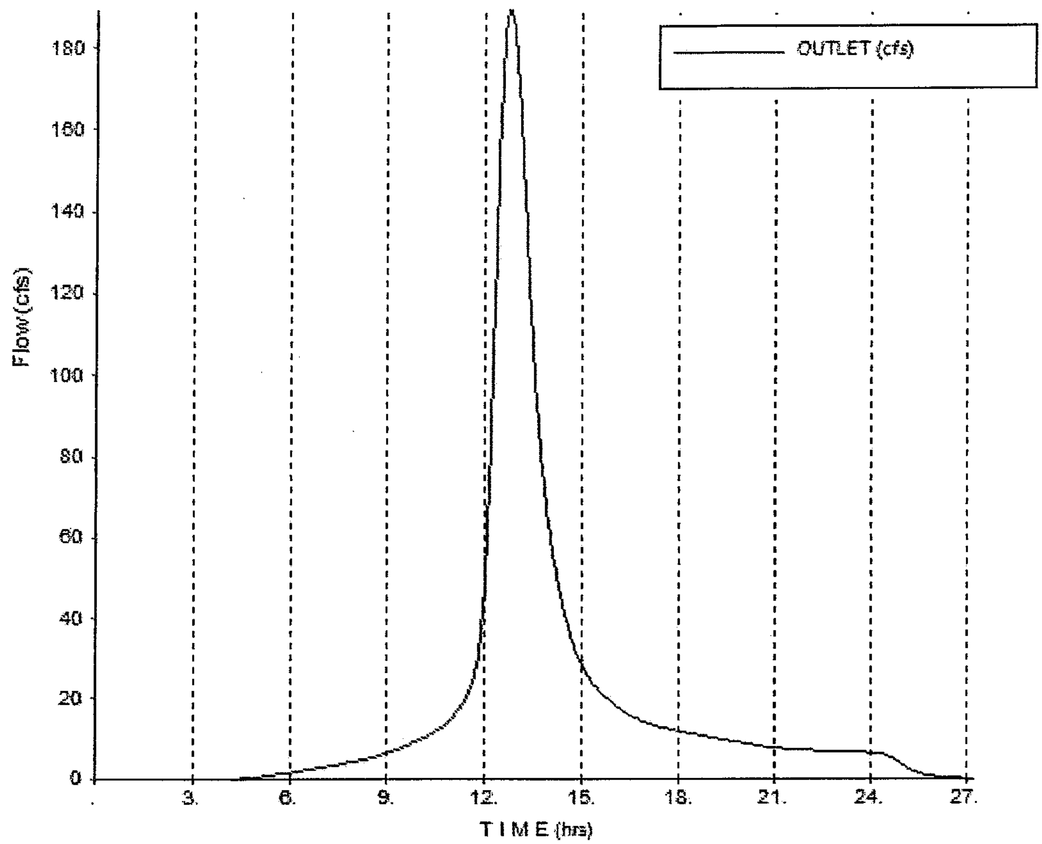
WinTR-55 Output Hydrograph

Project:

Subarea: (Outlet) Storm: 100-Yr

\\Stationa\f\MCE\M2220 Alleghany Road (Geis)\DOCS\Area A Post.w55

12/1/2022



APPENDIX D - 3

AREA A

Stormwater Calculations

STORMWATER POLLUTION PREVENTION PLAN

METZGER CIVIL ENGINEERING, PLLC
8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/2022
Location:	Pond A	Checked:	JCM	Date:	
County:	Genesee				

TR-55 Pre-Development Summary

STORM 1-Yr

Area or Reach Identifier	Drainage Area (acres)	% of site	Runoff Amount, Qd (in)	Peak Flow Rate (cfs)
Entire Site	96.50	100		0.23
This Pond	96.5	100.0	0.0	0.23

STORM 10-Yr

Area or Reach Identifier	Drainage Area (acres)	% of site	Runoff Amount, Qd (in)	Peak Flow Rate (cfs)
Entire Site	96.50	100		17.51
This Pond	96.5	100.0	0.4	17.51

STORM 100-Yr

Area or Reach Identifier	Drainage Area (acres)	% of site	Runoff Amount, Qd (in)	Peak Flow Rate (cfs)
Entire Site	96.50	100		67.65
This Pond	96.5	100.0	1.8	67.65

(overdetained to the capacity of 2 pipes)

Storm Event	Rainfall P, inches	Initial Abstraction Ia = 0.2S, inches	Potential Retention S=(1000/CN)-10 inches	CN	Runoff Amount, Inches Qd = (P-Ia)^2 / ((P-Ia)+S)
1-yr	1.87	1.39	6.95	59	0.03
10-yr	3.25	1.39	6.95	59	0.39
100-yr	6.00	1.39	6.95	59	1.84

Rainfall Distribution = TYPE II
Time of Concentration, $Tc_{(Hours)}$ = 0.60

METZGER
CIVIL
ENGINEERING, PLLC

8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/2022
Location:	Pond A	Checked:	JCM	Date:	

TR-55 Post Development Summary

STORM 1-Yr

Area or Reach Identifier	Drainage Area (acres)	% of site	Runoff Amount, Qd (in)	Peak Flow Rate (cfs)
Entire Site	96.50	100		34.58
This pond	96.50	100.0	0.9	34.58

STORM 10-Yr

Area or Reach Identifier	Drainage Area (acres)	% of site	Runoff Amount, Qd (in)	Peak Flow Rate (cfs)
Entire Site	96.50	100		86.69
This pond	96.5	100.0	2.1	86.69

STORM 100-Yr

Area or Reach Identifier	Drainage Area (acres)	% of site	Runoff Amount, Qd (in)	Peak Flow Rate (cfs)
Entire Site	96.50	100		189.56
This pond	96.5	100.0	4.7	189.56

Storm Event	Rainfall P, inches	Initial Abstraction Ia = 0.2S, inches	Potential Retention S=(1000/CN)-10 inches	CN	Runoff Amount, Inches Qd = (P-Ia)^2 / ((P-Ia)+S)
1-yr	1.87	0.25	1.24	89	0.92
10-yr	3.25	0.25	1.24	89	2.13
100-yr	6.00	0.25	1.24	89	4.74

Rainfall Distribution = TYPE II
Time of Concentration, Tc $_{(Hours)}$ = 1.45

METZGER CIVIL ENGINEERING, PLLC
8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/2022
Location:	Pond A	Checked:	JCM	Date:	

Storage Volume Estimation

Taken from NYS Stormwater Management Design Manual (NYS-SMDM) Appendix B

Area Final Phase = 96.5 Acres

	Channel Protection Cp_v 1 YR / 24-Hour Extended Detention	
Ia / P (From Post Development Summary Sheet, 1yr storm)	0.13	
Post Development Time of Concentration, Tc (From TR-55 Calcs)	1.45	hours
Unit Peak Discharge, qu (from TR-55 Exhibit 4-II, attached)	270	cfs/sqmi/inch
Ratio of Outflow to Inflow, qo/qi (NYS-SMDM Figure B.1, attached)	0.063	
Ratio of Storage Volume to Runoff Volume, vs/vr		
vs/vr = 0.682 - 1.43(qo/qi) + 1.64 (qo/qi)^2 - 0.804 (qo/qi)^3 =	0.60	
Pos-Dev Runoff Amount, Q_d (From Post Development Summary Sheet)	0.9	inches
Req'd Storage Volume$_{(acre\text{-}feet)}$, vs = $((v_s/v_r)\ (Q_{d,\ inches})\ (A,\ _{acres}))\ /\ 12$ inches/foot	4.4	acre-feet
Req'd Storage Volume$_{(cubic\ feet)}$, vs = vs (acre-feet) x 43560 sq.ft./acre	193,041	cubic feet
Cp_v-ED Average release rate over 24 hours = vs (cubic feet) / 86400 seconds/24 hrs	2.23	cfs

	Overbank Flood Q_p 10YR	Extreme Flood Q_f 100 YR	
Pre-Dev Peak Flow Q_O (From TR-55 Output)	17.51	67.65	cfs
Pos-Dev Peak Flow Q_I (From TR-55 Output)	86.69	189.56	cfs
Pos-Dev Runoff Amount, Q_d (From Post Development Summary Sheet)	2.13	4.74	inches
Ratio of Pre-Dev Peak Flow to Pos-Dev Peak Flow, Q_O/Q_I	0.20	0.36	
Ratio of Storage Volume to Runoff Volume, 'V_S/V_R (From TR-55 Fig 6-1, Type II, attached)	0.45	0.34	
Req'd Storage Volume$_{(acre\text{-}feet)}$, Vs = $[((V_s/V_r)\ (Q_{d,\ inches})\ (A,\ _{acres}))\ /\ 12$ in./ft.]	7.70	12.95	acre-feet
Req'd Storage Volume$_{(cubic\ feet)}$, Vs = Vs (acre-feet) x 43560 sq.ft./acre	335,322	563,991	cubic feet

METZGER CIVIL ENGINEERING, PLLC

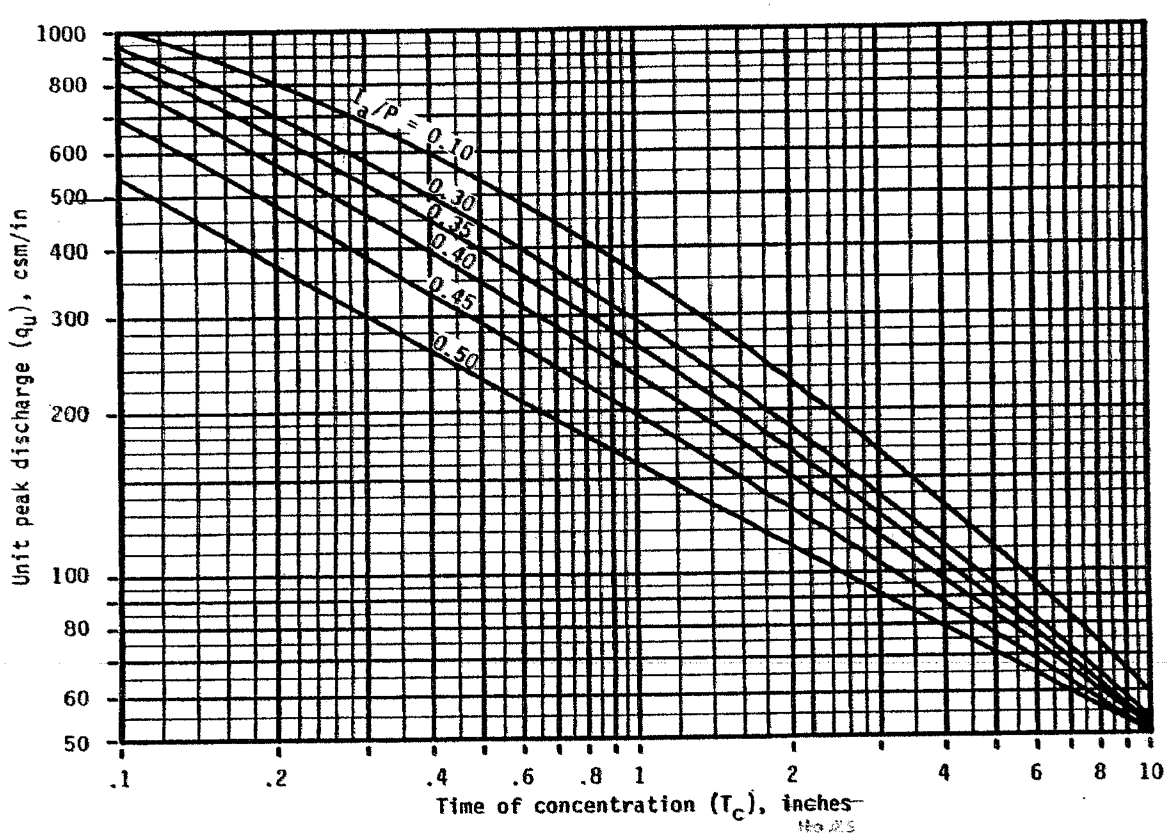
8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/2022
Location:	Pond A	Checked:	JCM	Date:	

