Appendix A

SEQRA DOCUMENTATION

SEQR

State Environmental Quality Review

Notice of Completion of Draft Environmental Impact Statement
and
Notice of SEQR, Site Plan, and Wetland Permit Public Hearings

Lead Agency: Town of Southeast Planning Board **Date:** June 13, 2022

Address: 1 Main Street
Brewster, NY 10509

This Notice is issued pursuant to Article 8 of the New York State Environmental Conservation Law (State Environmental Quality Review Act "SEQRA") and its implementing regulations.

A Draft Environmental Impact Statement (DEIS) has been completed and accepted by the Town of Southeast Planning Board, as lead agency, for the proposed action described below.

A public hearing to receive public comment on the DEIS, site plan, and wetland permit applications is scheduled for 7PM on August 8, 2022 at the Southeast Town Offices, 1360 Route 22, Brewster, NY, 10509. Written comments are requested and will be accepted by the Planning Board until the close of business on August 26, 2022, or 10 days following the close of the hearing if adjourned to a later date. Written comments should be addressed to the following Contact Person: Victoria Desidero, Administrative Assistant, Town of Southeast Planning Board, 1 Main Street, Brewster, NY 10509. Phone: 845-279-7736. E-mail: planning@southeast-ny.gov.

Name of Action: ProSwing-Pugsley (Brewster Yards)

Description of Action:

ProSwing Sports Realty, Inc. (the "Applicant") proposes to construct a commercial recreation complex to include a 34,855-square foot recreation building, various smaller concession/restroom and maintenance buildings of 3,600 square feet or less each, nine synthetic turf fenced and lighted baseball fields with amenities, one synthetic turf multi-sport field, and associated utilities including two or more wells, a septic system, and stormwater management areas (the "Project") on a +/- 82-acre property located at 160 and 132 Pugsley Road (the "Project Site") within the RC Zoning District in the Town of Southeast (Tax Map ID 45.-1-10 and 11).

A portion of the Project Site is located within the Ridgeline Overlay District. As part of the Project, a portion of Barrett Road/Zimmer Road on the east side of Pugsley Road would be widened, all of which are Town owned roads. As part of the Project, existing parcels 45.-1-10 ("Lot 10") and 45.-1-11 ("Lot 11") would be subdivided to reduce the overall lot size from 153.5 acres to 81.8 acres. Lot 10 would be reduced in size from 93 acres to 66.2 acres and Lot 11 would be reduced from 60.5 acres to 15.6 acres. The balance of the land would be retained by the Town. The Project would disturb approximately 46.6 acres, including 5.1 acres of Town of Southeast wetland buffer/controlled area.

Location: 132 and 160 Pugsley Road in the Town of Southeast, Putnam County, New York. (Tax Lots: 45.-1-10 and 11)

Potential Environmental Impacts:

The DEIS analyzes the following areas of potential environmental impacts: Land Use, Zoning, and Public Policy; Community Services; Economic Conditions; Visual Resources and Community Character; Cultural Resources; Natural Resources; Geological Resources; Water Resources and Wetlands; Traffic and Transportation; Infrastructure and Energy; Air Quality; and Noise.

A copy of the DEIS and additional information may be obtained from:

Contact Person: Victoria Desidero, Planning Board Secretary

Address: Town of Southeast
1 Main Street
Brewster, NY 10509

Telephone Number: (845) 279-7736

Additional copies for public review are available at:

Town of Southeast Town Clerk, 1360 Route 22, Brewster, NY 10509

Brewster Public Library, 79 Main Street, Brewster, NY 10509

Town of Southeast web-site: https://www.southeast-ny.gov/383/Brewster-Yards-pka-ProSwing

A copy of this notice has been sent to:

Lead Agency:

Planning Board, Town of Southeast, 1 Main Street, Brewster, NY 10509

Involved Agencies:

Town of Southeast Town Clerk, 1360 Route 22, Brewster, NY 10509

Town of Southeast Town Board, 1360 Route 22, Brewster, NY 10509

Town of Southeast Planning Board / Architectural Review Board, 1 Main Street, Brewster, NY 10509

Town of Southeast Zoning Board of Appeals, 1360 Route 22, Brewster, NY 10509

Town of Southeast Highway Superintendent, 10 Palmer Road, Brewster, NY 10509

Town of Southeast Building Inspector, 1 Main Street, Brewster, NY 10509

Putnam County Department of Health, 1 Geneva Road, Brewster, NY 10509

Putnam County Department of Planning, Development & Public Transportation, 841 Fair St, Carmel Hamlet, NY 10512

Putnam County Highways & Facilities, 842 Fair Street, Carmel, NY 10512

New York City Department of Environmental Protection, Bureau of Water Supply, 465 Columbus Avenue, Valhalla, New York 10595-1336

New York State Department of Environmental Conservation, 625 Broadway, Room 538, Albany, New York 12233-1750

New York State Department of Environmental Conservation, Region 3, 21 South Putt Corners Road, New Paltz, NY 12561-1696

New York State Department of Transportation, Traffic Engineering & Safety Division, SEQR Unit, 4 Burnett Boulevard, Poughkeepsie, NY 12603

New York State Department of Transportation, Region 8, 4 Burnett Boulevard, Poughkeepsie, NY 12603

New York State Department of Transportation, Main Office, 50 Wolf Road, Albany, NY 12232

New York State Department of Parks, Recreation & Historic Preservation, 625 Broadway, Albany, NY 12207

United States Army Corps of Engineers, New York District, Attn: Chief, Eastern Permits Section, 26 Federal Plaza, New York, NY 10278

Interested Agencies:

New York State Office of the Attorney General, Environmental Protection Bureau, NYC Watershed Inspector General Scientist, The Capitol, Albany, NY 12224

Metro-North Headquarters, Attn: Louis Oliva, Deputy General Counsel – Environmental, 2 Broadway, New York, NY 10004

US Fish and Wildlife Service, New York Field Office, 3817 Luker Road, Cortland, NY 13045

Town of Patterson, Patterson Town Hall, 1142 Route 311 – PO Box 470, Patterson, NY 12563

Town of Southeast Fire Inspector / E-911 Coordinator, 1 Main Street, Brewster, NY 10509

Brewster Fire Department, 501 North Main Street, Brewster, NY 10590

Putnam County Sherriff's Department, 3 County Center, Carmel, NY 10512

New York State Police, Brewster Barracks, 1672 Route 22, Brewster, NY 10590

Property owners within 500 feet of the Project Site

Town's Consultants:

AKRF, Inc., 34 South Broadway, Suite 300, White Plains, NY 10601

Nathan L. Jacobson & Associates, 86 Main Street, P.O. Box 337, Chester, CT

Aspect 120 Landscape Architecture PC, 90 North Broadway, Suite 223, Irvington, NY 10533

Applicant:

ProSwing Sports Realty, Inc., 14 Autumn Ridge Road, South Salem, NY 10590

DEIS Preparer and Project Engineer:

KG+D Architects, PC, 285 Main Street, Mount Kisco, NY 10549

Environmental Notice Bulletin:

NYS Department of Environmental Conservation, 625 Broadway, 4th Floor, Albany, NY 12233-1750

Adopted Scoping Document for Draft Environmental Impact Statement for the Proposed Development of Pugsley Road Site Baseball Complex

A. PROPOSED PROJECT

Proswing Sports Realty, Inc., (Applicant) seeks to construct and use a commercial recreation complex for baseball and other sports on approximately 82 acres of land located on Pugsley Road, and Fields Corner Road in the Town of Southeast, Putnam County, New York. The project is being called "Brewster Yards". The site comprises two parcels of land separated by land owned by the Town (formerly Zimmer Road). The property is located in the RC Rural Commercial zoning district.

In 2020, the State Legislature passed and the New York State Governor signed legislation authorizing the Town to discontinue as parklands and to alienate lands on Pugsley Road to permit portions of such lands to be conveyed to Proswing Sports Realty, Inc. for the purpose of developing indoor and outdoor commercial recreation facilities as permitted by the Town Code. The Proposed Action is the securing of approvals to develop a commercial recreation complex on portions of the Pugsley Road lands and transfer of ownership of the subject land from town to private ownership in fulfillment of (1) the approval of a Home Rule resolution adopted by the Town Board, and (2) the Land Exchange Agreement authorized and executed by the Applicant and the Town of Southeast.

The Town of Southeast Planning Board has declared itself as the Lead Agency for purposes of the requisite coordinated environmental review pursuant to the State Environmental Quality Review Act (SEQRA). Based upon its review of an Environmental Assessment Form submitted for the project, the Planning Board has designated the proposed project a Type 1 action under SEQRA. Separate findings statements would be made by each of the Involved Agencies having approval authority for this project.

REQUIRED REVIEWS/APPROVALS

The Proposed Action requires approvals or permits from the following agencies:

- Town of Southeast Town Board – approval of land swap, construction of a Town road (former Zimmer Road)
- Town Planning Board – subdivision approval, site plan approval, wetlands permit, erosion control permit
- Town Zoning Board – variances for minimum front yard setback, environmental conservation buffer, and minimum front parking setback
- Town Architectural Review Board - architectural review report
- Town Highway Superintendent – driveway permit
- County Department of Planning - §239 Review
- County Health Department – well permit, sewer/septic & water systems
- NYCDEP – sewer/septic permit, stormwater management approval
- NYSDEC – wetlands permit, water supply permit, coverage under general permit for stormwater
- NYSDOT – Highway Work Permit for roadwork (if needed)

- NYS OPRHP – Determination of impact on cultural resources
- US ACOE – wetlands permit (if needed)
- Town of Patterson (no approvals, but an interested agency)

POTENTIAL ENVIRONMENTAL IMPACTS

The Environmental Assessment Form and proposed plan prepared for this proposed action identified potential environmental impacts in the following areas:

LAND USE, ZONING, AND PUBLIC POLICY

The proposed project would not require any zoning changes. The proposed project would increase the intensity of land use at the project site.

GEOLOGY, SOILS, AND TOPOGRAPHY

Construction of the proposed project would involve disturbance to slopes in excess of 15 percent, and more than 10 acres of land.

VEGETATION AND WILDLIFE

Construction of the proposed project would permanently disturb vegetated areas including elimination of woodland habitat.

WETLANDS AND WATER RESOURCES

Direct disturbance to wetlands on the property would be avoided however the proposed project will alter buffer/adjacent areas in several locations. Stormwater drainage would flow from stormwater management basins into these wetlands and downstream. The project site is located within the Middle Branch Reservoir basin of New York City's drinking supply watershed. This basin is designated as Phosphorus-Restricted by NYCDEP.

SOCIOECONOMIC CHARACTER, FISCAL IMPACTS, AND COMMUNITY CHARACTER

The project would generate new property and sales tax revenue to the Town, Putnam County, and New York State from land that is now wholly tax exempt. A modest increase in employment taxes would be generated by the project.

COMMUNITY FACILITIES

The project would create potential demand for additional community services such as police and fire. The project would respond to existing demand for recreational facilities in the Town, Putnam County, and the broader region.

CULTURAL AND AESTHETIC RESOURCES

The project site may have had the potential to host prehistoric or historic archaeological resources.

TRAFFIC

The proposed project would generate new traffic on the local roadway network.

AIR QUALITY

The potential for air quality impacts is associated with construction equipment and additional traffic on the local roadway network by workers and clienteles, although below emissions permit levels.

NOISE

The potential for short term noise impacts is associated with construction equipment and periodically during project operation.

INFRASTRUCTURE AND UTILITIES

Additional demand on infrastructure (roads) and utilities (electricity) could result from the development.

CONSTRUCTION

Construction of the proposed project may have temporary impacts on neighboring properties and the roadway network.

B. REQUIRED ELEMENTS OF THE DEIS

GENERAL GUIDANCE

The Draft Environmental Impact Statement (DEIS) is intended to convey general and technical information regarding the potential environmental impacts of the proposed project to the Town of Southeast Planning Board (as Lead Agency), the Town of Southeast Town Board (as an interested agency), as well as several other agencies involved in the review of the proposed project. The DEIS is also intended to convey the same information to the interested public. The Preparer of the DEIS is encouraged to keep this audience of the DEIS in mind as it prepares the document. Enough detail should be provided in each subject area to ensure that most readers of the document will understand, and be able to make decisions based upon, the information provided.

As the DEIS will become, upon acceptance by the Lead Agency, a document supporting objective findings on approvals requested under the application, the Preparer is requested to avoid subjective statements regarding potential impacts. The EIS should contain objective statements and conclusions of facts based upon technical analyses. Subjective evaluations of impacts where evidence is inconclusive or subject to opinion should be prefaced by statements indicating that "It is the applicant's opinion that..." The Lead Agency reserves the right, during review of the document, to request that subjective statements be removed from the document or otherwise modified to indicate that subjective statements are not necessarily representative of the findings of the Agency.

Narrative discussions should be accompanied by appropriate tables, charts, graphs, and figures whenever possible. If a particular subject can be most effectively described in graphic format, the narrative discussion should merely summarize and highlight the information presented graphically. All plans and maps showing the site should include adjacent properties (if appropriate), neighboring uses and structures, roads, and water bodies.

REQUIRED ELEMENTS

The DEIS shall contain an analysis of environmental impacts in the subject areas outlined below and an identification of any significant adverse environmental effects that cannot be avoided if the proposed project is implemented. Information for each of the subject areas shall be provided in individual chapters describing existing conditions, conditions in the future without the proposed project (the "No Build" condition), potential impacts of the proposed project, and mitigation measures for any significant adverse impacts identified. Each chapter shall include a brief introduction identifying the major topics to be considered, relevant methodology used, and thresholds for determining if significant adverse impacts exist. An Executive Summary describing the proposed project and all significant adverse impacts identified shall also be included.

The current conditions on the site shall be considered the existing conditions throughout the technical analyses. The analysis of the future without the project should be based upon conditions projected in the build year for the proposed project (2023). The analysis of the future without the proposed project (the "No Build" condition) shall include, at a minimum, the following projects in the vicinity of the proposed project and any approved mitigation measures (such as road improvements) for the projects:

- Commercial Campus at Fields Corner Project (aka Northeast Interstate Logistics Center), Route 312, Southeast, NY;
- Ace Endico Expansion, 80 International Blvd., Southeast, NY;
- Other projects utilizing Route 312 recently approved or pending approval by the Town of Patterson.

The Applicant shall contact Town of Patterson to identify any other large projects that should be added to this list.

ORGANIZATION AND EXPECTED CONTENT OF DEIS

COVER SHEET AND GENERAL INFORMATION

The Cover Sheet shall identify: the proposed project; its location; the name, address, and phone number of the Lead Agency including a Contact Person; the name, address, and phone number of the Preparer of the DEIS including a Contact Person; the document as a DEIS; the Date of Acceptance of the DEIS by the Lead Agency; the internet address at which the DEIS is posted; and the dates of the Public Hearing and the closing of the Public Comment Period.

Additional information, to be provided on pages following the Cover Sheet, shall list: the name(s) and address(es) of the applicant and its representatives; the name(s) and address(es) of all consultants involved in the project and their respective roles.

The DEIS shall include a list of all Involved and Interested Agencies, Town Departments, and Town Consultants to whom copies of the DEIS and supporting material will be distributed.

A Table of Contents followed by a List of Tables and List of Figures shall be provided.

EXECUTIVE SUMMARY

A. Introduction

B. Description of the proposed action

C. List of all local, County, State, and other approvals required

D. List of all Interested and Involved Agencies

E. Summary of significant impacts identified in each subject area

F. Summary of mitigation measures proposed for significant project impacts

G. Description of alternatives analyzed

CHAPTER 1: PROJECT DESCRIPTION

A. Introduction

1. Identify the document as the Draft Environmental Impact Statement for the proposed action and the location of the proposed action.

B. Project Purpose and Need

1. Describe the Starr Ridge Road "land swap" and Pugsley Road site alienation process that preceded the current site development application.

2. Describe development potential of the Starr Ridge Road site and the parcels at the Pugsley Road site to remain Town-owned open space. Describe how public use and access to these sites will be accommodated.

3. Identify how the operations of the proposed development will be coordinated with existing sports venues to benefit the Town.