Storage Volume Estimation - Continued

4-6

Exhibit 4-II: Unit peak discharge (q_u) for SCS type II rainfall distribution



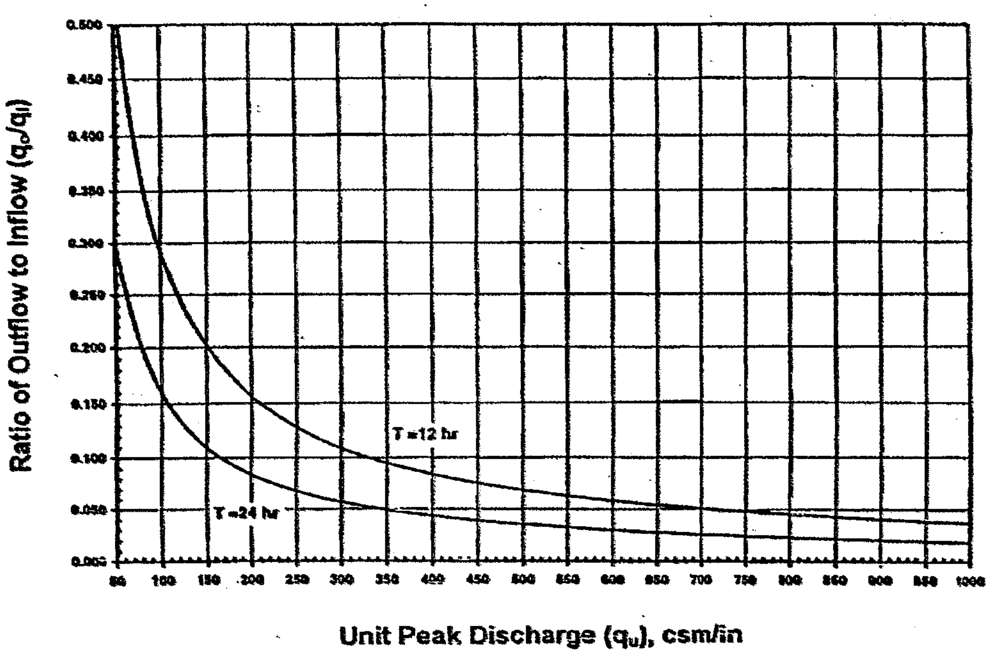
(210-VI-TR-55, Second Ed., June 1986)

METZGER CIVIL ENGINEERING, PLLC

8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/2022
Location:	Pond A	Checked:	JCM	Date:	

Figure B.1 Detention Time vs. Discharge Ratios (Source: MDE, 2000)



METZGER CIVIL ENGINEERING, PLLC

8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/2022
Location:	Pond A	Checked:	JCM	Date:	

Storage Volume Estimation - Continued

Input requirements and procedures

Use figure 6-1 to estimate storage volume (V_S) required or peak outflow discharge (q_o). The most frequent application is to estimate V_S, for which the required inputs are runoff volume (V_r), q_o, and peak inflow discharge (q_i). To estimate q_o, the required inputs are V_r, V_S, and q_i.

Estimating V_s

Use worksheet 6a to estimate V_s, storage volume required, by the following procedure.

1. Determine q_o. Many factors may dictate the selection of peak outflow discharge. The most common is to limit downstream discharges to a desired level, such as predevelopment discharge. Another factor may be that the outflow device has already been selected.
2. Estimate q_i by procedures in chapters 4 or 5. Do not use peak discharges developed by any other procedure. When using the Tabular Hydrograph method to estimate q_i for a subarea, only use

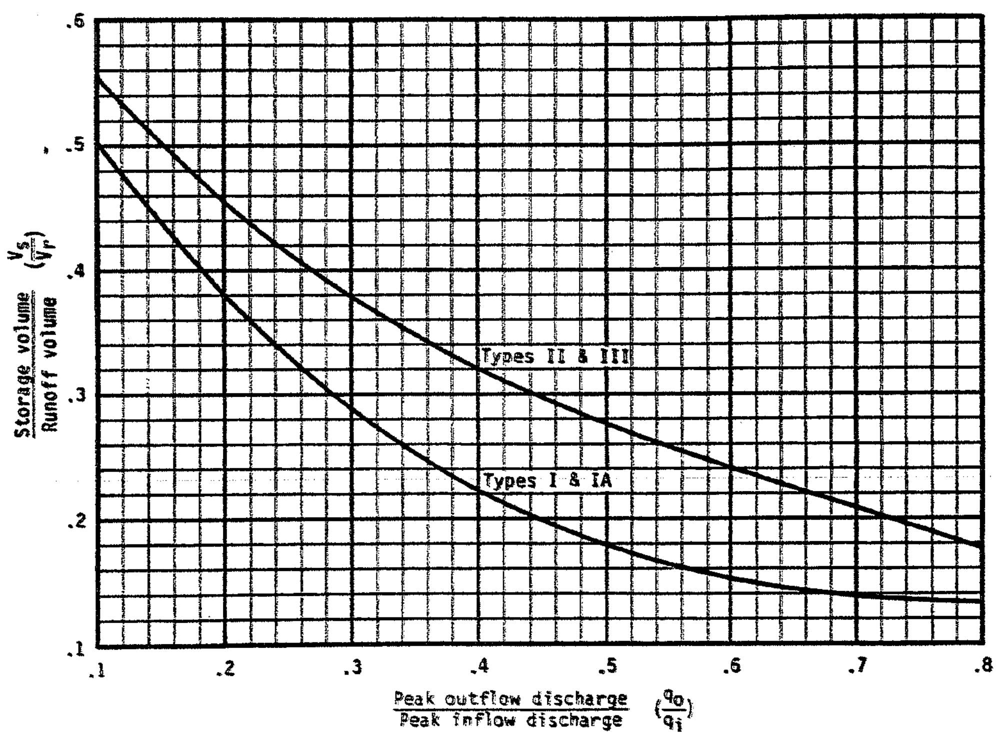


Figure 6-1.—Approximate detention basin routing for rainfall types I, IA, II, and III.

METZGER CIVIL ENGINEERING, PLLC
8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/22
Location:	Pond A	Checked:	JCM	Date:	

Water Quality and Pond Volumes

Water Quality Volume, WQv

From NYS Stormwater Management Design Manual (NYS-SMDM), Section 4

WQv = (P*Rv*A) / 12

P=90% Rainfall Event No. for WNY	0.85				
I = Impervious cover	75.0	Percent			
Rv = 0.05 + 0.009 * I	0.73				
A = Site area	96.50	acres			
Total WQv Required =			**4.96** acre-feet =	**215,869**	cf
Total Minimum Req'd Permanent Pool Volume, PPV = Total WQv x 50%			2.48 acre-feet =	107,935	cf
Req'd Forebay (Pretreatment) Volume = Total WQv x 10% =			0.496 acre-feet =	21,587	cf
Req'd Permanent Pool Volume in the "Wet Pool" = Total PPV - Req'd Forebay Volume =			1.982 acre-feet =	86,348	cf

Is "Wet Pool" Volume Provided = or > the Total WQv Required? Yes, 100% of WQv Provided In Wet Pool, Therefore, WQv-ED Not Req'd

Req'd WQv-ED Volume (i.e, volume above Normal Water Level) =Total WQv x 50% = acre-feet = cf

WQv-ED Average release rate over 24 hours = WQv-ED (cubic feet) / 86400 secs/24 hrs = c.f.s.

Pond Levels and Volumes

Pond A	HWE, ft	HWE Area, sf	LWE, ft	LW Area, sf	water depth, ft	Avg. Area, sf	Vol. Provided, cf	Vol. Req'd, cf	Vol.Prv acft	Difference
"Wet Pool"	851.00	80,997	845.00	11384	6.00	46,191	277,143	86,348	6.36	190,795
$WQ_v ED$								None Req'd		
Cp_v	853.24	92,664	851.00	80997	2.24	86,831	194,501	193,041	4.47	1,460
Q_p	854.72	100,373	851.00	80997	3.72	90,685	337,349	335,322		2,026
Q_f	855.70	105,478	851.00	80997	4.70	93,237	438,216	563,991		125,776

Set Pond TOB @ EL. 857 (Note: 125,776 volume is provided over the bioretention area)

Area @ TOB 112249 sf

WQv Storm Event Peak Flow Calculation (WQv Qp)
For Sizing Proprietary Pretreatment Structures If Used In Lieu Of Pretreatment Forebay

From NYS Stormwater Management Design Manual (NYS-SMDM), Appendix B.2

Post Development Time of Concentration,Tc (From TR-55 Calcs)	1.45	hr
Initial Abstraction, Ia (From Post Development Summary Sheet)	0.25	
Ia / P (Where P=90% Rainfall Event No. from WQv calcs above)	0.29	
Unit Peak Discharge, qu (from TR-55 Exhibit 4-II, attached)	240	cfs/sqmi/inch
WQv in watershed inches = [WQv (acre-feet) / Area (acres)] x 12 inches/foot	0.62	inches
A = area in square miles	0.1507	sq. miles
WQv Qp (cfs) = qu (cfs/sq.miles/inch) x A (sq.miles) x WQv (inches)		
Wqv Peak Discharge Qp =	22.3	cfs
Required pretreatment = 10% of total Wqv	2.23	cfs

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8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/22
Location:	Pond A	Checked:	JCM	Date:	

Outlet Control Structure Design

	Water Elevations	Allowable Discharge Rates, Qo			
Normal Water Level	851.00				
Water Quality Volume Extended Detention, WQv-ED			cfs	for 24 hour release	**<-- Not Req'd**
Stream Channel Protection "Cpv" 1 year storm	853.24	2.23	cfs	for 24 hour release	
Overbank Flood Control Criteria "Qp" 10 year storm	854.72	17.51	cfs		
Extreme Flood Control Criteria "Qf" 100 year storm	855.70	67.65	cfs		
Top of Bank / emergency spillway elevation	857.00				

Heads, h $_{(feet)}$, for Calculating Flows Through Various Orifices		
When Water Elev. Is @	Primary Orifice, h =	Secondary Orifice, h =
WQv-ED		
Cpv	2.12	
Qp	3.60	
Qf	5.88	

No. of Outlet Control Orifices Provided = 1

	Primary Drawdown Orifice For WQv and/or Cpv	Secondary Drawdown Orifice For Cpv (as needed)	
Orifice diameter (Note: Minimum per NYS-SMDM = 0.25')	0.25	0.25	ft
Area of pipe or slot = A	0.05	0.05	sq ft
Orifice coefficient = C	0.61	0.61	
Acceleration due to gravity = g	32.20	32.20	ft/sec^2

Torricelli Equation - Orifice Calculations

Orifice Discharge Rates, Q=CA(2gh)^.5					
When Water Elevations are at the following stages --->	**WQv**	**Cp$_v$**	**Qp**	**Q$_f$**	
Actual Discharge Rate Through Primary Orifice For WQv and/or Cpv Drawdown @ Various Heads =		0.35	0.46	0.58	cfs
Actual Discharge Rate Through Secondary Orifice For Cpv Drawdown (as needed) @ Various Heads =					cfs
Actual Cumulative Discharge Rates, Q =		0.35	0.46	0.58	cfs

Weir Calculations (TR-55 Ch. 6)

		Hw, ft	Qo, cfs	Lw, ft	Total Actual Discharge Rates	
Qp	Discharge Qo=Qp-(Wqv +Cpv)	1.48	37.51	-----	Qp, cfs =	37.97
	Lw=Qo/3.2*Hw$^{1.5}$=	-----	-----	6.5		
Qf	Discharge Qo=Qf-(Wqv +Cpv)	2.46	67.07	-----	Qf, cfs =	67.65
	Lw=Qo/2.67*Hw$^{1.5}$=	-----	-----	6.5		

New Qp based on Weir Lw 0.08 Elev 853.32

Outlet Structure

Primary Orifice For WQv and/or Cpv Outlet Control	0.25	ft	=	diameter pipe at inv. elevation	851.00	ft
Secondary Orifice For Cpv Outlet Control	Not Req'd	ft	=	diameter pipe at inv. elevation	Not Req'd	ft
Overbank Flood Qp Outlet Control Weir	6.5	ft	=	Total Weir Opening at crest elevation	853.24	ft
Extreme Flood Qf Outlet Control Weir	6.5	ft	=	Total Weir Opening at Elevation	854.72	ft

Outlet Pipe Sizing

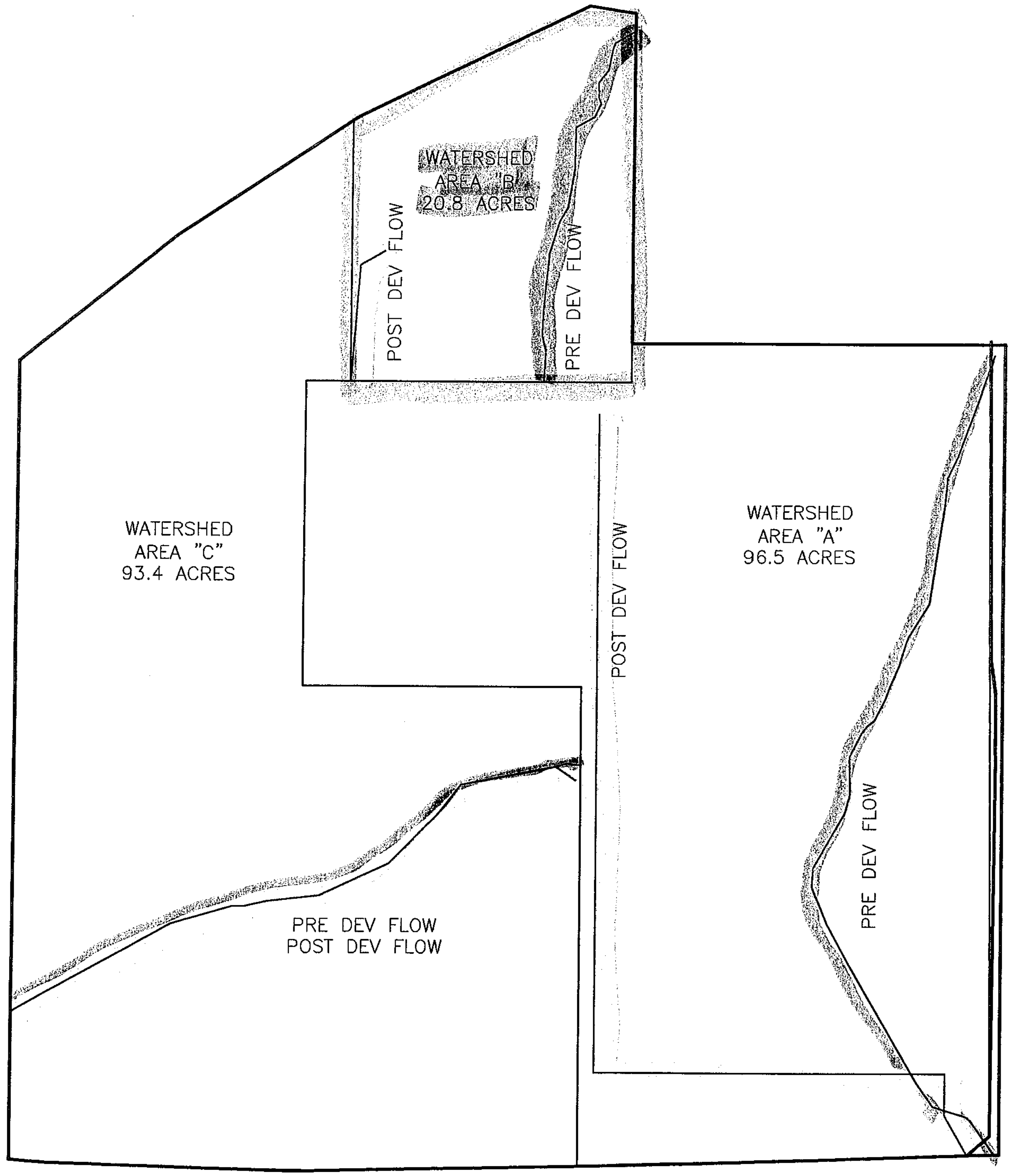
Diameter in Inches	Area, A Sq ft	High Water Elev.	CL Outlet Elevation	Head in feet	Coeffic. C	Capacity, cfs Q =C x A x (2gh^0.5)	No. of Outlet Pipes	Total Capacity, cfs	Actual Qf Discharge, cfs
24	3.14	857.00	852.00	5.00	0.60	33.82	2	67.65	67.65

APPENDIX D-4

AREA B

Stormwater Calculations - Pre development

USDA TR-55 Method



WATERSHED
AREA "B"
20.8 ACRES
POST DEV FLOW
PRE DEV FLOW
WATERSHED
AREA "C"
93.4 ACRES
POST DEV FLOW
WATERSHED
AREA "A"
96.5 ACRES
PRE DEV FLOW
PRE DEV FLOW
POST DEV FLOW

WinTR-55 Current Data Description

--- Identification Data ---

User:	ARH	Date:	12/1/2022
Project:		Units:	English
SubTitle:	Area B Pre	Areal Units:	Acres
State:	New York		
County:	Erie		

Filename: \\Stationa\f\MCE\M2220 Alleghany Road (Geis)\DOCS\Area B Pre.w55

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
Area B Pre		Outlet	20.8	59	.339

Total area: 20.80 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.2	2.69	3.25	3.84	4.48	6.0	1.8

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ARH

Area B Pre
Erie County, New York

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.2	2.69	3.25	3.84	4.48	6.0	1.8

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ARH

Area B Pre
Erie County, New York

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 10-Yr (cfs)	25-Yr (cfs)	100-Yr (cfs)	1-Yr (cfs)
SUBAREAS				
Area B Pre	5.49	11.01	39.49	.00
REACHES				
OUTLET	5.49	11.01	39.49	.00

ARH

Area B Pre
Erie County, New York

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 10-Yr (cfs) (hr)	25-Yr (cfs) (hr)	100-Yr (cfs) (hr)	1-Yr (cfs) (hr)
SUBAREAS				
Area B Pre	5.49	11.01	39.49	.00
	12.16	12.14	12.11	n/a
REACHES				
OUTLET	5.49	11.01	39.49	.00

ARH

Area B Pre
Erie County, New York

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
Area B Pre	20.80	0.339	59	Outlet	

Total Area: 20.80 (ac)

ARH

Area B Pre
Erie County, New York

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
Area B Pre							
SHEET	100	0.0360	0.240				0.227
SHALLOW	1230	0.0360	0.050				0.112
				Time of Concentration			.339

ARH

Area B Pre
Erie County, New York

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use		Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
Area B Pre	Brush - brush, weed, grass mix	(fair)	A	7.1	35
	Brush - brush, weed, grass mix	(fair)	B	1.9	56
	Brush - brush, weed, grass mix	(fair)	C	6.1	70
	Brush - brush, weed, grass mix	(fair)	D	5.7	77
	Total Area / Weighted Curve Number			20.8	59
				====	==

APPENDIX D-5

AREA B

Stormwater Calculations - Post Developement

USDA TR-55 Method

WinTR-55 Current Data Description

--- Identification Data ---

User: ARH
Project:
SubTitle: Area B Post
State: New York
County: Erie
Filename: Z:\MCE\M2220 Alleghany Road (Geis)\DOCS\Area B Post.w55

Date: 11/29/2022
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
Area B Pos		Outlet	20.8	73	0.1

Total area: 20.80 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.2	2.69	3.25	3.84	4.48	6.0	1.8

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ARH

Area B Post
Erie County, New York

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.2	2.69	3.25	3.84	4.48	6.0	1.8

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ARH

Area B Post
Erie County, New York

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 10-Yr (cfs)	25-Yr (cfs)	100-Yr (cfs)	1-Yr (cfs)
SUBAREAS				
Area B Pos	31.09	44.35	99.07	5.95
REACHES				
OUTLET	31.09	44.35	99.07	5.95

ARH

Area B Post
Erie County, New York

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 10-Yr (cfs) (hr)	25-Yr (cfs) (hr)	100-Yr (cfs) (hr)	1-Yr (cfs) (hr)
SUBAREAS				
Area B Pos	31.09 11.94	44.35 11.94	99.07 11.93	5.95 12.02
REACHES				
OUTLET	31.09	44.35	99.07	5.95

ARH

Area B Post
Erie County, New York

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
Area B Pos	20.80	0.100	73	Outlet	

Total Area: 20.80 (ac)

ARH

Area B Post
Erie County, New York

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
Area B Pos							
SHALLOW	449	0.0200	0.025				0.043
				Time of Concentration			0.1

ARH

Area B Post
Erie County, New York

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use		Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
Area B Pos	Open space; grass cover > 75%	(good)	A	5	39
	Open space; grass cover > 75%	(good)	B	1.9	61
	Open space; grass cover > 75%	(good)	C	4	74
	Open space; grass cover > 75%	(good)	D	3.7	80
	Paved parking lots, roofs, driveways		A	2	98
	Paved parking lots, roofs, driveways		B	.7	98
	Paved parking lots, roofs, driveways		C	1.8	98
	Paved parking lots, roofs, driveways		D	1.7	98
	Total Area / Weighted Curve Number			20.8	73
				====	==