C. Project Description

1. Location and Site Setting - include local and regional geographic descriptors, tax map designation(s), size of parcel(s) affected by proposed action, existing and proposed zoning designation(s), adjoining streets and land uses, and natural features or habitats on-site or contiguous (physically, hydrologically, or otherwise) to the site.

2. Project Description - include all information necessary to describe the project and its component parts. Information to be provided should include a description of: the proposed site layout, proposed buildings; operational information including vehicular access, parking, and loading requirements and typical hours of operation; site improvements including grading, roadways, parking areas, drainage features, and pedestrian improvements; provisions to preserve buffers around the project; programmatic information describing the anticipated use of the facility; a description of improvements to be undertaken by the applicant and improvements to be undertaken by the Town of Southeast; and the construction/phasing schedule for the proposed project.

a. Describe access for emergency vehicles to the playfields.

b. Identify number and locations of outside scoreboards, public address systems, playgrounds.

c. Describe walking trail proposed on open space lot, including public access and parking.

3. Building Design - Include description of architectural features of the proposed buildings, including graphic depictions of each of the buildings, façade treatment for all building sides, building materials, screening for HVAC equipment, and integration of green building practices such as those suggested by the United States Green Building Council's Leadership in Energy and Environmental Design (LEED) program.

D. Summary of Approvals Required

CHAPTER 2: LAND USE, ZONING, AND PUBLIC POLICY

A. Introduction

B. Land Use

1. Existing Conditions - Describe existing land use conditions on the project site and in the vicinity of the project. The study area for the land use assessment shall include all land within ¼ mile of the project boundaries.

2. Future Without the Proposed Project

3. Potential Impacts as a Result of the Proposed Project - Describe the relationship of the proposed project with adjoining uses and discuss the effects of this facility on the general land use pattern within the study area.

4. Mitigation Measures Proposed.

C. Zoning

1. Existing Conditions - Describe the existing zoning for the project site. Include information on allowed uses and building bulk and setbacks required within the district.

2. Future Without the Proposed Project, including potential uses of the property other than the proposed use.

3. Potential Impacts as a Result of the Proposed Project - Describe the need for any proposed zoning changes to accommodate the project.

4. Mitigation Measures Proposed.

D. Public Policy

1. Existing Conditions - Outline relevant policies contained in the Town of Southeast Comprehensive Plan Update 2014 and the Town of Southeast Croton Plan with respect to the project site and commercial development at the site. Identify specific provisions within the Comprehensive Plan of relevance to the proposed development.

2. Future Without the Proposed Project

3. Potential Impacts of the Proposed Project - Assess the compatibility of the proposed project with relevant policies contained in the Comprehensive Plan Update and Croton Plan. Provide specific references to the full text of relevant Plan policies.

4. Mitigation Measures Proposed.

CHAPTER 3: COMMUNITY SERVICES

A. Introduction

B. Police - Describe existing police protection in the area. Describe anticipated changes to service levels in the future without the project. Assess potential impacts of the proposed project on police protection on- and off-site.

C. Fire - Describe existing fire protection in the area. Describe anticipated changes to service levels in the future without the project. Assess potential impacts of the proposed project on fire protection.

D. Emergency Medical Services - Describe existing emergency services in the area. Describe anticipated changes to service levels in the future without the project. Assess potential impacts of the proposed project on emergency service provision on- and off-site.

E. Public Works - Describe existing level of Town of Southeast public works services. Describe changes to demands on Town of Southeast services resulting from development in the future without the proposed project. Describe potential impacts to Town public works services with the proposed project.

F. Mitigation Measures Proposed.

CHAPTER 4: ECONOMIC CONDITIONS

A. Introduction

B. Existing Conditions

C. Future Without the Proposed Project

D. Potential Impacts

1. Construction Period – Provide a general discussion of the expected economic impacts to the local economy during the construction period. Identify the number of jobs (in person-years) to be generated directly by the construction.

2. Operation Period - Identify approximate number of employees that would be generated by the proposed project, including seasonal and year-round. Indicate whether employees would be likely to relocate to the Town of Southeast or surrounding communities to fill jobs. Calculate existing and estimated property and sales tax revenues to the Town of Southeast, Putnam County, and New York State from the project site as a result of operation of the proposed project. Coordinate with the Town of Southeast tax assessor to obtain relevant data for the analysis.

E. Mitigation measures proposed.

CHAPTER 5: VISUAL RESOURCES AND COMMUNITY CHARACTER

A. Existing Conditions - Describe through text and photographs the visual character of the project site within the context of its surrounding area. Include a description of prevalent landforms and vegetative cover. Identify any significant views of the project site from local roads, publicly accessible adjoining properties, and I-84.

B. Future Without the Proposed Project

C. Potential Impacts of the Proposed Project - Describe any changes to the landscape character as a result of the proposed project. Provide a topographic map indicating potential visibility of the project site from locations within a one-mile radius of the site. Describe visibility of the project from I-84 and surrounding local roads.

1. Provide a color perspective rendering showing landscaping at the time of project opening.
2. Provide color perspective renderings and/or line-of-sight drawings showing the proposed improvements in the context of the site from any public location from which substantial views of the site are possible but from the following sites at a minimum:
    - A location on I-84 north of the site;
    - A location on I-84 south of the site;
    - Garrity Boulevard;
    - Independent Way;
    - International Boulevard;
    - Representative locations along Pugsley Road and Fields Corner Road (north and south of the site).
3. Identify any portion of the project that would protrude above the ridgeline as defined by the Zoning Code.
4. Describe any proposed signs and site lighting and impacts on near and far views. Identify any impacts to the visual character of the area resulting from the proposed project, including effects on the night sky, and cumulative effect of lighting accounting for activities at the Commercial Campus at Fields Corner site and the Tilly Foster Farm.
5. Describe the increased intensity of land use on Pugsley Road as relates to noise, lighting, traffic, particularly the effect of sports events on the character of the neighborhood.

D. Mitigation Measures Proposed.

CHAPTER 6: CULTURAL RESOURCES

A. Archaeological Resources - Prepare a preliminary assessment of the project site's potential for archaeological sensitivity. A Phase IA documentary study should be prepared that will address the project site’s potential to have hosted prehistoric and historic resources of significance. This assessment will take into consideration known archaeological sites in the area and cite file information from the New York State Office of Parks, Recreation, and Historic Preservation, the New York State Museum, and local sources.

If the Phase IA analysis identifies potential sensitivity for cultural resources on the project site, a Phase IB site survey, including a subsurface investigation, should be completed to determine the presence or absence of cultural resources on the project site.

B. Historic Resources - Identify any designated or eligible historic resources on the project site and on adjacent properties. Assess potential project-related impacts on any identified resources.

C. Future Without the Proposed Project

D. Mitigation Measures Proposed.

CHAPTER 7: NATURAL RESOURCES

A. Introduction - This chapter shall include an overall depiction of the natural conditions found on the project site and shall serve as a means for assessing cumulative impact on natural resources on the project site and for assessing impacts to terrestrial habitat and wildlife. Detailed discussions of potential impact to specific areas of environmental concern are to be included in subsequent chapters.

B. Existing Conditions - Identify vegetative communities and habitat types on the project site and in the vicinity of the site, including a general description of species presence and abundance, age, size, distribution, dominance, community type, productivity and value as habitat for wildlife. Include both migratory and resident wildlife species. Identify any protected native plants, State- or federally-listed threatened or endangered plant and animal species, unique or locally rare plants and animals, and significant habitat areas known or reasonably expected to exist on or in the immediate vicinity of the project site.

This study will include the following tasks:

1. Research relevant information concerning target species including bird, mammal, reptile, amphibian, aquatic and plant species. This research effort will include review of available published data documenting habitat requirements, diagnostic information and known occurrences of different species and habitat types in the project area.
2. Conduct field reconnaissance on the project site to evaluate and document existing habitat types and conditions, determine the presence/absence of the potential habitats associated with the target species, and surveys for individuals of the target species that would be expected to be present on the property.
3. Following the field investigation work, a biological habitat assessment will document the presence or absence of the target species, describe the species identified, and include photographs of the habitat areas and conclusions concerning the potential use of the property by the target species. If observance of sensitive species or significant habitat(s) warrants, the report will make recommendations concerning the need for additional surveys or adjustments to the proposed plan of development to preserve such habitat(s).

Provide a graphic figure of existing onsite vegetation communities/habitats. Provide a single graphic depicting natural resources (wetlands, watercourses, steep slopes, and significant habitat types or vegetative communities) or constrained lands with the outline of proposed improvements shown for reference. Where the environmental features continue beyond site boundaries into neighboring properties, indicate this graphically.

C. Future Without the Proposed Project

D. Potential Impacts of the Proposed Project - Assess the potential impacts to existing vegetative communities or habitat as a result of the proposed project. Describe the proposed method for tree removal and disposal and measures to protect trees to remain. Discuss features of the proposed site plan that reflect steps taken to avoid, minimize or mitigate potential impacts on existing vegetation, wildlife and ecology.

E. Mitigation Measures Proposed.

CHAPTER 8: GEOLOGY

A. Introduction

B. Existing Conditions

1. Soils - Describe on-site soils and their suitability for urban development and on-site stormwater management. Identify depth to groundwater at locations on the project site. Identify any soils known to be highly erodible or significant areas of soil with a high clay fraction. Subsurface investigations that identify soils characteristics necessary for design of stormwater management and wastewater treatment systems shall be performed under the direction of a professional engineer. Provide a graphic figure of onsite soils.
2. Topography - Describe the topography of the site and include a topographic map showing the following slope categories: 0-15 percent, 15-25 percent, and greater than 25 percent. Provide a graphic figure of onsite topography.
3. Bedrock - Describe the depth to bedrock on the project site and the amount, if any, of any bedrock removal and the means and methods anticipated to be used for removing bedrock.

C. Future Without the Proposed Project

D. Potential Impacts of the Proposed Project

1. Soils - Describe the suitability of on-site soils to support stormwater basins; quantify the amount of cut-and-fill and the amount of any soils to be exported from or imported to the site. Provide information on use of excavated soils and materials, and describe procedures for removal of excess material from the site, if applicable. Provide anticipated source of fill, and describe quality of fill, if applicable.
2. Topography - Changes to the site's topography resulting from project grading should be identified and the techniques proposed to minimize soil erosion and slope failure should be described. Identify and analyze impacts to topography and evaluate effect of such impacts.
3. Bedrock - Discuss likelihood of blasting and, if needed, identify areas that will require blasting and quantity amount/extent.
4. Erosion and Sediment Control Plan—Describe grading and excavation plans with respect to changes in drainage patterns and potential soil erosion. Identify and describe measures for controlling erosion and preventing sediments from migrating off site.
5. Identify and describe proposed grading for the Site (with reference to a map showing 2-foot contour intervals and proposed Clearing and Grading Limit Lines).
6. Identify and analyze the amount and location of earthwork anticipated (preliminary cut and fill analysis), identify total amount of disturbance, and evaluate effect of such earthwork.
7. Identify and analyze acreage impacted by construction including quantification of existing steep slopes to be disturbed and new steep slopes to be created and an evaluation of the effect of such impacts.

E. Mitigation Measures Proposed

CHAPTER 9: WATER RESOURCES AND WETLANDS

A. Introduction

B. Existing Conditions:

1. Describe and identify graphically all watercourses and wetlands on the project site and in the vicinity of the site. The description should include the existing drainage patterns on the site, a description of the watershed, and discharge points of existing drainage.
2. Identify applicable regulations or regulated activities within Town of Southeast Town Code and NYCDEP watershed regulations.
3. Provide delineation, field verification, survey and mapping of Town of Southeast, NYSDEC, and U.S. Army Corps of Engineers wetlands and wetland buffers on and within 150 feet of the site, using definition appropriate to each jurisdiction (with reference to a map). Surface water resources within ¼ mile of the Site's boundary will be identified based on existing resource data (e.g. Soils Survey, National Wetland Inventory maps, with reference to a map). Vernal pools that do not meet these definitions shall also be identified. Town of Southeast mapping shall be based upon criteria in Chapter 78 of Town Code.
4. For each respective wetland buffer identify type and percent cover of vegetation (with references to a map). Identify and describe the function of buffer areas.
5. Describe the interconnectivity between wetlands and water resources on the site and in the area.
6. Discuss the existing drainage patterns.
7. Discuss the project site's location within the NYCDEP watershed.
8. Describe flooding issues and any identified 100-year floodplains affecting the project site.
9. Identify regulatory authorities including Town officials, NYCDEP, NYSDEC, and the US Army Corps of Engineers (USACOE) applicable to the project.

C. Future Without the Proposed Project

D. Potential Impacts of the Proposed Project:

1. Assess the potential impacts to existing watercourses qualitatively, including the NYC receiving water (Middle Branch Reservoir) and its tributary watercourses and reservoirs. Identify how on-site drainage patterns will be altered including a qualitative assessment of the resulting impacts to wetlands and streams.
2. Identify, discuss and analyze direct and indirect impacts to wetlands, including vernal pools, and respective wetlands buffer areas as regulated by the Town of Southeast, the NYSDEC and the USACOE, including acreage impacted for each regulatory jurisdiction (with reference to a map). Provide qualitative analysis regarding the potential wetland and wetland buffer impacts including degradation of wetland functions with the criteria for approval in Southeast Town Code Section 78-4.G. Identify and analyze proposed measures to mitigate any disturbance to the Town, NYCDEP and NYDEC buffers.
3. Evaluate impact of proposed stormwater management plan on wetland hydrology and hydrologic cycle as per Chapter 78 of Southeast Town Code.

E. Mitigation Measures Proposed

CHAPTER 10: STORMWATER MANAGEMENT

A. Existing Conditions

1. Describe existing stormwater flow rates and patterns on the site. Provide stormwater flow volumes and peaks using recent rainfall data provided by the Northeast Regional Climate Center (NRCC) incorporated into hydrologic modeling software in accordance with NYSDEC design requirements. Flow volumes should be provided for the 1-, 10-, 25-, and 100-year storm events using site-specific runoff coefficients.

B. Future Without the Proposed Project

C. Potential Impacts of the Proposed Project

1. Using hydrologic modeling software based on the TR-20 and TR-55 methodology with the incorporation of recent rainfall data and distributions provided by the NRCC storm events in accordance with NYSDEC requirements will be analyzed in the existing conditions assessment, quantitatively describe the expected stormwater flows and peaks with the proposed project and related improvements for the 1-, 10-, 25-, and 100-year storm events. Describe measures to ensure that post-development stormwater peak flows will be below existing peak flows. Describe measures to ensure that stormwater runoff from the site in the post-development condition will not adversely affect adjacent and downstream properties and existing off-site drainage facilities. Describe effects on quality and quantity of water resources resulting from increased impervious surfaces and stormwater runoff. Describe all stormwater practices to be used to detain and treat stormwater runoff. Provide calculations to show compliance with NYCDEP and NYSDEC stormwater requirements.

2. Given the project's location within the NYC EOH Watershed, the stormwater design will be developed in accordance with Chapter 10 (Enhanced Phosphorus Removal Supplement) of the *New York State Stormwater Management Design Manual* (*Design Manual*) as well as NYCDEP Rules and Regulations. These enhanced design requirements require targeted practices which are larger and more efficient at the removal of phosphorus than standard practices. Per *Design Manual* Section 10.1.3 Treatment Performance Goals, (specifically goals 3 and 4), stormwater practices will be designed in accordance with Chapter 10 to meet the phosphorus removal goals. Specifically, the stormwater practices provide a minimum of 80% net removal of particulate phosphorus and 60% net removal of dissolved phosphorus. Supplemental simple method phosphorus loading calculations will be provided to show the pre-development phosphorus load is equivalent to the post-development phosphorus load from the completed project. The calculations will support the basis of Chapter 10 of the *Design Manual*, in that stormwater practices designed in accordance with the enhanced phosphorus standards will meet regional goals of not increasing phosphorus from new development.

D. Mitigation measures proposed. Include a discussion of potential green infrastructure practices.

CHAPTER 11: TRAFFIC AND TRANSPORTATION

A. Introduction

1. Conduct a traffic impact study (TIS) that evaluates the impact of project-related traffic on background traffic and road infrastructure projected for the project Build Year 2023.

B. Existing Conditions

1. Traffic Data Collection

a. The traffic impact study (TIS) shall describe the physical conditions of the street network in the project study area including roadway and sidewalk widths, traffic light signalization (i.e., ratio of green to total cycle timings), and other control data and traffic flow conditions (i.e., effective roadway width, etc.) shall be inventoried.

b. Incorporate traffic information from the Commercial Campus at Fields Corner Project DEIS and FEIS as well as from the Ace Endico Expansion Traffic Access and Impact Study, as it relates to existing conditions and the road improvements proposed by those projects. Traffic counts were collected for the Commercial Campus at Fields Corner Project in May 2017.

c. Obtain traffic counts during the anticipated weekday AM and PM peak periods and the Saturday peak period for the proposed project at the following intersections:

- NY 312 & US Route 6
- NY 312 & Pugsley Road
- NY 312 & Interstate 84 Eastbound Ramp & Independent Way
- NY 312 & Interstate 84 Westbound Ramp
- Fair Street & Fields Corner Road

d. Adjust the traffic counts and existing volume data to develop baseline volumes to estimate pre-pandemic traffic volumes for Existing Conditions analysis. A discussion which describes any adjustments made to the traffic count/volume data to establish pre-pandemic traffic volumes shall be provided.

2. Capacity Analysis - Perform a capacity analysis for each peak period at the study intersections using the latest version of the Synchro methodology. Present Level of Service (LOS) and queuing results tabularly for each peak period.

3. Crash/Safety Analysis - Obtain and summarize NYSDOT crash data for the study area intersections for the most recent 3-year period of data available.

C. Future without the Proposed Project

1. Identify projects that may contribute traffic to the study area and scheduled to be completed by the Build Year (No Build projects).

2. Background Traffic Growth - Estimate traffic volumes in the study area in the future without the project (No Build) accounting for existing volume information, a background growth factor, and incremental increases in traffic from No Build projects. Trips generated by these projects shall be determined using Institute of Transportation Engineers (ITE) Trip Generation rates,

information presented in other recent studies (which studies shall be referenced), and/or data supplied by the applicant based on similar facilities.

3. Area Roadway Improvements - Identify area roadway improvements for the Future Without the Proposed Project condition, including those from the Commercial Campus at Fields Corner Project occurring prior to the No Build/Build year of the proposed project.
4. Capacity Analysis - Perform a capacity analysis for the Future Without the Proposed Project for each of the peak periods for the study intersections using the latest version of the Synchro methodology. Present LOS and queuing results tabularly for each peak period.

D. Potential Impacts of the Proposed Project

1. Proposed Project Description - Describe the proposed operations (i.e., practice sessions, open recreation, tournaments) for each of the components of the proposed project, including variations in facility uses by time of day, seasons, and special events.
2. Trip Generation - Use ITE trip generation data and/or actual count data collected from a similar recreation facility to estimate future traffic volumes resulting from the proposed development program. Where possible, trip generation should be determined for each of the facility components (e.g., trail, event center) to identify peak trip generation for each facility component. Identify projected arrival and departure patterns for project-generated traffic. Overlay the project-generated traffic on the future No Build network to determine future Build traffic volumes.
3. Capacity Analysis - Perform a capacity analysis for each of the peak periods at each study intersection using the latest Synchro methodology. Present LOS and queuing results tabularly for each peak period. Identify potential significant adverse impacts of the proposed project. For locations where significant adverse impacts are identified, the feasibility of potential mitigation measures will be evaluated. Conventional transportation system management (TSM) measures -- such as revisions to the signal timings and changes in lane usage, signalization of intersections, street widening, and pavement marking, etc. -- will be considered.
4. Parking - Describe proposed off-street parking for the proposed project. Determine site parking requirements and demonstrate that the number of parking spaces proposed is adequate to accommodate the projected demand.
5. Circulation - Identify primary access paths for passenger vehicles, emergency vehicles, delivery vehicles, and pedestrians. Provide turning-path diagrams (e.g., AutoTURN) showing turning radii in relation to site entrances and exits, circulation routes, parking spaces and pedestrian walkways on the project site for the largest size trucks, buses, and emergency vehicles anticipated on-site.
6. Public Transportation - Describe potential access of public transportation to the site by Putnam Area Rapid Transit (PART) service.
7. Construction-related Impacts - Assess the potential traffic impacts anticipated during construction of the proposed project and its impact on the surrounding area, and identify mitigation measures to minimize these impacts.

E. Mitigation measures proposed.

1. Perform capacity analyses for locations where mitigation measures have been proposed.

CHAPTER 12: INFRASTRUCTURE AND ENERGY

A. Introduction

B. Existing Conditions

1. On-site Water Supply - Describe groundwater resources and existing state- and federally-designated aquifers, if applicable. Describe the water supply system that would be used to serve the project and the ability of the system to handle the anticipated demand for:
    a. Fire Protection
    b. Potable Water Supply
2. On-site Sanitary Wastewater - Describe the land area suitable for an on-site septic field proposed to be used for the project, including slopes, soil types, soil limitations to construction of subsurface septic systems, depth to bedrock and groundwater in the proposed absorption area.
3. Electrical Supply - Describe existing electrical service to the project site.

C. Future Without the Proposed Project

1. On-site Water Supply
2. On-site Sanitary Wastewater
3. Electrical Supply

D. Potential Impacts of the Proposed Project

1. On-site Water Supply
2. On-site Sanitary Wastewater
    a. Describe the anticipated sanitary flow volumes from the proposed project.
    b. Calculate the required absorption area and identify the area required for primary and 100% reserve absorption area.
    c. Conduct a water mounding analysis in accordance with NYSDEC's Design Standards for Intermediate Sized Wastewater Treatment Systems to evaluate the potential/extent of groundwater mounding in the area of the proposed SSTS. Alternatively, describe why a mounding analysis is not applicable to the proposed project and how the proposed wastewater treatment system would be designed to meet all applicable regulations. Provide the necessary calculations and soil test results to back up the assumptions.
    d. Conduct soil testing including percolation testing, infiltration testing and deep test pit inspections to demonstrate that the selected practices and their locations are viable.
3. Electrical Supply - Quantify anticipated electrical demand from the operation of the proposed project. Determine, through correspondence with NYSEG, any potential improvements to service under consideration by NYSEG and whether the anticipated demand will exceed available capacity.

E. Mitigation measures proposed.

CHAPTER 13: AIR QUALITY

A. Introduction

B. Existing Conditions - Describe existing ambient air quality. Discuss ambient air quality conditions and standards within the study area based on available data.

C. Future Without the Proposed Project - Describe expected changes to ambient air quality with respect to development conditions in the Future Without the Proposed Project.

D. Potential Impacts of the Proposed Project - Describe qualitatively any expected changes to ambient air quality from operation of the project related to stationary sources and traffic related sources.

E. Construction-related Impacts - Assess the potential air quality impacts including dust anticipated during construction of the proposed project and its impact on the surrounding area, and identify mitigation measures to minimize these impacts.

F. Mitigation measures proposed.

CHAPTER 14: NOISE

A. Introduction

B. Existing Conditions - Assess existing noise levels on the project site using actual measurements of existing noise levels using sound-measuring equipment in conformance with Chapter 96 of Town Code.

C. Future Without the Proposed Project - Describe expected changes to ambient noise levels as a result of No Build traffic levels.

D. Potential Impacts of the Proposed Project - Estimate project-generated operational noise levels from mobile and stationary sources associated with the proposed project. Assess whether increased noise levels constitute a significant impact based on applicable criteria in Chapter 96 of Town Code. Qualitative assessment of cumulative impacts on noise accounting for activities at the Commercial Campus at Fields Corner site and the Tilly Foster Farm.

E. Construction-related Impacts - Assess the potential noise impacts including blasting anticipated during construction of the proposed project and its impact on the surrounding area, and identify mitigation measures to minimize these impacts.

F. Mitigation measures proposed.

CHAPTER 15: CONSTRUCTION

A. Describe proposed construction phasing, overall schedule for project completion, and hours of construction operations. Describe the equipment and materials storage and/or staging area, anticipated number of construction workers, anticipated lighting and security, and the delivery routes.

B. Summarize the potential environmental impacts due to the construction of the proposed project from the respective assessments of traffic, air quality and noise.

C. Describe the erosion and sediment control plan for the proposed project and any stormwater management practices to be used on a temporary basis.

CHAPTER 16: ALTERNATIVES

A. Provide a narrative description of each impact issue for each alternative identified below. Provide a comparable level of analysis for each potential impact area to allow the Planning Board to evaluate the proposed project in relation to potential alternatives. Summarize the comparative analysis in tabular format.

B. Alternatives

1. No action.
2. Alternative development per existing Rural Commercial (RC) Zoning.
3. Alternative project scale and siting.
4. Natural turf alternative. A comparison should be provided regarding the potential impacts, such as the amount of earthwork involved, the change in hydrology from pervious to impervious surfaces, maintenance, and water use for irrigation.

CHAPTER 17: MITIGATION

Summarize all proposed mitigation for significant impacts identified in the environmental impact statement. Because these measures, once recommended, would become part of the proposed project, their formulation and analysis of their effectiveness would be undertaken in close coordination with the lead agency and other agencies, if necessary.

CHAPTER 18: UNAVOIDABLE ADVERSE IMPACTS

CHAPTER 19: IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

CHAPTER 20: GROWTH INDUCING AND CUMULATIVE IMPACTS

CHAPTER 21: ENERGY CONSUMPTION AND CONSERVATION

PLANNING BOARD/ARCHITECTURAL REVIEW BOARD
TOWN OF SOUTHEAST, NEW YORK
RESOLUTION TO DECLARE LEAD AGENCY,
ISSUE POSITIVE DECLARATION, AND
SET PUBLIC SCOPING PERIOD FOR A DRAFT ENVIRONMENTAL IMPACT STATEMENT

INTRODUCED BY: La Perch **DATE:** September 13, 2021

SECONDED BY: Cyprus

WHEREAS, the Planning Board/Architectural Review Board of the Town of Southeast is in receipt of an application for a site plan, subdivision and wetland permit, and other supporting documents for a project entitled **PRO SWING/BREWSTER YARDS;** and

WHEREAS, ProSwing Sports Realty, Inc. (the "Applicant") proposes to construct a commercial recreation complex to include a 34,855-square foot recreation building, various smaller concession/restroom and maintenance buildings of 3,600 square feet or less each, nine synthetic turf fenced and lighted baseball fields with amenities, one synthetic turf multi-sport field, and associated utilities including two or more wells, a septic system, and stormwater management areas (the "Project") on a +/- 82-acre property located at 160 and 132 Pugsley Road (the "Project Site") within the RC Zoning District in the Town of Southeast (Tax Map ID 45.-1-10 and 11). A portion of the Project Site is located within the Ridgeline Overlay District. As part of the Project, a portion of Barrett Road/Zimmer Road on the east side of Pugsley Road would be widened, all of which are Town owned roads. As part of the Project, existing parcels 45.-1-10 ("Lot 10") and 45.-1-11 ("Lot 11") would be subdivided to reduce the overall lot size from 153.5 acres to 81.8 acres. Lot 10 would be reduced in size from 93 acres to 66.2 acres and Lot 11 would be reduced from 60.5 acres to 15.6 acres. The balance of the land would be retained by the Town. The Project would disturb approximately 46.6 acres, including 4.6 acres of Town of Southeast wetland buffer/controlled area. The Project requires site plan, subdivision, and wetland permit approval from the Planning Board, land swap approval from the Town Board, and several area variances from the ZBA; and

WHEREAS, the Planning Board declared its Intent to be Lead Agency for the project on August 9, 2021; and

WHEREAS, pursuant to §617.6(b)(3) of the State Environmental Quality Review Act (SEQRA), the aforementioned information was mailed to all involved agencies, notifying them that a Lead Agency must be agreed upon within thirty (30) days of the date that the aforementioned information was mailed; and

NOW, THEREFORE BE IT RESOLVED, that the Planning Board/Architectural Review Board of the Town of Southeast declares itself Lead Agency effective September 20, 2021, for purposes of SEQRA for this Type 1 Action provided no objection is received from any Involved Agency prior to that date.

BE IT FURTHER RESOLVED, that the Planning Board/Architectural Review Board of the Town of Southeast has determined based upon its review of the Environmental Assessment Form that the Project has the potential for one or more significant adverse impacts and that this Positive Declaration under SEQRA is hereby issued requiring that an Environmental Impact Statement be prepared; and

BE IT FURTHER RESOLVED, that the Planning Board/Architectural Review Board of the Town of Southeast will hold a public scoping session on September 27, 2021 at 7:00 PM to receive public comment on a draft scoping document prepared by the Applicant pursuant to §617.8 of SEQRA with a written public comment period extending until October 22, 2021.

UPON ROLL CALL VOTE:

T. LaPerch, Chairman	yes	D. Rush, Vice Chairman	yes
E. Cyprus, Boardmember	yes	M. Hecht, Boardmember	yes
J. King, Boardmember	yes	L. Eckardt, Boardmember	yes
G. Pangis, Boardmember	yes		

The resolution was passed by a vote of 7 to 0, with 0 absent.

T. LaPerch /vad

T. LaPerch, Chairman
Southeast Planning Board / Architectural Review Board

State Environmental Quality Review
POSITIVE DECLARATION
Notice of Intent to Prepare a Draft EIS
Determination of Significance

Date: September 13, 2021

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law.

The Town of Southeast Planning Board, as Lead Agency, has determined that the Proposed Action described below may have a significant adverse impact on the environment and, therefore, a Draft Environmental Impact Statement (DEIS) will be prepared by the Applicant.

Name of Action: Brewster Yards / ProSwing

SEQR Status: Type I

Description of Action: ProSwing Sports Realty, Inc. (the "Applicant") proposes to construct a commercial recreation complex to include a 34,855-square foot recreation building, various smaller concession/restroom and maintenance buildings of 3,600 square feet or less each, nine synthetic turf fenced and lighted baseball fields with amenities, one synthetic turf multi-sport field, and associated utilities including two or more wells, a septic system, and stormwater management areas (the "Proposed Action") on a +/- 82-acre property located at 160 and 132 Pugsley Road (the "Project Site") within the RC Zoning District in the Town of Southeast. A portion of the Project Site is located within the Ridgeline Overlay District. As part of the Proposed Action, a portion of Barrett Road/Zimmer Road on the east side of Pugsley Road would be widened, all of which are Town owned roads. As part of the Proposed Action, existing parcels 45.-1-10 ("Lot 10") and 45.-1-11 ("Lot 11") would be subdivided to reduce the overall lot size from 153.5 acres to 81.8 acres. Lot 10 would be reduced in size from 93 acres to 66.2 acres and Lot 11 would be reduced from 60.5 acres to 15.6 acres. The balance of the land would be retained by the Town. The Proposed Action would disturb approximately 46.6 acres, including 4.6 acres of Town of Southeast wetland buffer/controlled area. The Proposed Action requires site plan, subdivision, and wetland permit approval from the Planning Board, land swap approval from the Town Board, and several area variances from the ZBA.

Location: 160 and 132 Pugsley Road, Brewster, NY 10509. Tax Map ID 45.-1-10 and 11.

Reasons Supporting This Determination:

The Planning Board/Architectural Review Board of the Town of Southeast has determined based upon its review of the Full Environmental Assessment Form that the Proposed Action has the potential for one or more significant adverse environmental impacts as listed in Part 617.7(c) of Title 6 NYCRR (the Statewide regulations pertaining

to SEQRA) and that an Environmental Impact Statement (EIS) shall be prepared. The Proposed Action has the potential to result in the following environmental impacts:

LAND USE, ZONING, AND PUBLIC POLICY: The Proposed Action would not require any zoning changes. The Proposed Action would increase the intensity of land use at the Project Site.

GEOLOGY, SOILS, AND TOPOGRAPHY: Construction of the Proposed Action would involve disturbance to slopes in excess of 15 percent, and more than 10 acres of land.

VEGETATION AND WILDLIFE: Construction of the Proposed Action would permanently disturb vegetated areas including elimination of woodland habitat.

WETLANDS AND WATER RESOURCES: Direct disturbance to wetlands on the property would be avoided however the Proposed Action will alter buffer/adjacent areas in several locations. Stormwater drainage would flow from stormwater management basins into these wetlands and downstream. The Project Site is located within the Middle Branch Reservoir basin of New York City's drinking supply watershed. This basin is designated as Phosphorus-Restricted by NYCDEP.