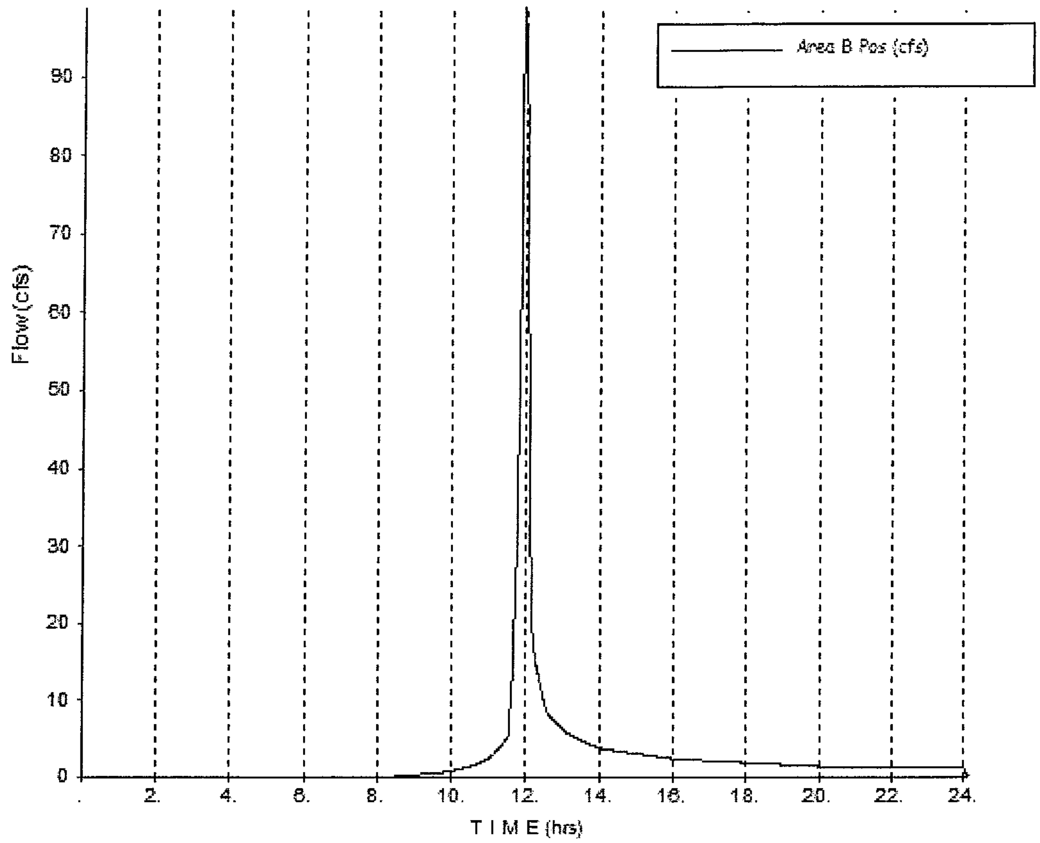
WinTR-55 Output Hydrograph

Project:

Subarea: (Area B Pos) Storm: 100-Yr

Z:\MCE\M2220 Alleghany Road (Geis)\DOCS\Area B Post.w55

11/29/2022



APPENDIX D - 6

AREA B

Stormwater Calculations

STORMWATER POLLUTION PREVENTION PLAN

METZGER CIVIL ENGINEERING, PLLC
8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/2022
Location:	Pond B	Checked:	JCM	Date:	
County:	Genesee				

TR-55 Pre-Development Summary

STORM 1-Yr

Area or Reach Identifier	Drainage Area (acres)	% of site	Runoff Amount, Qd (in)	Peak Flow Rate (cfs)
Entire Site	20.80	100		0.01
This Pond	20.8	100.0	0.0	0.01

STORM 10-Yr

Area or Reach Identifier	Drainage Area (acres)	% of site	Runoff Amount, Qd (in)	Peak Flow Rate (cfs)
Entire Site	20.80	100		5.49
This Pond	20.8	100.0	0.4	5.49

STORM 100-Yr

Area or Reach Identifier	Drainage Area (acres)	% of site	Runoff Amount, Qd (in)	Peak Flow Rate (cfs)
Entire Site	20.80	100		39.43
This Pond	20.8	100.0	1.8	39.43

Storm Event	Rainfall P, inches	Initial Abstraction Ia = 0.2S, inches	Potential Retention S=(1000/CN)-10 inches	CN	Runoff Amount, Inches Qd = (P-Ia)^2 / ((P-Ia)+S)
1-yr	1.87	1.39	6.95	59	0.03
10-yr	3.25	1.39	6.95	59	0.39
100-yr	6.00	1.39	6.95	59	1.84

Rainfall Distribution = TYPE II
Time of Concentration, Tc $_{(Hours)}$ = 0.34

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8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/2022
Location:	Pond B	Checked:	JCM	Date:	

TR-55 Post Development Summary

STORM 1-Yr

Area or Reach Identifier	Drainage Area (acres)	% of site	Runoff Amount, Qd (in)	Peak Flow Rate (cfs)
Entire Site	20.80	100		5.95
This pond	20.80	100.0	0.3	5.95

STORM 10-Yr

Area or Reach Identifier	Drainage Area (acres)	% of site	Runoff Amount, Qd (in)	Peak Flow Rate (cfs)
Entire Site	20.80	100		31.09
This pond	20.8	100.0	1.0	31.09

STORM 100-Yr

Area or Reach Identifier	Drainage Area (acres)	% of site	Runoff Amount, Qd (in)	Peak Flow Rate (cfs)
Entire Site	20.80	100		99.07
This pond	20.8	100.0	3.1	99.07

Storm Event	Rainfall P, inches	Initial Abstraction Ia = 0.2S, inches	Potential Retention S=(1000/CN)-10 inches	CN	Runoff Amount, Inches Qd = (P-Ia)^2 / ((P-Ia)+S)
1-yr	1.87	0.74	3.70	73	0.26
10-yr	3.25	0.74	3.70	73	1.01
100-yr	6.00	0.74	3.70	73	3.09

Rainfall Distribution = TYPE II
Time of Concentration, Tc $_{(Hours)}$ = 0.10

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8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/2022
Location:	Pond B	Checked:	JCM	Date:	

Storage Volume Estimation

Taken from NYS Stormwater Management Design Manual (NYS-SMDM) Appendix B

Area Final Phase = 20.8 Acres

	Channel Protection Cp_v 1 YR / 24-Hour Extended Detention	
Ia / P (From Post Development Summary Sheet, 1yr storm)	0.40	
Post Development Time of Concentration, Tc (From TR-55 Calcs)	0.10	hours
Unit Peak Discharge, qu (from TR-55 Exhibit 4-II, attached)	750	cfs/sqmi/inch
Ratio of Outflow to Inflow, qo/qi (NYS-SMDM Figure B.1, attached)	0.023	
Ratio of Storage Volume to Runoff Volume, vs/vr vs/vr = 0.682 - 1.43(qo/qi) + 1.64 (qo/qi)^2 - 0.804 (qo/qi)^3 =	0.65	
Pos-Dev Runoff Amount, Q_d (From Post Development Summary Sheet)	0.3	inches
Req'd Storage Volume(acre-feet), vs = $((v_s/v_r)\ (Q_{d,\ inches})\ (A,\ _{acres}))$ / 12 inches/foot	0.3	acre-feet
Req'd Storage Volume(cubic feet), vs = vs (acre-feet) x 43560 sq.ft./acre	12,983	cubic feet
Cp_v-ED Average release rate over 24 hours = vs (cubic feet) / 86400 seconds/24 hrs	0.15	cfs

	Overbank Flood Q_p 10YR	Extreme Flood Q_f 100 YR	
Pre-Dev Peak Flow Q_O (From TR-55 Output)	5.49	39.43	cfs
Pos-Dev Peak Flow Q_I (From TR-55 Output)	31.09	99.07	cfs
Pos-Dev Runoff Amount, Q_d (From Post Development Summary Sheet)	1.01	3.09	inches
Ratio of Pre-Dev Peak Flow to Pos-Dev Peak Flow, Q_O/Q_I	0.18	0.40	
Ratio of Storage Volume to Runoff Volume, 'V_S/V_R (From TR-55 Fig 6-1, Type II, attached)	0.47	0.32	
Req'd Storage Volume(acre-feet), Vs = $[((V_s/V_r)\ (Q_{d,\ inches})\ (A,\ _{acres}))$ / 12 in./ft.]	0.83	1.71	acre-feet
Req'd Storage Volume(cubic feet), Vs = Vs (acre-feet) x 43560 sq.ft./acre	36,016	74,625	cubic feet

METZGER CIVIL ENGINEERING, PLLC

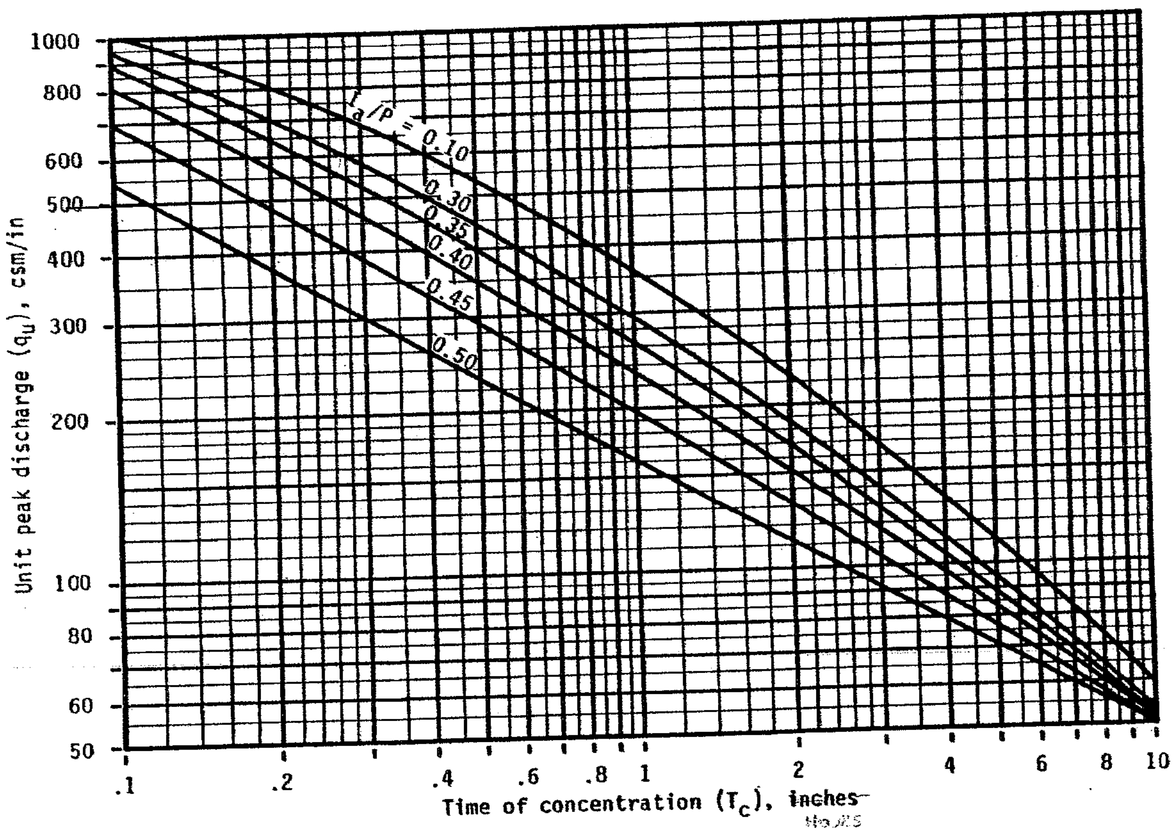
8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/2022
Location:	Pond B	Checked:	JCM	Date:	

Storage Volume Estimation - Continued

4-6

Exhibit 4-II: Unit peak discharge (q_u) for SCS type II rainfall distribution



(210-VI-TR-55, Second Ed., June 1986)

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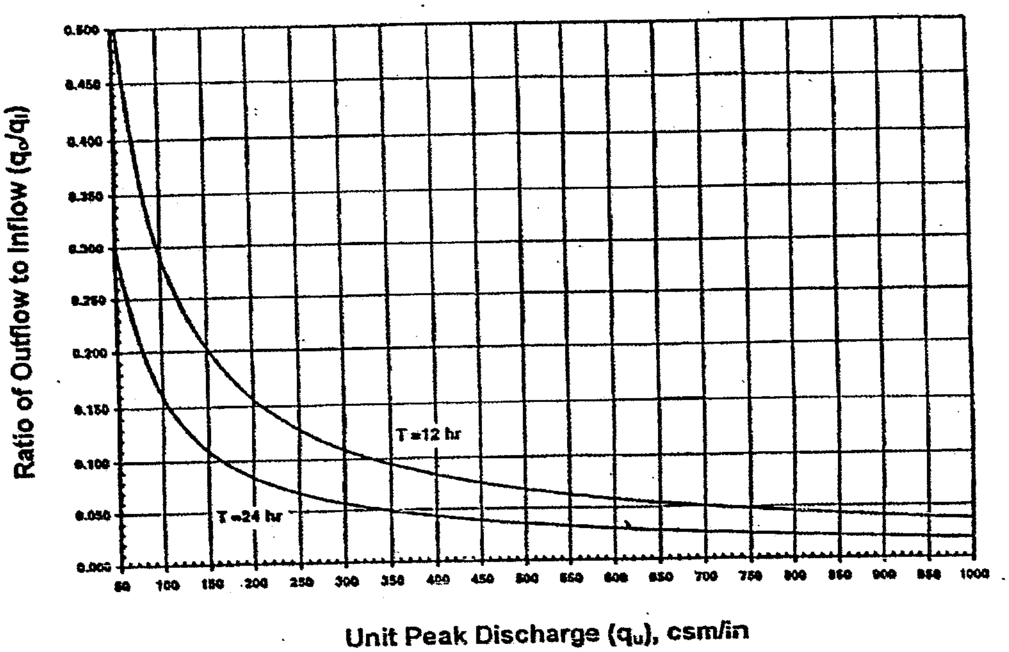
8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/2022
Location:	Pond B	Checked:	JCM	Date:	

Figure B.1 Detention Time vs. Discharge Ratios (Source: MDE, 2000)



METZGER CIVIL ENGINEERING, PLLC
8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/2022
Location:	Pond B	Checked:	JCM	Date:	

Storage Volume Estimation - Continued

Input requirements and procedures

Use figure 6-1 to estimate storage volume (V_s) required or peak outflow discharge (q_o). The most frequent application is to estimate V_s, for which the required inputs are runoff volume (V_r), q_o, and peak inflow discharge (q_i). To estimate q_o, the required inputs are V_r, V_s, and q_i.

Estimating V_s

Use worksheet 6a to estimate V_s, storage volume required, by the following procedure.

1. Determine q_o. Many factors may dictate the selection of peak outflow discharge. The most common is to limit downstream discharges to a desired level, such as predevelopment discharge. Another factor may be that the outflow device has already been selected.
2. Estimate q_i by procedures in chapters 4 or 5. Do not use peak discharges developed by any other procedure. When using the Tabular Hydrograph method to estimate q_i for a subarea, only use

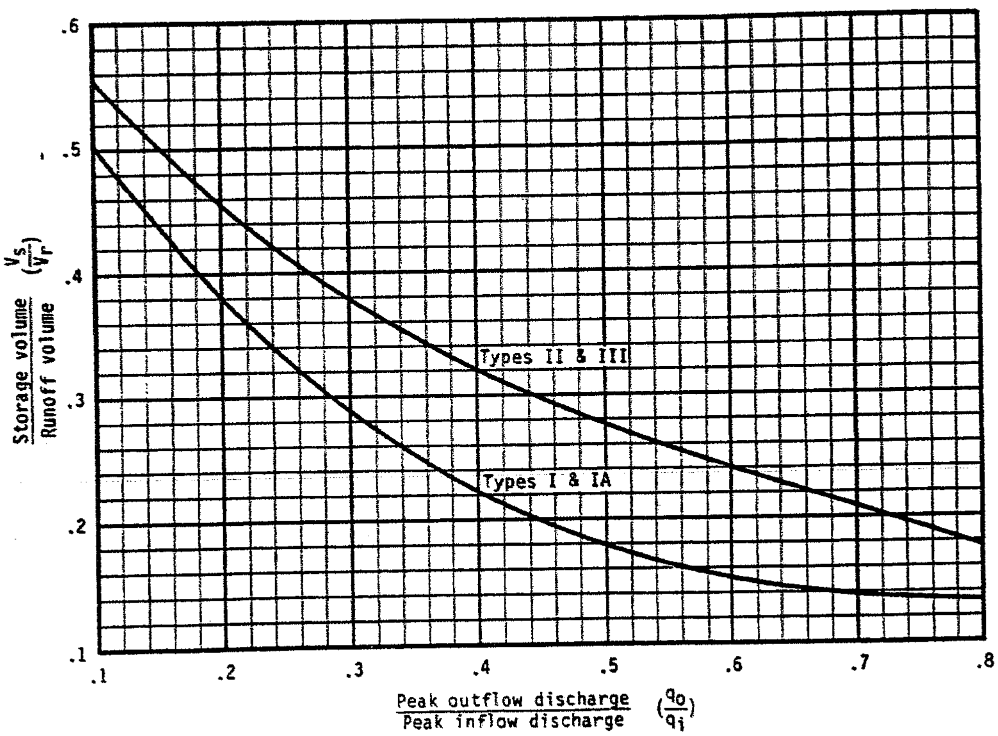


Figure 6-1.—Approximate detention basin routing for rainfall types I, IA, II, and III.

(210-VI-TR-55, Second Ed., June 1986)

METZGER CIVIL ENGINEERING, PLLC
8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/22
Location:	Pond B	Checked:	JCM	Date:	

Water Quality and Pond Volumes

Water Quality Volume, WQv

From NYS Stormwater Management Design Manual (NYS-SMDM), Section 4

WQv = (P*Rv*A) / 12

P=90% Rainfall Event No. for WNY	0.85			
I = Impervious cover	29.0 Percent			
Rv = 0.05 + 0.009 * I	0.31			
A = Site area	20.80 acres			
Total WQv Required =		**0.46** acre-feet =	**19,959**	cf
Total Minimum Req'd Permanent Pool Volume, PPV = Total WQv x 50%		0.23 acre-feet =	9,980	cf
Req'd Forebay (Pretreatment) Volume = Total WQv x 10% =		0.046 acre-feet =	1,996	cf
Req'd Permanent Pool Volume in the "Wet Pool" = Total PPV - Req'd Forebay Volume =		0.183 acre-feet =	7,984	cf

Is "Wet Pool" Volume Provided = or > the Total WQv Required? Yes, 100% of WQv Provided In Wet Pool, Therefore, WQv-ED Not Req'd

Req'd WQv-ED Volume (i.e, volume above Normal Water Level) =Total WQv x 50% = acre-feet = cf

WQv-ED Average release rate over 24 hours = WQv-ED (cubic feet) / 86400 secs/24 hrs = c.f.s.

Pond Levels and Volumes

Pond A	HWE, ft	HWE Area, sf	LWE, ft	LW Area, sf	water depth, ft	Avg. Area, sf	Vol. Provided, cf	Vol. Req'd, cf	Vol.Prv acft	Difference
"Wet Pool"	867.00	22,287	861.00	7101	6.00	14,694	88,164	7,984	2.02	80,180
WQ_vED								None Req'd		
Cp_v	867.60	23,970	867.00	22287	0.60	23,128	13,877	12,983	0.32	894
Q_p	868.50	26,493	867.00	22287	1.50	24,390	36,585	36,016		569
Q_f	870.00	30,700	867.00	22287	3.00	26,493	79,480	74,625		4,856

Set Pond TOB @ EL. 871
Area @ TOB 33504 sf

WQv Storm Event Peak Flow Calculation (WQv Qp)
For Sizing Proprietary Pretreatment Structures If Used In Lieu Of Pretreatment Forebay

From NYS Stormwater Management Design Manual (NYS-SMDM), Appendix B.2

Post Development Time of Concentration,Tc (From TR-55 Calcs)	0.10 hr
Initial Abstraction, Ia (From Post Development Summary Sheet)	0.74
Ia / P (Where P=90% Rainfall Event No. from WQv calcs above)	0.87
Unit Peak Discharge, qu (from TR-55 Exhibit 4-II, attached)	500 cfs/sqmi/inch
WQv in watershed inches = [WQv (acre-feet) / Area (acres)] x 12 inches/foot	0.26 inches
A = area in square miles	0.0325 sq. miles
WQv Qp (cfs) = qu (cfs/sq.miles/inch) x A (sq.miles) x WQv (inches)	
Wqv Peak Discharge Qp =	4.3 cfs
Required pretreatment = 10% of total Wqv	0.43 cfs

METZGER CIVIL ENGINEERING, PLLC
8245 Sheridan Drive
Williamsville, New York 14221
Phone: 716-633-2601, Fax: 716-633-2704

Project:	Allegany Road, Pembroke.	By:	ARH	Date:	11/15/22
Location:	Pond B	Checked:	JCM	Date:	

Outlet Control Structure Design

	Water Elevations	Allowable Discharge Rates, Qo			
Normal Water Level	867.00				
Water Quality Volume Extended Detention, WQv-ED			cfs	for 24 hour release	<-- Not Req'd
Stream Channel Protection "Cpv" 1 year storm	867.60	0.15	cfs	for 24 hour release	
Overbank Flood Control Criteria "Qp" 10 year storm	868.50	5.49	cfs		
Extreme Flood Control Criteria "Qf" 100 year storm	870.00	39.43	cfs		
Top of Bank / emergency spillway elevation	871.00				

Heads, h $_{(feet)}$, for Calculating Flows Through Various Orifices

When Water Elev. Is @	Primary Orifice, h =	Secondary Orifice, h =
WQv-ED		
Cpv	0.48	
Qp	1.38	
Qf	3.88	

No. of Outlet Control Orifices Provided = 1

	Primary Drawdown Orifice For WQv and/or Cpv	Secondary Drawdown Orifice For Cpv (as needed)	
Orifice diameter (Note: Minimum per NYS-SMDM = 0.25')	0.25	0.25	ft
Area of pipe or slot = A	0.05	0.05	sq ft
Orifice coefficient = C	0.61	0.61	
Acceleration due to gravity = g	32.20	32.20	ft/sec^2