SOCIOECONOMIC CHARACTER, FISCAL IMPACTS, AND COMMUNITY CHARACTER: The Proposed Action would generate new property and sales tax revenue to the Town, Putnam County, and New York State from land that is now wholly tax exempt. A modest increase in employment taxes would be generated by the Proposed Action.

COMMUNITY FACILITIES: The Proposed Action would create potential demand for additional community services such as police and fire. The Proposed Action would respond to existing demand for recreational facilities in the Town, Putnam County, and the broader region.

CULTURAL AND AESTHETIC RESOURCES: The Project Site may have had the potential to host prehistoric or historic archaeological resources.

TRAFFIC: The Proposed Action would generate new traffic on the local roadway network.

AIR QUALITY: The potential for air quality impacts is associated with construction equipment and additional traffic on the local roadway network by workers and clienteles, although below emissions permit levels.

NOISE: The potential for short term noise impacts is associated with construction equipment and periodically during project operation.

LIGHTING: The Proposed Action has the potential to result in light shining onto adjoining properties. The Proposed Action may result in lighting creating sky-glow brighter than existing area conditions.

INFRASTRUCTURE AND UTILITIES: Additional demand on infrastructure (roads) and utilities (electricity) could result from the development.

CONSTRUCTION: Construction of the Proposed Action may have temporary impacts on neighboring properties and the roadway network.

Scoping of DEIS:

The Planning Board/Architectural Review Board of the Town of Southeast will hold a **public scoping session on September 27, 2021, at 7:00 PM at Town Hall, 1360 Route 22, Brewster, NY** to receive public comment on a draft scoping document prepared by the Applicant pursuant to §617.8 of SEQRA.

Written comments on the draft scoping document will be accepted until 4:00 PM on October 22, 2021 and should be submitted to the Planning Board Secretary by U.S. mail [1 Main Street, Brewster, NY 10509] or email [vdesidero@southeast-ny.gov].

A copy of the draft scoping document is available for review at the following address: http://www.townofsoutheast-ny.com/155/Planning-Board-Architectural-Review-Boar

Lead Agency: Town of Southeast Planning Board/Architectural Review Board
1 Main Street
Brewster, NY 10509

Contact: Victoria Desidero
845-279-7736
vdesidero@southeast-ny.gov

A copy of this notice has been filed with:

INVOLVED/INTERESTED AGENCY	
NEW YORK STATE	
New York State Department of Environmental Conservation 625 Broadway Albany, NY 12233 ATTN: Commissioner	SEQR Unit New York State Department of Transportation Traffic Engineering & Safety Division 4 Burnett Blvd. Poughkeepsie, NY 12603
New York State Department of Environmental Conservation Region 3 21 South Putt Corners New Paltz, NY 12561 ATTN: Regional Director	
New York State Historic Preservation Office Peebles Island Resource Center P.O. Box 189 Waterford, NY 12188-0189	
NEW YORK CITY	
New York City Department of Environmental Protection Bureau of Water Supply 465 Columbus Avenue Valhalla, New York 10595-1336	

PUTNAM COUNTY	
Putnam County Department of Planning/Development & Public Transportation Putnam County Transit Facility 2 Route 164 Patterson, New York 12563	Putnam County Department of Health 1 Geneva Road Brewster, New York 10509
Putnam County Highways & Facilities 842 Fair Street Carmel New York 10512	
MUNICIPALITIES	
Town of Patterson Patterson Town Hall PO Box 470 1142 Route 311 Patterson, New York 12563	
TOWN OF SOUTHEAST	
Town Board 1360 Route 22 Brewster, NY 10509	Building Inspector 1 Main Street Brewster, NY 10509
Town Clerk 1360 Route 22 Brewster, NY 10509	Highway Superintendent 10 Palmer Road Brewster, NY 10509
Planning Board 1 Main Street Brewster, NY 1050	Southeast Fire Inspector 1 Main Street Brewster, NY 10509
Zoning Board of Appeals 1 Main Street Brewster, NY 1050	E-911Coordinator / Assessor 1360 Route 22 Brewster, NY 10509
APPLICANT	
ProSwing Sports Realty, Inc. 27 Radio Circle Drive Mount Kisco, NY 10549	
UNITED STATES	
Chief, Eastern Permits Section Department of the Army New York District Corps of Engineers Jacob K. Javits Federal Building New York, NY 10278-0090	

Notice of this determination has been provided to the following email address for publication in the Environmental Notice Bulletin: enb@dec.ny.govs

Appendix B

CORRESPONDENCE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 3
21 South Putt Corners Road, New Paltz, NY 12561-1620
P: (845) 256-3054 | F: (845) 255-4659
www.dec.ny.gov

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

September 1, 2021

VIA EMAIL

Thomas LaPerch, Chairman
Town of Southeast Planning Board
planning@southeast-ny.gov

Re: Brewster Yards – Proswing Sports Realty Inc.
Town of Southeast, Putnam County
DEC ID: 3-3730-00406/00001
SEQR Response

Dear Mr. LaPerch,

The Department of Environmental Conservation (DEC or Department) received the Town of Southeast Planning Board's State Environmental Quality Review Act (SEQR) Lead Agency Coordination for the above-referenced project on August 26, 2021. The proposal involves construction of a recreation complex including ten synthetic turf fields, indoor recreation building, parking, and other fenced/lighted playfields located on the currently undeveloped parcels at 160 and 132 Pugsley Road. The Department has no objection to the Town of Southeast Planning Board serving as lead agency for this project. Based on our review of the submitted Full Environmental Assessment Form (EAF) and the civil drawings for the proposal located on the Planning Board's website, we offer the following comments:

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM (SPDES) WASTEWATER

The EAF indicates that the project would utilize newly proposed septic systems for wastewater disposal, with flow of 1,800 gpd on weekdays and 12,880 gpd on weekends ("equalized flow…of 5,000 gpd"). Please note, sewage effluent discharges of 1,000 gallons per day or greater to groundwater are regulated under Article 17 of the Environmental Conservation Law and may require a permit. For more information and instructions on how to apply for this permit, please visit the DEC website at http://www.dec.ny.gov/permits/6054.html.

SPDES STORMWATER

As the overall project will disturb over 5,000 square feet or more of land within the NYC DEP East of Hudson Watershed, the project sponsor must obtain coverage under the current SPDES General Permit for Stormwater Discharge from Construction Activity (GP-0-20-001), and a Stormwater Pollution Prevention Plan (SWPPP) must be developed which conforms to requirements of the General Permit. Authorization for coverage under this SPDES General Permit is not granted until the Department issues all other necessary DEC permits.

As the site is within a Municipal Separate Storm Sewer System (MS4) community, the SWPPP must be reviewed and accepted by the municipality, and the MS4 Acceptance Form submitted with the SWPPP and the application for coverage, in accordance with the application instructions.

FRESHWATER WETLANDS

Freshwater Wetland LC-28 (Class II) is located on portions of the site. As noted on the plans, DEC staff conducted a site visit and validated the wetland boundary. A Freshwater Wetlands permit from DEC is required for any physical disturbance within these boundaries or within the 100-foot adjacent area.

PROTECTION OF WATERS STREAM DISTURBANCE

The following stream is located within or near the site you indicated:

Name	Class	DEC Water Index Number	Status
Trib and subtribs of Middle Branch Reservoir	C	H-31-P44-23-P59-6-P62-1 and tribs	Non-protected

A Protection of Waters permit is not required to physically disturb the bed or banks (up to 50 feet from stream) of any streams identified above as “non-protected.”

If a permit is not required, please note, however, you are still responsible for ensuring that work shall not pollute any stream or waterbody. Care shall be taken to stabilize any disturbed areas promptly after construction, and all necessary precautions shall be taken to prevent contamination of the stream or waterbody by silt, sediment, fuels, solvents, lubricants, or any other pollutant associated with the project.

WATER QUALITY CERTIFICATION

The site may contain federally regulated wetlands. If the US Army Corps of Engineers requires a permit pursuant to Section 404 of the Clean Water Act, then a Section 401 Water Quality Certification will be required. Issuance of these certifications is delegated in New York State to DEC. If the project qualifies for a Nationwide Permit, it may be eligible for coverage under DEC’s Blanket Water Quality Certification. Coverage under the blanket requires compliance with all conditions in the blanket for the corresponding Nationwide Permit. A copy of the current blanket for the 2017 Nationwide Permits is available on the DEC website at: http://www.dec.ny.gov/docs/permits_ej_operations_pdf/wqcnwp2017.pdf.

In 2020 the EPA implemented a new rule on the processing and issuance of Water Quality Certifications. Among the requirements are submission of a pre-filing meeting request 30-days prior to submission of the application and a number of additional specifications for the application materials themselves. Forms for pre-filing meeting request and a supplemental to the Joint Application for Water Quality Certifications are available online at https://www.dec.ny.gov/permits/6222.html.

You must submit the Water Quality Certification Pre-Filing Request Form at least 30 days before you plan to submit the application. When submitting, the application must include the Water Quality Certification Joint Application Supplement WQC-1 Form.

STATE-LISTED SPECIES

DEC has reviewed the State's Natural Heritage records. We have determined that the site is located within or near record(s) of the following state-listed species:

Name	Status
Northern long-eared bat (*Myotis septentrionalis*)	Threatened

A permit is required for the incidental taking of any species listed as "endangered" or "threatened", which can include removal of habitat. Tree removal associated with this project should occur within the appropriate time of the year work window, November 1 through March 31, to avoid a "take" and direct impacts to Northern-long eared bats. If tree clearing cannot be completed within the acceptable time of year restriction, further review will be required.

The absence of data does not necessarily mean that other rare or state-listed species, natural communities or significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NYCDEP)

The project site is located within the NYCDEP watershed. Please contact NYCDEP directly about any jurisdiction they may have.

WATER WITHDRAWAL

The EAF indicates the daily water demand for the proposed project (12,880 gpd on weekends) however the capacity of pumps to be installed is "TBD". Please note, any water withdrawal system with the capacity to withdraw (i.e., not demand) 100,000 gallons per day or more of water requires a Water Withdrawal permit from the Department. For more information, please visit https://www.dec.ny.gov/lands/55509.html.

CULTURAL RESOURCES

We have reviewed the statewide inventory of archaeological resources maintained by the New York State Museum and the New York State Office of Parks, Recreation, and Historic Preservation. These records indicate that the project is located within an area considered to be sensitive with regard to archaeological resources.

If any DEC permits are required, a determination of impact from the State Historic Preservation Office (SHPO) will be required. For more information, please visit the New York State Office of Historic Preservation website at http://www.nysparks.com/shpo/.

OTHER

Other permits from this Department or other agencies may be required for projects conducted on this property now or in the future. Also, regulations applicable to the location subject to this determination occasionally are revised and you should, therefore, verify the need for permits if your project is delayed or postponed. This determination regarding the need for permits will remain effective for a maximum of one year unless you are otherwise notified. More information about DEC permits may be found at our website, www.dec.ny.gov, under "Regulatory" then "Permits and Licenses." Application forms may be downloaded at http://www.dec.ny.gov/permits/6081.html.

Please feel free to contact me at christopher.lang@dec.ny.govor 845-256-3096 if you have questions regarding the above information. Thank you.

Sincerely,

Chris Lang

Digitally signed by Chris Lang
Date: 2021.09.01 11:59:10 -04'00'

Chris Lang
Division of Environmental Permits

ecc: Sarah Pawliczak, DEC Bureau of Ecosystem Health
Proswing Sports Realty, Inc.
Brian Orzel, US Army Corps of Engineers
Maria Tupper-Goebel, NYCDEP

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

KATHY HOCHUL
Governor

ERIK KULLESEID
Commissioner

February 07, 2022

Fred Wells
Landscape Architect Planner
KG D Architects, PC
285 Main Street
Mount Kisco, NY 10549

Re: DEC
Brewster Yards: Recreational Complex
Town of Southeast, Putnam County, NY
22PR00730

Dear Fred Wells:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials 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 Division for Historic Preservation 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 (6NYCRR Part 617).

OPRHP has reviewed the Phase IA/IB Archaeological Survey Report entitled “Phase IA Literature Search and Sensitivity Assessment & Phase IB Archaeological Field Reconnaissance Survey, Brewster Yards Project, Pugsly and Zimmer Roads, Southeast, Putnam County, New York” prepared by Hudson Valley Cultural Resource Consultants, Ltd. (January 2022; 22SR00072). No archaeological sites were identified by the survey. Therefore, it is the opinion of the 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 you have any questions, I can be reached at Jessica.Schreyer@parks.ny.gov.

Sincerely,

Jessica E. Schreyer

Jessica Schreyer
Scientist Archaeology

Ecological Analysis LLC

633 Rt. 211 East, Suite 4, Box 4
Middletown, NY 10941
Office: (845) 495-0123 • Fax: (866) 688-0836

January 5, 2022

New York State Police
Troop K, Zone 2
1672 New York 22
Brewster, New York, 10509

RE: Proposed Development: Brewster Yards, Town of Southeast, Putnam County

To whom it may concern:

Ecological Analysis (EA) is currently working on the Draft Environmental Impact Statement (DEIS) for the proposed project, Brewster Yards, to be located on Pugsley Road and Fields Corner Road in the Town of Southeast, Putnam County, New York.

Brewster Yards, an indoor and outdoor multi-sport facility, would be developed on 82.0 by year 2023 and would include the following amenities: nine (9) baseball/little league fields, one (1) multi-purpose field, concession, and media support buildings, and 32,000 square foot indoor facility (would be sprinklered). A hiking / fitness trail is also planned on the site to circulate around the adjacent ridgeline area to be open to the public. Please see the included plan, Overall Site Plan, for your reference.

The Applicant's projections of site usage are based on similar facilities in the Northeast region. Weekday patronage is projected to be about 200 to 600 per day, no more than 340 at one time. Peak use will occur on weekends – 32 teams with 384 players, plus fans and staff, or up to 1,100 people in one day; maximum attendance at any one time is anticipated to be 264 players (264 families) plus 70 field staff and site staff, requiring up to 450 parking spaces.

The facility is expected to be open year-round with the following hours of operation: Monday through Friday: 10 am to 10pm – on season, 3pm to 10pm - off season/winter; Saturday, Sunday, and Holidays: 8am to 10pm. Several access points are proposed to allow for emergency vehicles to reach baseball fields, multi-purpose field, concession, and main building areas. The main access to the project site would be gated. While trip generation has not been formally calculated, anticipated weekday usage will generate from 100 to 150 patron vehicles and weekend (peak) usage will generate 340 to 440 vehicles.

As part of the environmental review process, EA would like to include any concerns the New York State Police (NYS), Troop K, Zone 2 may have relative to this project and would like to include in the DEIS.

EA would appreciate a written response to include in our impact analysis regarding the potential effects this change in land use and on-site population may have on the area's facilities and the ability of the NYS Police, Troop K, Zone 2 to provide services to this property. Included in this letter is self-addressed stamped envelope for your convenience.

Information that would be helpful in that regard would include:

- Typical response time to the project site.
- Current uniformed officers, vehicles, and equipment levels of the Department.
- Number of uniformed officers and vehicles per shift.
- Current service area and population served and/or service ratio (uniformed officers to population served).
- Number of police calls per year.
- Any anticipated department staff or facility expansion or equipment procurement plans.
- Any additional information or reference material that you feel might be useful for analysis.

Your input is important. If you have further questions or concerns, please feel free to call me at 203.313.7217 or email at kjbillings@yahoo.com.

Thank you in advance and I look forward to hearing from you.

Sincerely,

Kendra J. Lintner
Senior Planner
Ecological Analysis, LLC.

633 Rt. 211 East, Suite 4, Box 4
Middletown, NY 10941
Office: (845) 495-0123 • Fax: (866) 688-0836

January 5, 2022

Chief Michael Bizzaro
Brewster Fire Department
501 North Main Street
Brewster, New York, 10509

RE: Proposed Development: Brewster Yards, Town of Southeast, Putnam County

Dear Chief Bizzaro,

Ecological Analysis (EA) is currently working on the Draft Environmental Impact Statement (DEIS) for the proposed project, Brewster Yards, to be located on Pugsley Road and Fields Corner Road in the Town of Southeast, Putnam County, New York.

Brewster Yards, an indoor and outdoor multi-sport facility, would be developed on 82.0 by year 2023 and would include the following amenities: nine (9) baseball/little league fields, one (1) multi-purpose field, concession, and media support buildings, and 32,000 square foot indoor facility (would be sprinklered). A hiking / fitness trail is also planned on the site to circulate around the adjacent ridgeline area to be open to the public. Please see the included plan, Overall Site Plan, for your reference.

The Applicant's projections of site usage are based on similar facilities in the Northeast region. Weekday patronage is projected to be about 200 to 600 per day, no more than 360 at one time. Peak use will occur on weekends – 32 teams with 384 players, plus fans and staff, or up to 1,100 people in one day; maximum attendance at any one time is anticipated to be 264 players (264 families) plus 70 field staff and site staff, requiring up to 450 parking spaces.

The facility is expected to be open year-round with the following hours of operation: Monday through Friday: 10 am to 10pm – on season, 3pm to 10pm - off season/winter; Saturday, Sunday, and Holidays: 8am to 10pm. Several access points are proposed to allow for emergency vehicles to reach baseball fields, multi-purpose field, concession, and main building areas. The main access to the project site would be gated. While trip generation has not been formally calculated, anticipated weekday usage will generate from 100 to 150 patron vehicles and weekend (peak) usage will generate 340 to 440 vehicles.

As part of the environmental review process, EA would like to include any concerns the Brewster Fire Department and the Greater Southeast-Brewster Joint Fire District may have relative to Brewster Yards. This project may create additional concerns for your department and EA would like to include any information or concerns from your Department in the DEIS.

EA would appreciate a written response to include in our impact analysis regarding the potential effects the proposed Brewster Yard change in land use and on-site population may have on the area's community services and the Brewster Fire Department to provide services to this property. A self-addressed stamped envelope is included in this letter.

Information that would be helpful in that regard would include:

- Typical response time to the project site.
- Current service area and population served and/or service ratio (emergency personnel to population served).
- Current manpower and equipment levels.
- Information on overlaps in authority, and/or mutual aid provided by neighboring fire departments.
- Any anticipated department staff or facility expansion or equipment procurement plans.
- Any additional information or reference material that you feel might be useful for analysis.

Your input is important. If you have further questions or concerns, please feel free to call me at 203.313.7217 or email at kjbillings@yahoo.com.

Thank you in advance and I look forward to hearing from you.

Sincerely,

Kendra J. Lintner
Senior Planner
Ecological Analysis, LLC.

633 Rt. 211 East, Suite 4, Box 4
Middletown, NY 10941
Office: (845) 495-0123 • Fax: (866) 688-0836

January 5, 2022

Kenneth Clair Jr. Commissioner/ County Coordinator
Putnam County Bureau of Emergency Services
112 Old Route 6
Carmel, New York, 10512

RE: Proposed Development: Brewster Yards, Town of Southeast, Putnam County

Dear Commissioner Clair, Jr.,

Ecological Analysis (EA) is currently working on the Draft Environmental Impact Statement (DEIS) for the proposed project, Brewster Yards, to be located on Pugsley Road and Fields Corner Road in the Town of Southeast, Putnam County, New York.

Brewster Yards, an indoor and outdoor multi-sport facility, would be developed on 82.0 by year 2023 and would include the following amenities: nine (9) baseball/little league fields, one (1) multi-purpose field, concession, and media support buildings, and 32,000 square foot indoor facility (would be sprinklered). A hiking / fitness trail is also planned on the site to circulate around the adjacent ridgeline area to be open to the public. Please see the included plan, Overall Site Plan, for your reference.

The Applicant's projections of site usage are based on similar facilities in the Northeast region. Weekday patronage is projected to be about 200 to 600 per day, no more than 360 at one time. Peak use will occur on weekends – 32 teams with 384 players, plus fans and staff, or up to 1,100 people in one day; maximum attendance at any one time is anticipated to be 264 players (264 families) plus 70 field staff and site staff, requiring up to 450 parking spaces.

The facility is expected to be open year-round with the following hours of operation: Monday through Friday: 10 am to 10pm – on season, 3pm to 10pm - off season/winter; Saturday, Sunday, and Holidays: 8am to 10pm. Several access points are proposed to allow for emergency vehicles to reach baseball fields, multi-purpose field, concession, and main building areas. The main access to the project site would be gated. While trip generation has not been formally calculated, anticipated weekday usage will generate from 100 to 150 patron vehicles and weekend (peak) usage will generate 340 to 440 vehicles.

As part of the environmental review process, EA would like to include any specific concerns the Putnam County Bureau of Emergency Services may have relative to Brewster Yards. This proposed development may create additional concerns for your department and EA would like to include any potential impacts you may have in the DEIS.

EA would appreciate a written response to include in our impact analysis regarding the potential effects the proposed Brewster Yards change in land use and on-site population may have on the area's community services and the Putnam County Bureau of Emergency Services to provide services to this property. This letter includes a self-addressed stamped envelope for your convenience.

Information that would be helpful in that regard would include:

- Typical response time to the project site.
- Current manpower and equipment levels.
- Information on overlaps in jurisdiction, and/or mutual aid provided by neighboring emergency services.
- Any anticipated department staff or facility expansion or equipment procurement plans.
- Any additional information or reference material that you feel might be useful for analysis.

Your input is important. If you have further questions or concerns, please feel free to call me at 203.313.7217 or email at kjbillings@yahoo.com.

Thank you in advance and I look forward to hearing from you.

Sincerely,

Kendra J. Lintner
Senior Planner
Ecological Analysis, LLC.

Ecological Analysis LLC

633 Rt. 211 East, Suite 4, Box 4
Middletown, NY 10941
Office: (845) 495-0123 • Fax: (866) 688-0836

January 5, 2022

Sheriff Robert L. Langley, Jr.
Putnam County Sheriff's Department
3 County Center
Carmel, New York 10512

RE: Proposed Development: Brewster Yards, Town of Southeast, Putnam County

Dear Sheriff Langley, Jr.,

Ecological Analysis (EA) is currently working on the Draft Environmental Impact Statement (DEIS) for the proposed project, Brewster Yards, to be located on Pugsley Road and Fields Corner Road in the Town of Southeast, Putnam County, New York.

Brewster Yards, an indoor and outdoor multi-sport facility, would be developed on 82.0 by year 2023 and would include the following amenities: nine (9) baseball/little league fields, one (1) multi-purpose field, concession, and media support buildings, and 32,000 square foot indoor facility (would be sprinklered). A hiking / fitness trail is also planned on the site to circulate around the adjacent ridgeline area to be open to the public. Please see the included plan, Overall Site Plan, for your reference.

The Applicant's projections of site usage are based on similar facilities in the Northeast region. Weekday patronage is projected to be about 200 to 600 per day, no more than 360 at one time. Peak use will occur on weekends – 32 teams with 384 players, plus fans and staff, or up to 1,160 people in one day; maximum attendance at any one time is anticipated to be 264 players (264 families) plus 70 field staff and site staff, requiring up to 450 parking spaces.

The facility is expected to be open year-round with the following hours of operation: Monday through Friday: 10 am to 10pm – on season, 3pm to 10pm - off season/winter; Saturday, Sunday, and Holidays: 8am to 10pm. Several access points are proposed to allow for emergency vehicles to reach baseball fields, multi-purpose field, concession, and main building areas. The main access to the project site would be gated. While trip generation has not been formally calculated, anticipated weekday usage will generate from 100 to 150 patron vehicles and weekend (peak) usage will generate 340 to 440 vehicles.

As part of the environmental review process, EA would like to include any concerns the Putnam County Sheriff's Department may have relative to this project in the DEIS.

EA would appreciate a written response to include in our impact analysis regarding the potential effects this change in land use and on-site population may have on the area's

facilities and the ability of the Putnam County Sheriff's Department to provide services to this property. A self-addressed, stamped envelope is included in this letter.

Information that would be helpful in that regard would include:

- Typical response time to the project site.
- Current uniformed officers, vehicles, and equipment levels of the Department.
- Number of uniformed officers and vehicles per shift.
- Current service area and population served and/or service ratio (uniformed officers to population served).
- Number of police calls per year.
- Any anticipated department staff or facility expansion or equipment procurement plans.
- Any additional information or reference material that you feel might be useful for analysis.

Your input is important. If you have further questions or concerns, please feel free to call me at 203.313.7217 or email at kjbillings@yahoo.com.

Thank you in advance and I look forward to hearing from you.

Sincerely,

Kendra J. Lintner
Senior Planner
Ecological Analysis, LLC.

633 Rt. 211 East, Suite 4, Box 4
Middletown, NY 10941
Office: (845) 495-0123 • Fax: (866) 688-0836

January 5, 2022

Michael Burdick
Highway Department Superintendent
10 Palmer Road
Brewster, New York, 10509

RE: Proposed Development: Brewster Yards, Town of Southeast, Putnam County

Dear Superintendent Burdick,

Ecological Analysis (EA) is currently working on the Draft Environmental Impact Statement (DEIS) for the proposed project, Brewster Yards, to be located on Pugsley Road and Fields Corner Road in the Town of Southeast, Putnam County, New York.

Brewster Yards, an indoor and outdoor multi-sport facility, would be developed on 82.0 by year 2023 and would include the following amenities: nine (9) baseball/little league fields, one (1) multi-purpose field, concession, and media support buildings, and 32,000 square foot indoor facility (would be sprinklered). A hiking / fitness trail is also planned on the site to circulate around the adjacent ridgeline area to be open to the public. Please see the included plan, Overall Site Plan, for your reference.

The Applicant's projections of site usage are based on similar facilities in the Northeast region. Weekday patronage is projected to be about 200 to 600 per day, no more than 360 at one time. Peak use will occur on weekends – 32 teams with 384 players, plus fans and staff, or up to 1,100 people in one day; maximum attendance at any one time is anticipated to be 264 players (264 families) plus 70 field staff and site staff, requiring up to 450 parking spaces.

The facility is expected to be open year-round with the following hours of operation: Monday through Friday: 10 am to 10pm – on season, 3pm to 10pm - off season/winter; Saturday, Sunday, and Holidays: 8am to 10pm. Several access points are proposed to allow for emergency vehicles to reach baseball fields, multi-purpose field, concession, and main building areas. The main access to the project site would be gated. While trip generation has not been formally calculated, anticipated weekday usage will generate from 100 to 150 patron vehicles and weekend (peak) usage will generate 340 to 440 vehicles.

As part of the environmental review process, EA would like to include any concerns the Town of Southeast Highway Department may have relative to the proposed Brewster Yards development and its surrounding area road network. EA would like to include any concerns over the potential impacts on your department from Brewster Yards in year 2023.

EA would appreciate a written response to include in our impact analysis regarding the potential effects the proposed Brewster Yards change in land use, on-site population and road usage may have on the area's community services and the Town of Southeast's Highway Department to provide services to this property's surrounding road systems. This letter includes a self-addressed, stamped envelope.

Your input is important. If you have further questions or concerns, please feel free to call me at 203.313.7217 or email at kjbillings@yahoo.com.

Thank you in advance and I look forward to hearing from you.

Sincerely,

Kendra J. Lintner
Senior Planner
Ecological Analysis, LLC.

M E M O

DATE: May 16, 2022

TO: Southeast Planning Board

Ashley Ley / AKRF

FROM: Frederick Wells, RLA
KG+D Architects, PC

RE: Brewster Yards - DEIS Revisions 5/6/22

The following information is provided in addition to the revisions made directly in the DEIS text in response to comments received.

A. Responses to certain review comments in AKRF Memo dated April 19, 2022, that are not otherwise addressed in the revised DEIS.

#25. Regarding recreation square footage of the building.

The numbers in DEIS Table 1-1 are correct. Recreation square footage of the main building is 31,235 (as shown in revised Figure 1-6). In addition, the batting cages are now proposed to be enclosed as a building, thus the additional recreation square footage is 4,224, so total recreation square footage of the project is 35,459 for purposes of the parking calculation. Proposed FAR numbers listed in the zoning table on drawing OP-1 have been updated to match the numbers in DEIS Table 1-1.

#92. Regarding parking.

a. Additional detail should be provided regarding the "similar recreation venues" including facility location, size/building program and time of day information on which the 50 space per active ballfield requirement is based.

Sources of parking supply information upon which the parking spaces per field multiplier is based is added in DEIS section 11. Parking space data was collected from available aerial imagery (time of day is not relevant).

c. Research should be conducted to obtain parking requirement and/or demand information for similar trail facilities or other documented sources to estimate parking demand to utilize as a basis for estimating parking demand for the public use trail.

The Town of Southeast has no code requirement for parking for a public trail and no parking supply or demand data was found specifically applicable to a relatively short trail network. Particularly as no formal trail or other recreation improvement exists on the site, there is no measure with which to estimate future demand for a future trail and resultant parking demand. Development of a future trail for use by project patrons (who are otherwise visiting the venue for baseball) would be an amenity to the overall baseball program and would not create separate demand for parking. Thus, a small allocation of

KG+D Architects, PC
285 Main Street, Mount Kisco, New York 10549
914.666.5900 kgdarchitects.com

shared parking for public use is provided in the parking calculation. Parking on the Brewster Yards property would be closed when the baseball venue is closed.

#126e. Regarding clarity of the impacts listed in DEIS Table 16-1 between Concept Sketch 1, Concept Sketch 4, and the Larger Building Alternative.

DEIS Table 16-1 has been revised to list a separate column for the Larger Building Alternative for clarity, as its impacts are similar to the Proposed Plan as opposed to the other alternatives.

B. Responses to Planning Board comments of the May 9, 2022, resolution that are not otherwise addressed in the revised DEIS.

b. Traffic calming measures such as speed bumps on Zimmer Road.

A painted and signed crosswalk is proposed at the pedestrian crossing proposed on Zimmer Road. Measures such as speed bumps are not proposed at this time. However, details of the crosswalk are to be determined during plan development for the road reconstruction in coordination with the Town.

d. Will tickets be required for game attendance and what are anticipated ticket prices?

As is typical at sports venues, there will be a ticket charge for spectators at tournament events. Ticket prices are not determined at this time.

e. Clarify parking demand in relation to seating.

There is no direct correlation between parking demand and proposed field seating. Each ballfield will be outfitted with sufficient spectator seating to comfortably seat the parent who has driven a player, and another family member or guest should they also attend. Each of the nine competitive playfields is anticipated to generate peak demand for approximately 45 parking spaces, except when there are tournament events scheduled at one or both showcase fields, at which time the other fields would be programmed for non-competitive practices having reduced attendance. (The proposed multi-purpose field is intended to be used for practice by players waiting "on deck" for their scheduled time on a playfield and thus that field will not generate its own parking demand.)

The calculated number of athletic field seats (1001), for purposes of the zoning calculation of required parking (Table 1-1), is derived by dividing the total linear feet (lf) of bleacher seating proposed in the project by 24" per seat (which would represent 100 percent capacity). Approximately 162 lf of low-rise bleacher seats are proposed at each of the clover ballfields; 108 lf is proposed at the multipurpose field; 360 lf is proposed at the Little League showcase field; and 400 lf is proposed at the Baseball showcase field.

g. Describe the anticipated noise and lighting from the score boards.

From DEIS page 1-6: … Each field will be outfitted with an electronic scoreboard and sound system for announcements. Scoreboards will be located at the outfield fence of each field; loudspeakers would typically be located at the central patron areas (near the concessions and bleachers) at all fields. … Figures 1-10 to 1-13 show the general locations of scoreboards, public address speakers, field lighting….

DEIS Noise section 14.3 provides a detailed assessment of potential noise emanating from the project. DEIS Visual section 5.3 provides a detailed assessment of potential effects of lighting in the project.

h. *Provide an aerial or bird's-eye view that shows the relationship of Brewster Yards, the Logistics project, Route 312 and Interstate 84.*

The aerial view requested would not be visible from any vantage point except the air and therefore will not have any effect on the visual analysis provided in the DEIS. The requested view will be produced for presentation at the DEIS public hearing.

l. *Expand the discussion in Chapter 3, Community Services and Chapter 4, Economic Conditions to further address the potential new demand for ambulance services to accommodate the project. In particular, the chapters should address potential increase in demand during tournaments or other events with large participation and greater chance for injury, and how that cost/demand for service would be met.*

Further description of mitigation of potential increased demand on ambulance services is provided in Chapter 3 and as explained, would not result in any change in economic impacts described in Chapter 4.