Torricelli Equation - Orifice Calculations

	Orifice Discharge Rates, Q=CA(2gh)^.5				
When Water Elevations are at the following stages --->	**WQv**	**Cp_v**	**Qp**	**Q_f**	
Actual Discharge Rate Through Primary Orifice For WQv and/or Cpv Drawdown @ Various Heads =		0.17	0.28	0.47	cfs
Actual Discharge Rate Through Secondary Orifice For Cpv Drawdown (as needed) @ Various Heads =					cfs
Actual Cumulative Discharge Rates, Q =		0.17	0.28	0.47	cfs

Weir Calculations (TR-55 Ch. 6)

		Hw, ft	Qo, cfs	Lw, ft	Total Actual Discharge Rates	
Qp	Discharge Qo=Qp-(Wqv +Cpv)	0.90	10.72	-----	Qp, cfs =	11.00
	Lw=Qo/3.2*Hw$^{1.5}$=	-----	-----	3.9		
Qf	Discharge Qo=Qf-(Wqv +Cpv)	2.40	38.96	-----	Qf, cfs =	39.43
	Lw=Qo/2.67*Hw$^{1.5}$=	-----	-----	3.9		

New Qp based on Weir Lw 0.15 Elev 867.75

Outlet Structure

Primary Orifice For WQv and/or Cpv Outlet Control	0.25	ft	=	diameter pipe at inv. elevation	867.00	ft
Secondary Orifice For Cpv Outlet Control	Not Req'd	ft	=	diameter pipe at inv. elevation	Not Req'd	ft
Overbank Flood Qp Outlet Control Weir	3.9	ft	=	Total Weir Opening at crest elevation	867.60	ft
Extreme Flood Qf Outlet Control Weir	3.9	ft	=	Total Weir Opening at Elevation	868.50	ft

Outlet Pipe Sizing

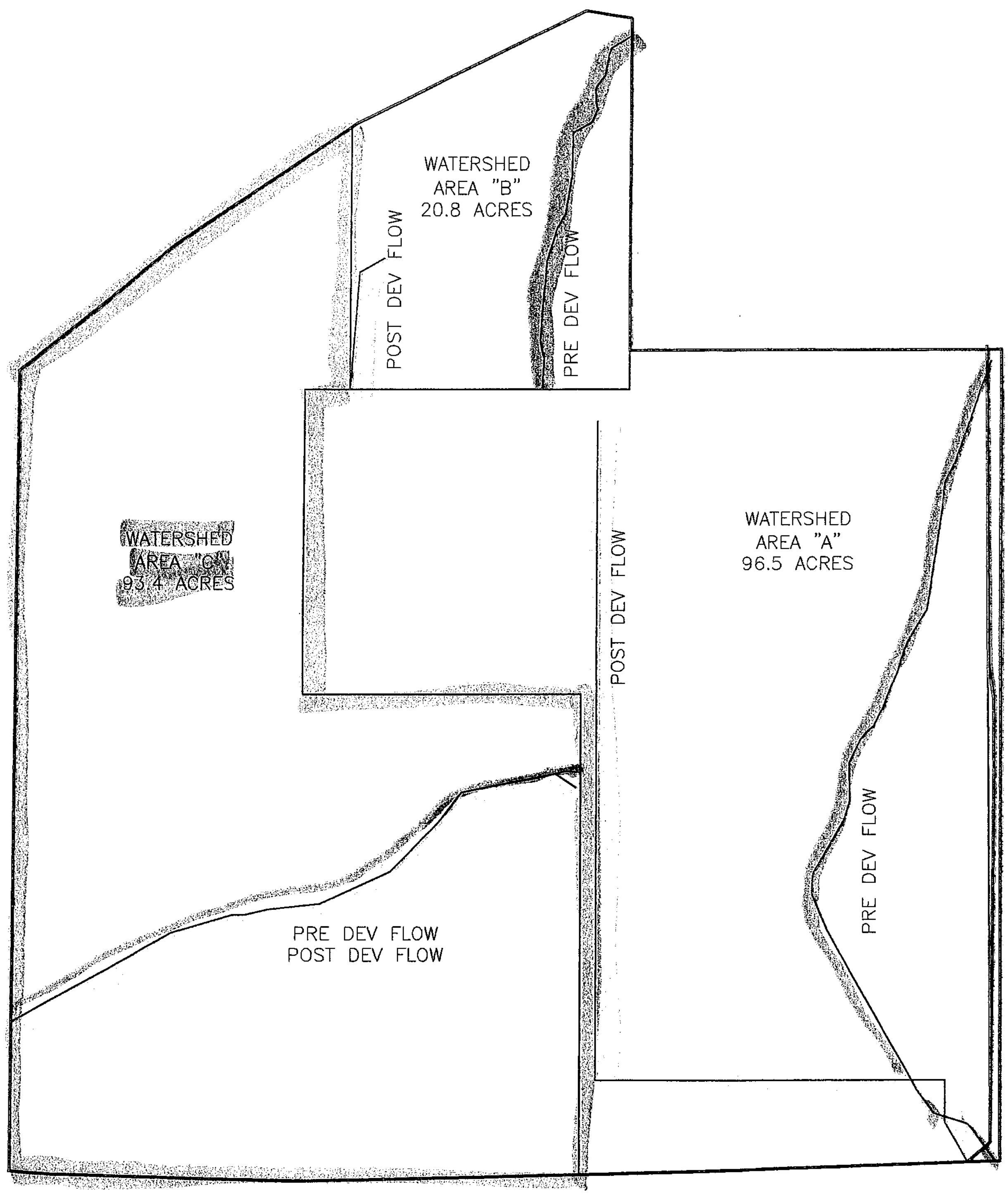
Diameter in Inches	Area, A Sq ft	High Water Elev.	CL Outlet Elevation	Head in feet	Coeffic. C	Capacity, cfs Q =C x A x (2gh^0.5)	No. of Outlet Pipes	Total Capacity, cfs	Actual Qf Discharge, cfs
24	3.14	871.00	868.00	3.00	0.60	26.20	2	52.40	39.43

APPENDIX D-7

AREA C

Stormwater Calculations - Pre development

USDA TR-55 Method


WATERSHED
AREA "B"
20.8 ACRES
POST DEV FLOW
PRE DEV FLOW
WATERSHED
AREA "C"
93.4 ACRES
POST DEV FLOW
WATERSHED
AREA "A"
96.5 ACRES
PRE DEV FLOW
PRE DEV FLOW
POST DEV FLOW

WinTR-55 Current Data Description

--- Identification Data ---

User:	ARH	Date:	1/4/2023
Project:		Units:	English
SubTitle:	Area C Pre	Areal Units:	Acres
State:	New York		
County:	Erie		
Filename:	Z:\MCE\M2220 Alleghany Road (Geis)\DOCS\Area C Pre.w55		

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
Area C Pre		Outlet	93.4	54	.468

Total area: 93.40 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.2	2.69	3.25	3.84	4.48	6.0	1.8

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ARH

Area C Pre
Erie County, New York

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.2	2.69	3.25	3.84	4.48	6.0	1.8

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ARH

Area C Pre
Erie County, New York

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 10-Yr (cfs)	25-Yr (cfs)	100-Yr (cfs)	1-Yr (cfs)
SUBAREAS				
Area C Pre	7.42	20.36	106.35	.00
REACHES				
OUTLET	7.42	20.36	106.35	.00

ARH

Area C Pre
Erie County, New York

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 10-Yr (cfs) (hr)	25-Yr (cfs) (hr)	100-Yr (cfs) (hr)	1-Yr (cfs) (hr)
SUBAREAS				
Area C Pre	7.42 12.31	20.36 12.25	106.35 12.18	.00 n/a
REACHES				
OUTLET	7.42	20.36	106.35	.00

ARH

Area C Pre
Erie County, New York

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
Area C Pre	93.40	0.468	54	Outlet	

Total Area: 93.40 (ac)

ARH

Area C Pre
Erie County, New York

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
Area C Pre							
SHEET	100	0.0220	0.150				0.190
SHALLOW	1912	0.0140	0.050				0.278
				Time of Concentration			.468

ARH

Area C Pre
Erie County, New York

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use		Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
Area C Pre	Brush - brush, weed, grass mix	(good)	A	30.8	30
	Brush - brush, weed, grass mix	(good)	B	8.5	48
	Brush - brush, weed, grass mix	(good)	C	28	65
	Brush - brush, weed, grass mix	(good)	D	26.1	73
	Total Area / Weighted Curve Number			93.4	54
				====	==

WinTR-55 Current Data Description

--- Identification Data ---

User: ARH
Project:
SubTitle: Area C Post
State: New York
County: Erie
Filename: Z:\MCE\M2220 Alleghany Road (Geis)\DOCS\Area C Post.w55

Date: 1/4/2023
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
Area C Pos		Outlet	93.4	54	.293

Total area: 93.40 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.2	2.69	3.25	3.84	4.48	6.0	1.8

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ARH

Area C Post
Erie County, New York

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
2.2	2.69	3.25	3.84	4.48	6.0	1.8

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

ARH

Area C Post
Erie County, New York

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 10-Yr (cfs)	25-Yr (cfs)	100-Yr (cfs)	1-Yr (cfs)
SUBAREAS				
Area C Pos	9.72	27.68	140.96	.00
REACHES				
OUTLET	9.72	27.68	140.96	.00

ARH

Area C Post
Erie County, New York

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 10-Yr (cfs) (hr)	25-Yr (cfs) (hr)	100-Yr (cfs) (hr)	1-Yr (cfs) (hr)
SUBAREAS				
Area C Pos	9.72 12.16	27.68 12.12	140.96 12.10	.00 n/a
REACHES				
OUTLET	9.72	27.68	140.96	.00

ARH

Area C Post
Erie County, New York

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
Area C Pos	93.40	0.293	54	Outlet	

Total Area: 93.40 (ac)

ARH

Area C Post
Erie County, New York

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
Area C Pos							
SHALLOW	15	0.0150	0.025				0.002
SHALLOW	1997	0.0140	0.050				0.291
				Time of Concentration			.293

ARH

Area C Post
Erie County, New York

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use		Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
Area C Pos	Brush - brush, weed, grass mix	(good)	A	31.2	30
	Brush - brush, weed, grass mix	(good)	B	7.7	48
	Brush - brush, weed, grass mix	(good)	C	28.2	65
	Brush - brush, weed, grass mix	(good)	D	26.3	73
	Total Area / Weighted Curve Number			93.4	54
				====	==

APPENDIX E
Green Infrastructure Planning and Design

STORMWATER POLLUTION PREVENTION PLAN

GREEN INFRASTRUCTURE PLANNING AND DESIGN

The New York State Stormwater Management Design Manual (January, 2015) outlines a five-step process that planners and designers must use to address runoff reduction from development sites. This process involves consideration of stormwater management through site planning and consideration of green infrastructure techniques, as well as standard stormwater management practices in an effort to achieve reduction in runoff volumes from the developed site and improve the quality of stormwater discharges from the project site. The five steps include:

1. Site Planning to preserve natural features and reduce impervious cover,
2. Calculation of the Water Quality Volume (WQv) for the site,
3. Incorporation of Green Infrastructure techniques and standard SMP's with Runoff Reduction Volume (RRv) capacity,
4. Use of Standard SMP's, where applicable, to treat the portion of water quality volume not addressed by Step 3 (Green Infrastructure techniques and standard SMP's with Runoff Reduction Volume (RRv) capacity); and
5. Design of volume and peak rate control practices where required.