C. Responses to NL Jacobson comments of April 29, 2022, that are <u>not otherwise addressed</u> in the revised DEIS.

1. *The appropriate well radius for the proposed wells should be indicated on the Site Plan.*

The well radius for each of the proposed wells is provided on sheet OP-1. Please note that the well locations shown are preliminary based on the hydrogeologist's desk analysis and will be located on the site plans according to the actual well locations after drilling.

4. *We would recommend that the drawing set include cross sections for the proposed stormwater basins and that the cross sections indicate groundwater and/or rock elevations.*

The stormwater plans with cross sections of the proposed stormwater basins with the pertinent information developed for their proper design will be prepared as a required part of future submissions to the NYCDEP. [This is not a completeness item.]

5. *Details for the drainage structures designed and developed as a result of the HydroCAD stormwater model should be included in the drawing set.*

The stormwater plans with construction details of the proposed drainage structures will be developed as the site design progresses and provided for review through the NYCDEP SWPPP approval process. [This is not a completeness item.]

D. Responses to review comments in AKRF Memo dated May 6, 2022, that are not otherwise addressed in the revised DEIS.

1. *Town wetland and watercourse boundary confirmation will be required as the project advances through the SEQR process.*

   Wetland flagging will be reset in the coming weeks and then AKRF notified to field validate.

2. *A figure depicting mapped soils and the associated hydrologic soil group (HSG) should be provided.*

   An HSG map has been added to DEIS Appendix G.

3. *Written confirmation from the NYCDEP indicating that the watercourse and wetland boundaries have been validated should be provided in the DEIS.*

   Drawing WC-1 NYCDEP Watercourse Validation Map has been added to DEIS Appendix M.

We believe all other comments raised have been addressed in the revised DEIS.

Appendix C

PRELIMINARY WATER FACILITIES ENGINEER'S REPORT

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

PRELIMINARY
WATER FACILITIES ENGINEER'S REPORT

For

Brewster Yards

Pugsley Road

Town of Southeast, New York

January 28, 2022

Owner Information:

Town of Southeast
1360 Route 22
Brewster, NY 10509

Applicant Information:

ProSwing Sports Realty, Inc.
27 Radio Circle Drive
Mount Kisco, NY 10590

Prepared by:
Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512

1.0 INTRODUCTION

The project is located on two (2) parcels totaling 153.5± acres on Pugsley Road in the Town of Southeast. The parcels are identified as Tax Map No. 45.-1-10 and 45.1-11. The parcels are located in the Rural Community (RC) zone. The project site is bordered by Interstate-84 to the east and Pugsley Road and Fields Corner Road to the west with Barrett Road running east and west between the two parcels. The project proposes to develop the two parcels with the following:

- 4 Baseball Fields
- 1 Showcase Field
- 4 Little League Fields
- 1 Multi-Sport Fields
- 3 Batting Cage Facilities
- 3 Concession/Restroom Facilities
- 2 Concession Facilities
- 35,000 s.f. Indoor Facility
- Parking Areas (449 Parking Spaces, 8 Bus Parking Spaces)
- 1 Playground

The site is currently undeveloped and consists mainly of wooded areas. The two parcels consist of areas of steep slopes, Town of Southeast ridgeline protection and a NYSDEC regulated wetland, LC-28.

Water service for the development will be provided by a new public water system supplied by proposed on-site wells. The public water system will be designed and constructed in accordance with the standards and subject to the approval of the Putnam County Department of Health (PCDOH) and the New York State Department of Health (NYSDOH).

2.0 DESIGN FLOW

Flow rates for the anticipated uses at the proposed facility and the design flow for the proposed project are listed in the tables below. The average daily water design flows for the proposed project are based on the hydraulic loading rates given in the New York State Department of Environmental Conservation (NYSDEC) publication *Design Standards for Intermediate Sized Wastewater Treatment Systems – 2014 (DEC 14).*

The project site is anticipated to have more use over the weekends than the weekdays. Due to the fluctuation in visitors throughout the week, a design flow has been calculated for an average weekday (Monday thru Friday) average weekend (Saturday and Sunday).

Maximum Daily Public Water System Design Flow (Weekday)			
Use	**# of Units**	**Flow Rate (gpd/unit)**	**Design Flow (gpd)**
Staff	34 employees	12	408
Visitors	540 people	4	2,160
Food Service Operations	227 customers	4	980
Total			**3,476**

[1] The design flow takes into account the 20% reduction in design flows for modern plumbing fixtures as allowed by DEC 14

Maximum Daily Public Water System Design Flow (Weekend)			
Use	**# of Units**	**Flow Rate (gpd/unit)**	**Design Flow (gpd)**
Staff	63 employees	12	756
Visitors	4,320 people	4	17,280
Food Service Operations	3,024 customers	4	12,096
Total			**30,132**

[1] The design flow takes into account the 20% reduction in design flows for modern plumbing fixtures as allowed by DEC 14

A flow of 3,476 gallons per day (gpd) for each weekday and 30,132 gpd for each weekend day will be used for the water facilities for the proposed development. As the water system will need to meet the peak hourly demand on a weekend day, the design flow will be based on a weekend day (30,132 gpd).

The average hourly flow rate for the project is calculated as follows:

Average Hourly Flow = 30,132 gpd ÷ 18 hr/day ÷ 60 min/hr = 28 gpm

The peak hourly flow for the water system is calculated using a peaking factor of 4 as required by the Putnam County Department of Health.

Peak Hourly Flow = 28 gpm x 4 = 112 gpm

The peak hourly flow will be used to size the proposed water system.

The proposed buildings may be required to be equipped with fire sprinklers. If required, the final fire sprinkler demands for the system shall be calculated by the project's mechanical engineer and provided in the Final Engineer's Report.

3.0 WATER SUPPLY SOURCE

The water supply for the project is proposed to be provided by a minimum of two proposed drilled wells. The two wells will be drilled and used as public water supply wells. The wells will be required to meet the maximum day demand of 60,264 gpd (2 times average daily flow for the weekend), or 42 gpm with the best well out of service. It is anticipated that 2 to 3 total wells may be required to meet the 42 gpm max day flow with the best well out of service.

The following will be required to develop a public water supply for the proposed project:

1. Well location selected meeting separation distance to sources of contamination and ownership as required by the New York State Department of Health (NYSDOH) and the Putnam County Department of Health (PCDOH). The proposed location for the public water supply wells are required to satisfy the Water Well Location and Protection requirements in Appendix 5-D, Special Requirements for Wells Serving Public Water Systems. *The owner possesses legal title to the lands and controls by ownership within 200' of the proposed well locations*.

2. Obtain a PCDOH permit for the well drilling and testing parameters.

3. Perform 72-hour pump test to confirm well yield is adequate to supply the maximum day demand with the best well out of service.

4. Water quality testing performed to NYSDOH Part 5 standards by a Laboratory approved by the New York State Department of Health's *Environmental Laboratory Approval Program*.

5. Design water treatment and disinfection system based on water quality test results and distribution system based on well yields.

6. PCDOH application, review and approval of public water supply treatment system.

4.0 WATER TREATMENT SHED

A water control/treatment shed is proposed to contain electrical controls and treatment equipment. The shed will be locked except for maintenance and repair. The discharge from the two to three supply wells will be piped to this building through separate well service lines. After entering the building, the raw water will be chlorinated before the well lines combine into a single pipe to transport the treated water to the storage/contact tank. The building will contain meters, water sampling spigots, and chlorinator equipment for each well source. Ultraviolet light (UV) treatment may also be required. An emergency backup generator will be proposed to power the well pumps, controls, and disinfection equipment should primary utility power fail.

5.0 CHLORINE CONTACT / WATER STORAGE TANK

A chlorine contact tank would be required for chlorine disinfection. Based on an anticipated combined well pumping rate of 84 gpm, a 2,000-gallon contact tank with a baffling factor of 0.7 would be required.

A 30,000-gallon vented storage tank (approximately equal to the max day) would be proposed to provide supplemental storage during times of peak flow. The Health Department's policy requires that the volume of the storage tank be approximately equal to or greater than the daily flow. The tank may also be used for chlorine contact.

The tank is proposed to be a fiberglass potable water tank that conforms to NSF Standard 61. The tank levels will be used to control the well pumps. The well pumps will be set to rotate as lead pump so all wells will be utilized.

6.0 DISINFECTION

Disinfection will be provided by UV light or chlorine disinfection. The chlorine disinfection would include injection of liquid sodium hypochlorite. A separate chemical solution crock and feed pump will inject chlorine into each of the raw well water service lines prior to discharge into the contact tank. The chlorination systems will be housed in a separate room within the water treatment shed.

The New York State Department of Health Fact Sheet on Microbial Log Removal/Inactivation Rule Requirements was used to determine the required CT value to achieve 4-log virus inactivation. Assuming water with a maximum pH of 7.4 and a minimum temperature of 5 degree Celsius, a CT of 8.0 min*mg/l is required. The system is proposed to be designed to meet a CT of 8.0 min*mg/l.

An alternate to chlorine disinfection would be UV light disinfection. UV light systems would be installed at the water service entry to each building. The units would need to meet the requirements of NSF 55 to be used on a public water supply. UV units are subject to higher water quality standards than chlorine and would need to be accepted by PCDOH as an alternative disinfection system.

7.0 SYSTEM OPERATION PRESSURES

Pressure for the system will be provided by booster pumps. In either scenario VFD pump controls would be used to control the pumps to maintain a constant pressure. The system will be designed to meet

the *Recommended Standards for Water Works* 2012 Edition, minimum pressure at each service connection of 35 psi under normal flow conditions. Higher pressures may be required for equipment.

8.0 DISTRIBUTION SYSTEM

The distribution system is proposed to be of PVC DR-14 and HDPE DR-11 water service lines to each building. The system will contain valves on each service line between the water treatment shed and each building. Gate valves will be located strategically to minimize the number of buildings out of service due to a service disruption.

9.0 FIRE PROTECTION

A sprinkler fire protection system may be required to be designed and installed for some or all of the proposed buildings. If required, a separate distribution system to each building will be required along with the domestic public water supply system. A fire protection system will require a storage tank, booster pump system and distribution system to each building.

Appendix D
PRELIMINARY WASTEWATER ENGINEER'S REPORT

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

PRELIMINARY
WASTEWATER ENGINEER'S REPORT

For

Brewster Yards

Pugsley Road

Town of Southeast, New York

January 28, 2022

Owner Information:

Town of Southeast
1360 Route 22
Brewster, NY 10509

Applicant Information:

ProSwing Sports Realty, Inc.
27 Radio Circle Drive
Mount Kisco, NY 10590

Prepared by:
Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512

1.0 INTRODUCTION

The project is located on two (2) parcels totaling 153.5± acres on Pugsley Road in the Town of Southeast. The parcels are identified as Tax Map No. 45.-1-10 and 45.1-11. The parcels are located in the Rural Community (RC) zone. The project site is bordered by Interstate-84 to the east and Pugsley Road and Fields Corner Road to the west with Barrett Road running east and west between the two parcels. The project proposes to develop the two parcels with the following:

- 4 Baseball Fields
- 1 Showcase Field
- 4 Little League Fields
- 1 Multi-Sport Fields
- 3 Batting Cage Facilities
- 3 Concession/Restroom Facilities
- 2 Concession Facilities
- 35,000 s.f. Indoor Facility
- Parking Areas (449 Parking Spaces, 8 Bus Parking Spaces)
- 1 Playground

The site is currently undeveloped and consists mainly of wooded areas. The two parcels consist of areas of steep slopes, Town of Southeast ridgeline protection and a NYSDEC regulated wetland, LC-28. A single subsurface sewage treatment system (SSTS) is proposed to treat the wastewater generated for the project.

2.0 WASTEWATER DESIGN FLOW

Flow rates for the anticipated uses at the proposed facility and the design flow for the proposed project are listed in the tables below. The average daily sewer design flows for the proposed project are based on the hydraulic loading rates given in the New York State Department of Environmental Conservation (NYSDEC) publication *Design Standards for Intermediate Sized Wastewater Treatment Systems – 2014 (DEC 14).*

The project site is anticipated to have more use over the weekends than the weekdays. Due to the fluctuation in visitors throughout the week, a design flow has been calculated for an average weekday (Monday thru Friday) average weekend (Saturday and Sunday).

Maximum Daily Public Water System Design Flow (Weekday)			
Use	**# of Units**	**Flow Rate (gpd/unit)**	**Design Flow (gpd)**
Staff	34	12	408
Visitors	540	4	2,160
Food Service Operations	227	4	908
Total			**3,476**

[1] The design flow takes into account the 20% reduction in design flows for modern plumbing fixtures as allowed by DEC 14

Maximum Daily Public Water System Design Flow (Weekend)			
Use	**# of Units**	**Flow Rate (gpd/unit)**	**Design Flow (gpd)**
Staff	63	12	756
Visitors	4,320	4	17,280
Food Service Operations	3,024	4	12,096
Total			**30,132**

[1] The design flow takes into account the 20% reduction in design flows for modern plumbing fixtures as allowed by DEC 14

A flow of 3,476 gallons per day (gpd) for each weekday and 30,132 gpd for each weekend day will be used for the water facilities for the proposed development. A design flow of 11,092 gpd will be used for the project based on the average flow for the entire week as shown below:

$$\frac{(3{,}476 \text{ gpd} \times 5 \text{ days/week}) + (30{,}132 \text{ gpd} \times 2 \text{ days/week})}{7 \text{ days/week}} = 11{,}092 \text{ gpd}$$

3.0 WASTEWATER COLLECTION SYSTEM

The wastewater collection system is proposed to consist of individual 4" diameter PVC SDR 35 sewer service connections with cleanouts from each proposed building. The sewer service will connect to an 8" diameter PVC SDR 35 sewer main with concrete manholes to the proposed septic tanks.

4.0 SUBSURFACE SEWAGE TREATMENT SYSTEM (SSTS)

4.1 Soil Testing

The SSTS area is proposed to be located on the southeastern side of the site on the northern parcel. Witnessed deep test holes and percolation testing with the Putnam County Department of Health (PCDOH) were performed on December 11, 2020.

4.1a Deep Test Holes

15 deep test holes were performed in the proposed SSTS area, with the average test hole profile of 0 to 12" topsoil, 12" to 24-30" Red Brown Sandy Loam, 30" to 66" Medium Brown Fine Sand, 66" to 92"+ Light Brown Sand. No mottling or ledge rock was observed in any deep test.

The deep tests were observed by Kirsten Miller, and Eric Schlobohm P.E. of Insite Engineering, as well as Gene Reed P.E. of the Putnam County Department of Health. A *Design Data Sheet* has been attached to this report describing the soil testing results.

4.1b Percolation Test Holes

15 percolation tests were performed in the proposed SSTS area. The rates ranged from 3 min/in to 15 min/in. The design percolation rate was established at 11 to 15 min/in. Based upon on-site observations the soil is suitable to support an SSTS.

4.2 Absorption Trenches

The proposed SSTS absorption fields will consist of conventional 2' wide absorption trenches spaced 6' on center. The SSTS areas will be alternately dosed over the entire SSTS area to evenly disperse the wastewater through a pump dosing system. The absorption trench design parameters are as follows:

SSTS Area	Design Flow (gpd)	Assumed Soil Percolation Rate * (min/in)	Application Rate (gpd)	Absorption Trench Width (ft)	Required Length of Primary Absorption Trench (lf)
1	11,092	11 to 15	0.8	2.0	6,933

The SSTS area will include the required linear footage for the primary and 100% expansion absorption trenches in the designated SSTS area. The SSTS area will consist of 15 sections of absorption trenches. Each section will consist of up to 1,000 feet of absorption trench spaced 6 feet on center.