The following sections discuss how this five-step process was used for this project.

<u>Step 1: Site Planning</u>

A. Conserve Natural Areas

1. Preservation of Undisturbed Areas

   The east end of the site contains wetlands. These areas have been deliberately avoided and will remain as natural areas.

2. Preservation of Buffers

   The east end of the site will be avoided which will provide a large buffer.

3. Reduction of Clearing and Grading

   The project has been designed to limit clearing and grading to the minimum amount needed for roadways, buildings, utilities and stormwater management facilities.

4. Locating Development in Less Sensitive Areas

   The parcel contains a wetlands to the east. This more sensitive area will be left undeveloped.

5. Open Space Design

   This is a commercial site and not a candidate for an open space design.

6. Soil Restoration

   Restoration of soils for proposed grassed areas, will be as required by the NYS Stormwater Management Design Manual.

B. Reduce Impervious Cover

1. Roadway Reduction
   The roadways have been design to meet the minimum amount needed for the proposed development and fire codes.

2. Sidewalk Reduction
   This project has no proposed sidewalks.

3. Driveway Reduction
   The driveways are designed to ensure the driveways are as narrow as possible.

4. Cul-de-sac Reduction
   The site has no culs-de-sac.

5. Building Footprint Reduction
   The footprints have designed to the minimum size needed for the intended use.

6. Parking Reduction
   Parking has been designed to the minimum needed to serve the buildings.

Step 2: Determine Water Quality Volume (WQv)

The water quality volume of the site has been calculated by the methods specified in the manual: The calculations are provided on the attached spreadsheet.

Step 3: Runoff Reduction by Applying Green Infrastructure Techniques and Standard SMP's with Runoff Reduction Volume (RRv) capacity

1. Conservation of Natural Areas
   The west end of the contains a wetland. These areas have been deliberately avoided and will remain as natural areas.

2. Sheet flow to Riparian Buffers or Filter Strips
   A filter strip has been designed to sheet flow onto the bioretention area.

3. Vegetated Open Swales
   The site does not lend itself to open swales.

4. Tree Planting / Tree Box
   The site has been actively farmed and most of the area to be developed has already been cleared of trees The trees to the west will be preserved.

5. Disconnection of Rooftop Runoff
   This is a commercial site. The rainwater from the rooftops will be directed to a bio retention area and then a wet detention area with an outlet control structure.

6. Stream Daylighting
   Not Applicable to this project, as there are no piped streams running through the site.

7. Rain Garden
   The project is commercial in nature. The use of rain gardens would not be practical.

8. Green Roof
   This project consists of commercial structures with traditional roof styling and are not conducive to the use of green roofs.

9. Stormwater Planters
   The intended use of this project does not allow for stormwater planters.

10. Rain Tanks / Cisterns
    The project is commercial in nature. The use of rain tanks would not be practical.

11. Porous Pavement
    Due to the severe weather, frost heave and the need for snow plowing in Western New York, porous pavement is not practical.

12. Standard SMP's with RRv Capacity
    Infiltration Practice, Bioretention Practice, Dry Swale (Open Channel Practice)

    This site uses a bioretention areas to provide most of the needed Green Infrastructure.

Step 4: Apply Standard SMP's To Address Remaining WQv and
Step 5: Apply Volume and Peak Rate Control Practices

The Standard SMP's from the NYS Stormwater Management Design Manual include: Stormwater Ponds, Stormwater Wetlands, Filters, Infiltration, and Open Channels.

For this project, two wet detention ponds were designed to address the remaining WQv for the site, as well as provide volume and peak rate controls. A complete set of Stormwater Calculations have been prepared. A bioretention area will provide pretreatment and filtration of stormwater prior to discharging the water to the wet ponds. Stormwater will be discharged from the wet pond through an outlet control structure.

The pond will receive and detain flows until the storm subsides and allows the pond to drain through the outlet control structure. The pond has been designed, in accordance with the New York State Stormwater Management Design Manual, to allow for sufficient storage to attenuate and release stormwater from the developed site at discharge rates not exceeding the pre-developed rates for the following conditions:

- <u>Channel Protection Volume Requirements:</u> Attenuate 1-year post development peak discharge to 1-year pre-development peak discharge.
- <u>Overbank Flood Requirements:</u> Attenuate 10-year post development peak discharge to 10-year pre-development peak discharge.
- <u>Extreme Flood Requirements:</u> Attenuate 100-year post development peak discharge to 100-year pre-development peak discharge.

Summary:
The stormwater management system for this project has been designed to incorporate Green Infrastructure Techniques through planning measures as discussed above.
The RRv achieved by these practices meets the minimum RRv required for the site. Supporting calculations are given on the attached spreadsheets.

Area A - 96.50 acres - Bioretention with wet pond, controlled outlet
Area B - 20.80 acres - Bioretention with wet pond, controlled outlet
Area C - 93.40 acres - Conservation of natural areas (WQV reduced by area reduction)
Total area 210.7 acres

Min RRv required - 99,023 cu.ft.
Area A Bioretenion - RRV provided - 72,271 cu.ft.
Area B Bioretention- RRV provided - 9,800 cu.ft.
Area C Conservation - RRV provided - 16,952 cu.ft.
Total RRV provided - 99, 023 cuft

The WQv will be treated by two on site stormwater detention ponds, bioretention pretreatment and outlet control structures. Therefore the site complies with the requirements set forth in the New York State Department of Environmental Conservations Stormwater Design Manual.

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	96.50	72.80	0.75	0.73	255352.35	Bioretention
2	20.80	6.20	0.30	0.32	24,031	Bioretention
3	93.40	0.00	0.00	0.05	16952.10	Conservation of
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

Minimum RRv

Enter the Soils Data for the site		
Soil Group	Acres	S
A	69.50	55%
B	19.00	40%
C	63.20	30%
D	**59.00**	20%
Total Area	210.7	
Calculate the Minimum RRv		
S =	**0.36**	
Impervious =	79.00	*acre*
Precipitation	1	*in*
Rv	0.95	
Minimum RRv	**99,023**	***ft3***
	2.27	af

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)?......						No		
Design Point:			*Manually enter P, Total Area and Impervious Cover.*					
P=	1.00	*inch*						
Breakdown of Subcatchments								
Catchment Number	**Total Area** *(Acres)*	**Impervious Area** *(Acres)*	**Percent Impervious** *%*	**Rv**	**WQv** *(ft^3)*	**Description**		
1	96.50	72.80	75%	0.73	255,352	Bioretention		
2	20.80	6.20	30%	0.32	24,031	Bioretention		
3	93.40	0.00	0%	0.05	16,952	Conservation of Natural Areas		
4								
5								
6								
7								
8								
9								
10								
Subtotal (1-30)	210.70	79.00	37%	0.39	**296,335**	**Subtotal 1**		
Total	210.70	79.00	37%	0.39	**296,335**	**Initial WQv**	**6.80**	**af**

Identify Runoff Reduction Techniques By Area			
Technique	**Total Contributing Area** *(Acre)*	**Contributing Impervious Area** *(Acre)*	**Notes**
Conservation of Natural Areas	93.40	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	**93.40**	**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"	210.70	79.00	37%	0.39	296,335		
Subtract Area	-93.40	0.00					
WQv adjusted after Area Reductions	**117.30**	**79.00**	67%	0.66	279,383		
Disconnection of Rooftops		0.00					
Adjusted WQv after Area Reduction and Rooftop Disconnect	117.30	79.00	67%	0.66	**279,383**	**6.41**	af
WQv reduced by Area Reduction techniques					16,952	**0.39**	af

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)*
3	93.40	0.00	0.00	0.05	16952.10	#NAME?

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?	*No*
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	***93.40***	***Acres from Total Area***
Subtract	***0.00***	***Acres from Total Impervious Area***

Runoff Reduction Volume and Treated volumes					
	Runoff Reduction Techiques/Standard SMPs		**Total Contributing Area**	**Total Contributing Impervious Area**	**WQv Reduced (RRv)**
			(acres)	**(acres)**	**cf**
Area/Volume Reduction	Conservation of Natural Areas	RR-1	93.40	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		0.00	
	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
	Infiltration Basin	I-2	0.00	0.00	0
	Dry Well	I-3	0.00	0.00	0
	Underground Infiltration System	I-4			
	Bioretention & Infiltration Bioretention	F-5	117.30	79.00	83720
	Dry swale	O-1	0.00	0.00	0
Standard SMPs	Micropool Extended Detention (P-1)	P-1			
	Wet Pond (P-2)	P-2			
	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		→	93.40	0.00	16952
Totals by Volume Reduction		→	0.00	0.00	0
Totals by Standard SMP w/RRV		→	117.30	79.00	83720
Totals by Standard SMP		→	0.00	0.00	

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 (ft³)	Precipitation (in)	Description
1	96.50	72.80	0.75	0.73	255352.35	1.00	Bioretention
Enter Impervious Area Reduced by Disconnection of Rooftops		0.00	75%	0.73	255,352	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.					0	ft^3	
Soil Information							
Soil Group		A					
Soil Infiltration Rate		2.00	*in/hour*	*Design as an infiltration bioretention practice*			
Using Underdrains?		Yes	*Okay*				
Calculate the Minimum Filter Area							
				Value		Units	Notes
WQv				255,352		ft^3	
Enter Depth of Soil Media			*df*	2.5		*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*	2.5		*days*	
Required Filter Area			***Af***	**170235**		ft^2	
Determine Actual Bio-Retention Area							
Filter Width		140	*ft*				
Filter Length		880	*ft*				
Filter Area		123200	ft^2				
Actual Volume Provided		184800	ft^3				
Determine Runoff Reduction							
Is the Bioretention contributing flow to another practice?			Yes	Select Practice		Other/Standard SMP	
RRv		73,920					
RRv applied		**73,920**	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		181,432	ft^3	This volume is directed another practice			
Sizing √		Error		*Check to be sure Area provided ≥ Af*			

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 *(ft³)*	Precipitation *(in)*	Description
2	20.80	6.20	0.30	0.32	24030.60	1.00	Bioretention
Enter Impervious Area Reduced by Disconnection of Rooftops		0.00	30%	0.32	24,031	<<WQv after adjusting for Disconnected Rooftops	
Enter the portion of the WQv that is not reduced for all practices routed to this practice.					0	*ft³*	

Soil Information					
Soil Group	C				
Soil Infiltration Rate	2.00	*in/hour*	*Design as an infiltration bioretention practice*		
Using Underdrains?	Yes	*Okay*			
Calculate the Minimum Filter Area					
			Value	Units	Notes
WQv			24,031	*ft³*	
Enter Depth of Soil Media		*df*	2	*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***	**19224**	***ft²***	
Determine Actual Bio-Retention Area					
Filter Width	140	*ft*			
Filter Length	140	*ft*			
Filter Area	19600	*ft²*			
Actual Volume Provided	24500	*ft³*			
Determine Runoff Reduction					
Is the Bioretention contributing flow to another practice?		Yes	Select Practice	Other/Standard SMP	
RRv	9,800				
RRv applied	**9,800**	***ft³***	***This is 40% of the storage provided or WQv whichever is less.***		
Volume Treated	0	*ft³*	*This is the portion of the WQv that is not reduced in the practice.*		
Volume Directed	14,231	*ft³*	This volume is directed another practice		
Sizing √	OK		*Check to be sure Area provided ≥ Af*		