4.3 Septic Tanks & Grease Traps

The septic tanks are anticipated to be located adjacent to the buildings. The total septic tank volume shall be designed in accordance with DEC 14 and sized based on the maximum daily flow from the weekend of 30,132 gpd. The septic tank shall be sized to provide a capacity of 0.75 times the design flow plus an additional 3,750 gallons. A final design is proposed to include a separate septic tank adjacent to each building. Based on the maximum daily design flow for a weekend, the following septic tank sizing for the SSTS is shown in the below table:

SSTS Area	Q Design Flow (gpd)	Sizing Equation	Required Septic Tank Size (gallons)	Proposed Total Septic Tank Storage Capacity (gallons)
1	30,132	Q	30,132	31,000

The proposed septic tank will be reinforced concrete and will include inlet and outlet tees and access manhole covers. The proposed septic tanks and grease traps shall comply to H-20 loading.

Additionally, it is proposed to provide grease traps prior to the septic tanks of concession buildings where increased levels of fats, grease, and oils are anticipated. Sizing for the grease traps shall be in accordance with section D.5 of DEC 14, which for buildings with a known equipment layout are sized. Alternatively, the daily design flow from a building directed to each of the grease traps will be multiplied by a peaking factor and converted to a peak flow based on a 16-hour day in gallons per minute. The peak flows will then be multiplied by a 30-minute detention time per DEC 14 to provide an overall volume for the grease traps.

4.4 Equalization Tank / Pump Pit

An equalization tank will be required to temporarily store the septic tank effluent generated on weekend days. As calculated above, 60,264 gallons of wastewater could be generated over a weekend. The SSTS would be designed for 11,092 gpd (22,184 gallons for a 2-day weekend). The equalization tank would need to temporarily store the delta in generated wastewater over the

flows that can be sent to the SSTS area. This delta is approximately 38,080 gallons. Additional storage would be required for equalized dosing over a full day. A 50,000-gallon dosing tank is proposed.

The equalization tank will also be used as a pump pit to convey the effluent from the septic tank to the SSTS area with duplex submersible pumps, valving, and controls. The electrical meter and service panel, breaker panel, pump controls and a transfer switch for auxiliary power, and an automatic standby emergency generator is proposed for the wastewater pump pit. A forcemain will deliver the septic tank effluent from the equalization tank to the designated SSTS area.

4.5 Alternate Dosing

In accordance with PCDOH requirements alternate dosing is provided for the proposed SSTS as the total length of absorption trench exceeds 1,000 linear feet. A dual alternating pump chamber will convey septic tank effluent to the SSTS area via a forcemain. Hydrostatic pressure and leakage testing shall be performed on the proposed forcemain in accordance with the notes and specifications provided on the project drawings.

4.6 Automatic Multizone Valves

As previously stated, the SSTS area will consist of 15 sections of absorption trenches. An Automatic Multizone Valve is proposed to be installed at the end of the forcemain in a manhole. The multizone valve is a pressure based distribution device with one inlet and five outlets. Once a section of absorptions trenches is dosed and the pump shuts off, the pressure drops in the force main, and the multizone valve indexes to another section, awaiting the next dose. An Automatic Multizone Valve is proposed to distribute the dose to the each of the five absorption trench sections.

4.7 Timed Dosing System

After exiting the septic tank, the wastewater will enter a dosing tank. Pumps will be used to dose the septic tank effluent to the SSTS at timed intervals. The pump run time will be set to provide the required dose. The tank will be oversized to provide additional capacity for high weekend use and a high level alarm will be installed. The fields will be split into two groups so they can be alternatively dosed. The dose volume will be sized as 75% of the absorption field pipe volume or 0.5 gallons/lineal feet of field.

5.0 ALTERNATE WASTEWATER TREATMENT (Connection to Ace Endico WWTP)

An alternate option for treating the wastewater produced by the proposed development is to pump raw sewage to the nearby Ace Endico Wastewater Treatment Plant located just across Interstate 84. The plant reputedly has excess treatment capacity capable of treating the wastewater from the proposed development. This alternate treatment would be subject to the following:

1. Business agreement including establishing connection fee for the required conveyance system between the project parcel and the treatment plant. A user fee will also need to be established for the use of the plant to treat the wastewater.

2. The project site is currently not in the existing sewer district of the Ace Endico Wastewater Treatment Plant. An expansion of the sewer district would be required or an out of district user agreement established.

3. If Ace Endico has not already formed a Transportation Corporation to allow outside properties to connect to the existing plant, one will need to be formed.

4. Municipal acceptance of the new connection will be required.

5. Additional requirements of the New York City Department of Environmental Protection (NYCDEP) may be required.

Appendix E
PRELIMINARY
STORMWATER POLLUTION PREVENTION PLAN
(SWPPP)

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

PRELIMINARY STORMWATER POLLUTION PREVENTION PLAN

For

Brewster Yards

Pugsley Road

Town of Southeast, New York

March 23, 2022

Owner Information:

Town of Southeast
1360 Route 22
Brewster, NY 10509

Applicant Information:

ProSwing Sports Realty, Inc.
27 Radio Circle Drive
Mount Kisco, NY 10590

Note: This report in conjunction with the project plans make up the complete Preliminary Stormwater Pollution Prevention Plan.

Prepared by:
Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512

CONTENTS

PAGE

1.0 INTRODUCTION 1
1.1 Project Description 1
1.2 Existing Site Conditions 1
1.3 Proposed Site Conditions 2

2.0 STORMWATER MANAGEMENT 2
2.1 Chapter 10: Enhanced Phosphorus Removal Standards 4
2.2 NYSDEC Runoff Reduction Volume (RR_v) 5
2.3 NYSDEC Water Quality Volume ($WQ_{v)}$ 6
2.4 NYSDEC Stream Channel Protection Volume (CP_v) 7
2.5 NYSDEC Overbank Flood Control (Q_p), and Extreme Flood Control (Q_f) 7
2.6 NYCDEP Requirements 7

3.0 STORMWATER CONVEYANCE SYSTEM 9

4.0 EROSION AND SEDIMENT CONTROL 9
4.1 Temporary Erosion and Sediment Control Facilities 9
4.2 Permanent Erosion and Sediment Control Facilities 10

5.0 IMPLEMENTATION, MAINTENANCE & GENERAL HOUSEKEEPING 11
5.1 Construction Phase 11
5.2 Soil Restoration 12
5.3 Long Term Maintenance Plan 13

APPENDICES
Appendix A RRv Calculations
Appendix B Pre-Development Computer Data
Appendix C Post-Development Computer Data
Appendix D NYSDEC SPDES for Construction Activities Construction Site Log Book
Appendix E Project and Owner Information
Appendix F NYSDEC Stormwater Design Manual Chapter 5 Analysis
Appendix G NYSDEC Stormwater Management Practice Construction and Maintenance Checklists
Appendix H Temporary Sediment Trap Sizing Calculations

FIGURES
Figure 1: Location Map
Figure 2: Pre-Development Drainage Map
Figure 3: Post-Development Drainage Map
Figure 4: Testing Plan

1.0 INTRODUCTION

1.1 Project Description:

The project is located on two (2) parcels totaling 153.5± acres on Pugsley Road in the Town of Southeast. The parcels are identified as Tax Map No. 45.-1-10 and 45.1-11. The parcels are located in the Rural Community (RC) zone. The project site is bordered by Interstate-84 to the east and Pugsley Road and Fields Corner Road to the west with Barrett Road running east and west between the two parcels. The project proposes to develop the two parcels with the following:

- 4 Baseball Fields
- 1 Showcase Field
- 4 Little League Fields
- 1 Multi-Sport Fields
- 3 Batting Cage Facilities
- 3 Concession/Restroom Facilities
- 2 Concession Facilities
- 35,000 s.f. Indoor Facility
- Parking Areas (449 Parking Spaces, 8 Bus Parking Spaces)
- 1 Playground

The site is currently undeveloped and consists mainly of wooded areas. The two parcels consist of areas of steep slopes, Town of Southeast ridgeline protection and a NYSDEC regulated wetland, LC-28. The project site is located in the Middle Branch Watershed. The following permits are required for the project:

TOWN OF SOUTHEAST
Planning Board Site Plan and Lot Line Adjustment Approval
Wetland Permit
PUTNAM COUNTY DEPARTMENT OF HEALTH
Septic and Well Approval
NEW YORK CITY DEPARTMENT OF ENVIROMENTAL PROTECTION
SWPPP Approval
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SWPPP General Permit Coverage (GP-0-20-001)
Freshwater Wetland Permit

There are no known enforcement actions, and no lawsuits or administrative proceedings, commenced against the applicant, or any principal affiliate of the applicant, for any alleged violations of law related to the applicant of the site, in the five years preceding this application.

1.2 Existing Site Conditions

The project site is located on two parcels on Pugsley Road in the Town of Southeast. .The parcels are bordered by Interstate 84 to the east and Pugsley Road and Fields Corner Road to the west with Barrett Road running east and west between the two parcels. Land cover at the site consists of mainly forested areas. An existing NYSDEC wetland, LC-28 is located on the southern portion of the site. The site also consists of areas of steep slopes and Town of Southeast protected ridgeline on the northern end of the site. Stormwater runoff across the project site generally flows from north to south from the protected ridgeline area to the NYSDEC wetland. Two Design Lines will be utilized to analyze the stormwater runoff both qualitatively and quantitatively and the impact to the existing natural resources on the project site. Design Line 1 is located along the northern property line and will be used to analyze the stormwater runoff that leaves the project site to the north. Design Line 2 is located along the onsite NYSDEC wetland.

The hydrologic soils groups for the project consists of “B”, “C”, and “D”. The designations of the onsite soils located within the proposed limits of disturbance consist of Catden Muck (Ce), Charlton Fine Sandy Loam (ChB), Charlton-Chatfield Complex (CrC), Chatfield-Charlton Complex (CsD), Chatfield-Hollis-Rock Outcrop Complex (CtC), Hollis-Rock Outcrop Complex (HrF), Leicester Loam

(LcB), Natchaug Muck (NcA), Paxton Fine Sandy Loam (PnB), Ridgebury Complex (RdB), Sun Loam (Sh), Sutton Loam (SuB), Udorthents (Ub), and Woodbridge Loam (WdB), as identified on the Soil Conservation Service Web Soil Survey.

1.3 Proposed Site Conditions

As noted above the proposed project site will be developed with multiple baseball fields, little league fields and multi-use sports fields. The development will also include the construction of a 35,000± square foot indoor facility, restroom and concession buildings, parking areas and associated pedestrian walkways. Access to the project site will be provided from Pugsley Road. In addition to the buildings, parking areas, walkways and playing fields, improvements will include water, sewer, and stormwater infrastructure.

Onsite runoff will be captured and treated in multiple stormwater infiltration basins. Pretreatment for the proposed stormwater infiltration basins shall be provided by extended detention dry sediment basins upstream of the infiltration basins. A flowsplitter will be design upstream of the infiltration basins to send the water quality volume to the downstream practice while bypassing the larger storms. The infiltration basins are proposed to to meet the RR_v and Water Quality Volume (WQ_v) requirements of the *New York State Stormwater Management Design Manual* (Design Manual).

With respect to runoff volume, the project SWPPP will need to satisfy the RR_V requirements of Design Manual. These requirements are intended to replicate pre-development hydrology through the implementation of infiltration practices. In order to replicate pre-development hydrology to the maximum extent practicable, it is proposed to minimize the creation of impervious surfaces, and utilize infiltration to reduce 100% of the required RR_v, if practical.

The NYCDEP Rules and Regulations encourage the use of infiltration practices "to minimize loss of annual recharge to groundwater by maximizing the use of stormwater infiltration practices where suitable soil conditions exist". Consistent with the Rules and Regulations, infiltration practices have been proposed to treat stormwater runoff from the proposed impervious surfaces.

On-site soil testing witnessed by the New York City Department of Environmental Protection (NYCDEP) has been performed to verify the soils in the location of the proposed SMP's are adequate to support the design requirements for infiltration practices as stated in the Design Manual.

2.0 STORMWATER MANAGEMENT

The proposed stormwater management system for the proposed project has been designed to meet the requirements of local, regional, and state stormwater ordinances and guidelines, including but not limited to those of the Town of Southeast, the NYSDEC, and the NYCDEP. Specifically, the following codes / regulations have been used to design this SWPPP:

- *NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities, General Permit GP-0-20-001* (GP-0-20-001).
- *NYCDEP Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and its Sources* (Rules and Regulations).
- *Town of Southeast Town Code, Chapter 119 – Stormwater Management and Erosion and Sediment Control*.

Since the subject project proposes the disturbance of more than 1 acre, coverage under the New York State Department of Environmental Conservation (NYSDEC) SPDES General Permit No. GP-0-20-001 is required. In order to meet the requirements set forth by this permit, the latest edition of the NYSDEC *New York State Stormwater Management Design Manual* (Design Manual) was referenced for the design of the proposed stormwater management system. The Design Manual specifies five design criteria that are discussed in detail below. They are Runoff Reduction Volume (RR_v), Water Quality Volume (WQ_v), Stream Channel Protection Volume (CP_v), Overbank Flood Control (Q_f), and Extreme Storm Control (Q_p). The first two requirements relate to treating water quality, while the later pertain to stormwater quantity (peak flow) attenuation.

In order to meet the requirements set forth by GP-0-20-001, and the latest edition of the NYSDEC *New York State Stormwater Management Design Manual* (NYSSMDM), including the requirements listed in Chapter 10: *Enhanced Phosphorus Removal Standards* (Chapter 10) was referenced for the design of the proposed stormwater collection, conveyance and treatment system. The Design Manual specifies five design criteria that are discussed in detail below. They are Runoff Reduction Volume (RR_v), Water Quality Volume (WQ_v), Stream Channel Protection Volume (CP_v), Overbank Flood Control (Q_f), and Extreme Storm Control (Q_p). The first two requirements relate to treating water quality, while the later pertain to stormwater quantity (peak flow) attenuation.

With regard to NYCDEP requirements, Section 18-39 of the Rules and Regulations requires a SWPPP Approval for this project. This project meets three (3) of the thresholds that require SWPPP approval from the NYCDEP. For further discussion on NYCDEP requirements, refer to Section 2.6 below. However, it should be noted that in addition to the Design Manual requirements, two different SMP's are required to be placed in series when drainage areas to an SMP is over 20% impervious and infiltration cannot be provided. This project proposes the use of infiltration practices and as such meets this requirement.

Where WQv/RRv treatment is required, the following post construction green infrastructure and stormwater management practices are proposed for the project:

Table 2.0.1 – Proposed GIP/SMP Design Criteria Summary Table

GIP/SMP ID	Proposed Subcatchment	NYSSMDM Ch. 6 Design Designation	NYSDEC Uniform Stormwater Sizing Criteria Satisfied	NYCDEP Requirement Satisfied
1.3 IB	1.1S, 1.2S, 1.3S	I-2 Infiltration Basin	RRv, WQ_v, CP_v[1]	Only Practice Required to be Provided.
2.6 IB	2.1S, 2.2S, 2.3S, 2.4S, 2.5S, 2.6S			
1.2 EDB	1.1S, 1.2S	Dry Extended Detention Basin	Q_p, Q_f	Pretreatment and Attenuation
1.4 EDB	1.4S			
2.2 EDB	2.1S, 2.2S			
2.5 EDB	2.3S, 2.4S, 2.5S			
2.7 EDB	2.7S			

[1] The infiltration practices achieve the CP_v requirement as they are designed to infiltration the 1-year storm as a result of Chapter 10 requirements.