NOI QUESTIONS

#	NOI Question	Reported Value	
		cf	af
28	Total Water Quality Volume (WQv) Required	296335	*6.803*
30	Total RRV Provided	100672	*2.311*
31	Is RRv Provided ≥WQv Required?	No	
32	Minimum RRv	99023	*2.273*
32a	Is RRv Provided ≥ Minimum RRv Required?	Yes	
33a	Total WQv Treated	0	*0.000*
34	Sum of Volume Reduced & Treated	100672	*2.311*
34	Sum of Volume Reduced and Treated	100672	*2.311*
35	Is Sum RRv Provided and WQv Provided ≥WQv Required?	No	

Contact Regional Office

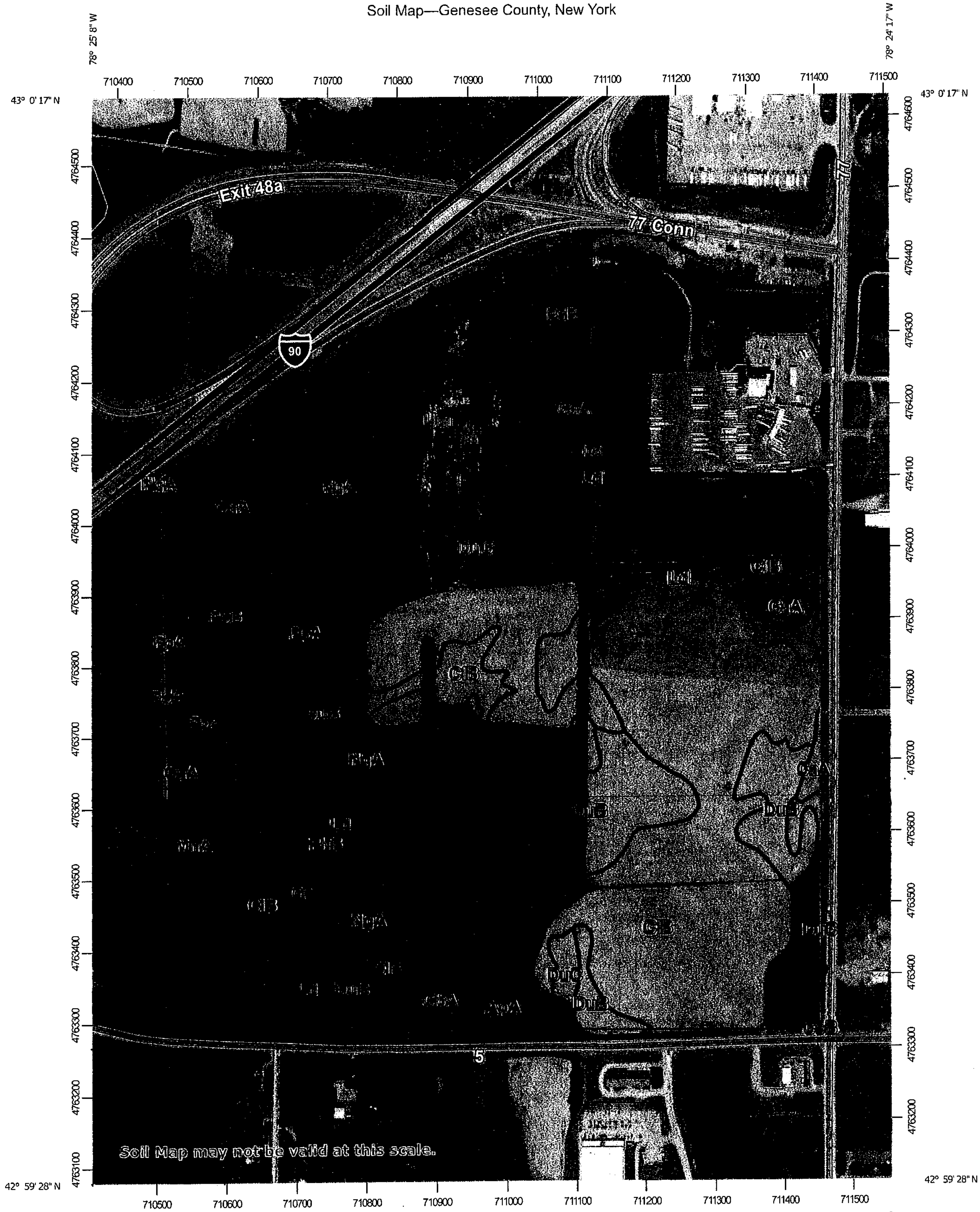
Apply Peak Flow Attenuation			
36	Channel Protection	*Cpv*	
37	Overbank	*Qp*	
37	Extreme Flood Control	*Qf*	
	Are Quantity Control requirements met?	*Yes*	Plan Completed

APPENDIX F

Site Soils Map Data

STORMWATER POLLUTION PREVENTION PLAN

Soil Map—Genesee County, New York



Map Scale: 1:7,380 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 350 700 1400 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

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 1:24,000.

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: Genesee County, New York
Survey Area Data: Version 23, 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: Jun 15, 2020—Jun 17, 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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI		Percent of AOI	PRIME FARMLAND
ApA	Appleton silt loam, 0 to 3 percent slopes	1.5	C	0.8%	PRIME
CaA	Canandaigua silt loam, 0 to 2 percent slopes	16.9	D	8.5%	STATEWIDE
CbA	Canandiagua mucky silt loam, 0 to 2 percent slopes	1.0	C	0.5%	NOT
CeB	Cazenovia silt loam, 3 to 8 percent slopes	0.0	B	0.0%	PRIME
ClB	Collamer silt loam, 2 to 6 percent slopes	62.1	A	31.2%	PRIME
DuB	Dunkirk silt loam, 2 to 6 percent slopes	17.3	C	8.7%	PRIME
DuC	Dunkirk silt loam, 6 to 12 percent slopes	21.3	C	10.7%	STATEWIDE
FpA	Fredon gravelly loam, 0 to 3 percent slopes	4.5	B	2.2%	PRIME
GP	Gravel pits	1.6	—	0.8%	NOT
Ld	Lamson very fine sandy loam	31.6	D	15.9%	NOT
MnA	Minoa very fine sandy loam, 0 to 2 percent slopes	2.8	C	1.4%	PRIME
NgA	Niagara silt loam, 0 to 2 percent slopes	13.1	C	6.6%	PRIME
PhB	Palmyra gravelly loam, 3 to 8 percent slopes	4.2	B	2.1%	PRIME
PsB	Phelps gravelly loam, 3 to 8 percent slopes	5.7	B	2.8%	PRIME
Um	Udorthents, smoothed	15.6	—	7.8%	NOT
Totals for Area of Interest		**199.1**		**100.0%**	

HSG	ACRES
A - 33%	69.5
B - 9%	19.0
C - 30%	63.2
D - 28%	59.0
100%	210.7

APPENDIX G

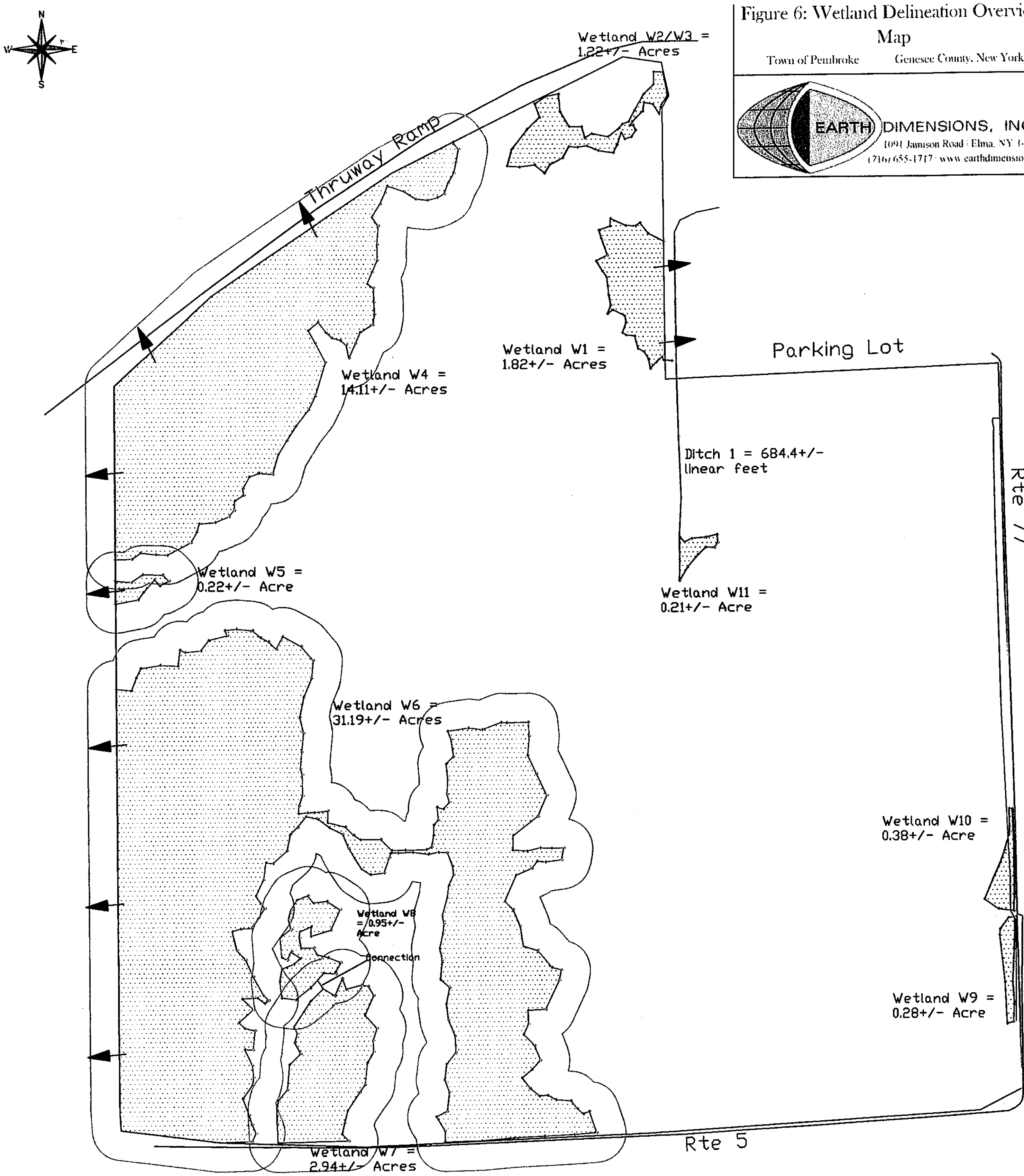
Wetland Map

STORMWATER POLLUTION PREVENTION PLAN

Figure 6: Wetland Delineation Overview Map

Town of Pembroke Genesee County, New York

EARTH DIMENSIONS, INC.
1091 Jamison Road | Elma, NY 14059
(716) 655-1717 | www.earthdimensions.com



Scale: 0 200' 400'

Map Date: September 2, 2022/ TJS for EDI
Revised: November 8, 2022

Base Map Provided By: Trimble Geo 7X

File Name: Delineation map.dwg

EDI Project Code: W29I08c