To address stormwater quantity requirements of the NYSDEC, the "HydroCAD" Stormwater Modeling System," by HydroCAD Software Solutions LLC in Tamworth, New Hampshire, was used to model and assess the peak stormwater flows for the subject project. HydroCAD is a computer aided design program for modeling the hydrology and hydraulics of stormwater runoff. It is based primarily on hydrology techniques developed by the United States Department of Agriculture, Soil Conservation Service (USDA, SCS) TR-20 method combined with standard hydraulic calculations. Additionally, HydroCAD directly implements some of the key features of TR-55, such as curve-number lookup and calculating time-of-concentration. For details on the input data for the subcatchments and design storms, refer to Appendices A through C and for the supporting data relative to the soils breakdown within the overall contributing area shown in the HydroCAD analysis, see Figures 2 and 3 of this report:

The input requirements for the HydroCAD computer program are as follows:

Subcatchments (contributing watershed/sub-watersheds)

- Design storm rainfall in inches

- CN (runoff curve number) values which are based on soil type and land use/ground cover
- Tc (time of concentration) flow path information

Flow Splitters / Subsurface Infiltration System

- Surface area at appropriate elevations
- Flood elevation
- Outlet structure information

The following is a general description of the input data used to calculate the pre- and post-development stormwater runoff values. For detailed information for each subcatchment and practice, see Appendices B & C. The precipitation values for the 1-Year, 10-Year, 25-Year, & 100-Year 24-hour design storm events and rainfall distribution curves utilized for this report were obtained from the information provided by Northeast Regional Climate Center(NRCC) and the Natural Resources Conservation Service(NRCS) which is available online at *www.precip.eas.cornell.edu*. The values provided for all design storms analyzed are listed below.

Design Storm	**24-Hour Rainfall**
1-Year	2.76”
10-Year	4.94”
25-Year	6.21”
100-Year	8.77”

The CN (runoff curve number) values utilized in this report were referenced from the USDA, SCS publication *Urban Hydrology for Small Watersheds*.

2.1 Chapter 10: Enhanced Phosphorus Removal Standards

As noted above, the New York City East of Hudson Watershed has been identified in the SPDES General Permit GP-0-20-001 as a watershed requiring compliance with the Enhanced Phosphorus Removal Standards when post-construction stormwater management practices are proposed. Chapter 10 establishes four goals to meet sizing performance standards:

- Goal 1: Reducing Runoff Volumes
- Goal 2: Effective Bypass Treatment
- Goal 3: Achieving Effluent Concentrations for Particulate Phosphorus
- Goal 4: Achieving Effluent Concentrations for Dissolved Phosphorus

In order to achieve the first goal, the site design shall,” assess the feasibility of hydrological source controls and reduce the total water quality volume by source control, implementation of green infrastructure, or standard SMP’s with RR_v capacity, according to the process defined in Chapters 3 and 4 of the Design Manual. Each plan must include a rationale for acceptance and rejection of the various controls.” A discussion on RR_v can be found in section 2.2 below. Based upon the results of onsite soil testing, the soils onsite in select areas are suitable for infiltration. Therefore, the use of infiltration practices (classified as Standard SMP’s with RRv capacity) has been maximized, specifically infiltration basins were selected to treat the stormwater runoff from the proposed impervious surfaces and satisfy RRv requirements. As such, Goal 1 has been achieved in this SWPPP.

Goal 2 cites that proposed stormwater management practices should achieve less than 15% effective treatment bypass of the long-term runoff volume. Chapter 10 further notes this goal is satisfied by capturing and treating the 1-year 24-hour design storm. The NYSDEC stormwater quality treatment practices proposed for this have been designed in accordance with Chapter 10 by utilizing the 1-yr, 24-hour design storm to generate the WQ_v / RR_v. As such, Goal 2 has been achieved in this SWPPP.

Achieving effluent concentrations for particulate phosphorus, Goal 3, is satisfied by achieving an 80% net removal of particulate phosphorus for a median influent concentration of 0.5mg/l. Chapter 10 states that through designing proposed SMP's in accordance with Section 10.4 this goal will be achieved. The proposed infiltration systems have been designed in accordance with Section 10.4.3 of Chapter 10 thus satisfying the requirements of this goal.

Goal 4, achieving effluent concentration for dissolved phosphorus, is achieved by obtaining a 60% net removal of dissolved phosphorus given a median influent concentration of 0.15mg/l. As with Goal 3, Goal 4 is achieved by designing the proposed SMP's in accordance with Section 10.4 of Chapter 10. As noted above the proposed infiltration system have been designed in accordance with section 10.4.3 of Chapter 10 thus satisfying the requirements of this goal.

Given the project's location within the NYC EOH Watershed, the stormwater design will be developed in accordance with Chapter 10 (Enhanced Phosphorus Removal Supplement) of the New York State Stormwater Management Design Manual (Design Manual) as well as NYCDEP Rules and Regulations. These enhanced design requirements require targeted practices which are larger and more efficient at the removal of phosphorus than standard practices. Per Design Manual Section 10.1.3 Treatment Performance Goals, (specifically goals 3 and 4), stormwater practices will be designed in accordance with Chapter 10 to meet the phosphorus removal goals. Specifically the stormwater practices provide a minimum of 80% net removal of particulate phosphorus and 60% net removal of dissolved phosphorus. Although design in accordance with enhanced stormwater design in accordance with Chapter 10 is required per NYSDEC standards, supplemental simple method phosphorus loading calculations will be provided to show the pre development phosphorus load is equivalent to the post development phosphorus load from the completed project. The calculations will support the basis of Chapter 10 of the Design Manual, in that stormwater practices designed in accordance with the enhanced phosphorus standards will meet regional goals of not increasing phosphorus from new development.

2.2 NYSDEC Runoff Reduction Volume (RR_v)

The Runoff Reduction Volume (RR_v) criterion is intended to replicate pre-development hydrology by maintaining preconstruction infiltration, peak flow runoff, discharge volume, as well as minimizing concentrated stormwater flow. As stated in Chapter 4 of the NYSSMDM, RR_v may be treated with standard stormwater management practices (SMP's) sized in accordance with the Chapter 4/6 requirements, or with green infrastructure practices (GIP's) sized in accordance with the requirements set forth for each practice in Chapter 5. This requirement has been achieved on the subject project providing an infiltration practice, designed as a SMP in accordance with the latest design standards. Runoff reduction is achieved when runoff from a percentage of the impervious area on the site is captured, routed through a SMP or a GIP, infiltrated to the ground, reused, reduced by evapotranspiration, and eventually removed from the stormwater discharge from the site. Through this implementation, the design of the underground infiltration system as a SMP with the runoff reduction capacity equal to 100% of the WQ_v the RRv requirements will be achieved.

Section 4.3 of the NYSSMDM states for sites that do not achieve runoff reduction to pre-construction condition must, at a minimum reduce a percentage of the runoff from impervious areas to be constructed on the site a minimum RR_v. The following equation can be used to determine the minimum runoff reduction volume:

The minimum runoff reduction volume shall be $RRv_{minimum} = \frac{(P)(R_v)(Ai)}{12}$

Where,

S	= Hydrologic Soil Group (HSG) Specific Reduction Factor
A*i*c	= Total Area of New Impervious Cover
A*i*	= Impervious cover targeted for Runoff Reduction = (S)(A*i*c)
Rv	= 0.95

For detailed calculations of the runoff reduction for the proposed stormwater infiltration system see Appendix A. Listed in Table 2.2.1 below is a summary of the NYSDEC compliant practice, and its satisfaction of the NYSDEC RRv requirements:

Table 2.2.1 Runoff Reduction Volume Summary

Subcatchments	RR_v *Required* = WQ_v (c.f.) From Appendix C	RR_v *Minimum* (c.f.) Calculated in Appendix A	NYSDEC Practice Designation	Allowable % of WQv provided to be applied towards RRv	Storage Volume Provided below System Outlet (c.f.) (From Appendix C)	RRv *Provided* (c.f.)
1.1S, 1.2S, 1.3S	84,768	10,279	I-2 Infiltration Basin	100%	85,280	84,768
2.1S, 2.2S, 2.3S, 2.4S, 2.5S, 2.6S	98,881	25,651		100%	99,028	98,881

As shown in the table above the RRv *provided* in each of the subcatchments is greater than the RRv *minimum* and RRv *required* , therefore the RRv requirement has been met for the subject project.

2.3 NYSDEC Water Quality Volume (WQ_v)

The stormwater infiltration practices have been sized in accordance with Chapter 6 of the Design Manual, as it has been sized to capture and treat the entire water quality volume (WQ_v) from the proposed project. The subject project is located in the New York City Watershed, which is listed as a phosphorus-limited watershed per the NYSDEC regulations. Therefore the stormwater management practices have been designed in general accordance with the Enhanced Phosphorus Removal Supplement (Chapter 10) of the Design Manual. As outlined in Chapter 10, the treatment volume for the WQv is the runoff volume produced during the 1-year 24-hour design storm. See table 2.6.1 for a summary of the WQv that would be generated by the proposed project during the 1-year, 24-hour storm.

Table 2.2.1 above and table 2.3.1 below summarize the WQv treatment and Required Elements for the proposed infiltration practices, sized in accordance with Chapters 6 & 10 of the NYSSMDM for the proposed practice.

The infiltration practices have been sized to provide 100% storage of the water quality volume between the bottom of the practice and the outlet condition of the practice. By providing 100% storage of the WQv in the infiltration practices the water quality volume storage requirements set forth in the NYSSMDM have been met for the proposed system. By meeting the Water Quality Volume requirements through employment of the infiltration practices, the water quality objectives of the NYSDEC will be met.

Pretreatment for the proposed infiltration practices have been provided by Extended Detention Dry Pretreatment Basins upstream of the proposed infiltration basins (1.3 IB and 2.6 IB). The Extended Detention Pretreatment Basins (1.2 EDB, 2.2 EDB, and 2.5 EDB) have been sized to provide pretreatment of their respective water quality volumes. The basin 1.2EDB has been sized to provide storage of 25% of the WQv and basins 2.2EDB & 2.5 EDB have been sized to provide storage of 100% of the WQv as shown in Appendix C. Required storage of the WQv is provided below the weir in the outlet structure in the basins as shown in Table 2.3.1 below.

Table 2.3.1 Pretreatment Volume Summary

Subcatchments	WQ_v (c.f.) (From Appendix C)	Infiltration Rate (in/hr)	Required Minimum Pretreatment (%)	Minimum Pretreatment Volume (c.f.) (% of WQv)	Storage Volume Provided Below Overflow Weir (c.f.) (From Appendix C)
1.1S, 1.2S, 1.3S	84,768	0.5	25%	21,192	70,656
2.1S, 2.2S, 2.3S, 2.4S, 2.5S, 2.6S	98,881	102*	100%	98,881	109,355

* A conservative rate of 20 in/hr was used for the purposes of simulating the exfiltration rate in HydroCAD.

2.4 NYSDEC Stream Channel Protection Volume, CP_v

The Stream Channel Protection (CP_v) criterion is intended to protect stream channels from erosion and is accomplished by the 24-hour extended detention of the center-of-mass of the one-year, 24-hour storm event. As noted in Table 2.1.1 the stormwater infiltration system has been designed with a storage volume greater than the volume of stormwater runoff from the 1-year storm. By providing a stormwater infiltration practice to fully infiltrate the volume of stormwater runoff from the 1-year, 24-hour design storm, the CP_v has been met for the project. Soil and infiltration testing was performed in the locations of the proposed stormwater management practices and witnessed by the NYCDEP. Testing results can be found on the Testing Plans (Figure 4 of this report). The test results verify the design requirements for infiltration practices set forth in the NYSSMDM. All infiltration rates in the areas of the proposed infiltration practice we equal to or exceeded the minimum 0.5 inches/hour requirement.

2.5 NYSDEC Overbank Flood Control, Q_p, and Extreme Storm Control, Q_f

The Overbank Flood Control (Q_p) requirement is intended to prevent an increase in the frequency and magnitude of out-of-bank flooding events generated by urban development. Overbank control requires storage to attenuate the post-development 10-year, 24-hour peak discharge to pre-development rates. The Extreme Flood Control (Q_f) requirement is intended to prevent the increased risk of flood damage from large storm events, maintain the boundaries of the pre-development 100-year flood plain, and protect the physical integrity of stormwater management practice. Extreme flood control requires storage to attenuate the post-development 100-year, 24-hour peak discharge to pre-development rates. As shown in Table 2.5.1 attenuation for both the 10-year 25-year and 100-year 24-hour storms has been provided thus satisfying the Q_p and Q_f requirements.

Table 2.5.1– Existing and Proposed Conditions Peak Flows

	24-HOUR DESIGN STORM PEAK FLOWS (c.f.s.)							
	1-YEAR		10-YEAR (Channel Protection Volume)		25-YEAR		100-YEAR (Extreme Flood Control)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Design Line 1	3.02	1.84	23.34	15.04	38.30	24.81	72.15	70.44
Design Line 2	2.94	4.46*	28.52	27.38	49.12	43.48	96.74	93.70

*The post development peak flow for the 1-year, 24 hour storm has no design criteria requiring mitigation as outlined in the NYSSMDM. A decrease in Tc path length and duration for the subcatchment outside the project area resulted in an increase in peek flow and a decrease in total runoff volume. Additionally, CPv criterion for the design line have been achieved through complete infiltration of the 1-year, 24-hour storm within the project area.

As shown in the above table the peak flows from the contributing areas to the design lines in the post development condition has been mitigated to below the existing condition levels, thus meeting the general requirements of the NYSDEC.

2.6 NYCDEP Requirements

As previously discussed the proposed project meets three (3) of the thresholds that require SWPPP approval from the NYCDEP per Section 18-39 of the Rules and Regulations. The project meets the following thresholds listed in Section 18-39(b)(4) that require NYCDEP SWPPP approval:

(i) Plans for development or sale of land that will result in the disturbance of five (5) or more acres of total land area.

(iii) Construction of a new industrial, institutional, municipal, commercial, or multi-family residential project that will result in the creation of an impervious surface totaling over 40,000 square feet in size.

(iv) A land clearing project, involving two or more acres, located at least in part within the limiting distance of 100 feet of a watercourse or wetland, or within the limiting distance of 300 feet of a reservoir, reservoir stem or controlled lake or on a slope exceeding 15 percent.

There is no proposed stormwater discharge from industrial activities for the proposed development. The proposed project does not include any new solid waste management facilities or alterations / modifications to existing facilities.

The Rules and Regulations parallel the requirements of the NYSDEC and the Town of Southeast, with the exception that two different NYSDEC standard SMP's are required in series when the drainage area to a SMP is greater than 20% impervious and an infiltration practice is not provided. Although there are subcatchments where the percent impervious exceeds 20% (as shown in Table 2.6.2 below), by providing infiltration practices, there is no need for two different NYSDEC standard SMP's in series for all subcatchments.

Per the Rules and Regulations, the stormwater treatment volume used shall be the greater of the runoff volume from the 1-year, 24-hour storm event or the volume generated by the 90% storm. The initial WQ_v from the 1-year storm event was discussed above. The following equation, per Chapter 4, was used to determine the water quality volume for the 90% storm event for the subcatchments.

The water quality volume shall be $WQ_v = \frac{(P)(R_v)(A) \times 43{,}560 \text{ (ac/s.f.)}}{12}$

Where,

WQ_{v90} = water quality volume (in c.f.)

P = 90% Rainfall Event Number (1.4 in)

R_v = 0.05 + 0.009(I), where I is percent impervious cover

A = site area in acres

Table 2.6.1 - Water Quality Volume Calculation Summary 90% Storm vs. 1-Year Storm Comparison

Subcatchments	P (in.)	R_v[1]	A[2] (ac.)	WQ_{v90} (c.f.)	WQ_v[3] 1-year (c.f.)
1.1S, 1.2S, 1.3S	1.4	0.20	17.9	18,194	84,768
2.1S, 2.2S, 2.3S, 2.4S, 2.5S, 2.6S		0.39	20.5	40,631	98,881

[1] A minimum R_v of 0.2 will be used.
[2] Information regarding contributing areas for the 1-year 24-hour storm event is shown in Appendix C.
[3] Refer to Appendix C for 1-year 24-hour water quality volume calculation.

As shown in Table 2.6.1 above, the volume produced by the 1-year, 24-hour design storm for subcatchments is larger than the volume produced by the 90% storm. Therefore, the 1-year, 24-hour design storm volumes shall be used for the WQv sizing for all of the proposed stormwater management practices.

The following table summarizes the amount of proposed impervious surfaces for each subcatchment and shows the proposed stormwater management practice that will treat each sub-watershed:

Table 2.6.2 – Imperviousness of Tributary Areas & Stormwater Management Practice

Sub-Catchments	Total Area (acres)	Existing Impervious Surface Within Subcatchment	Proposed Impervious Surface Within Subcatchment	% Impervious Surface of Total Subcatchment Area	Proposed Stormwater Management Practice (SMP) Treatment Train[1]	
					RR_v/SMP 1	SMP 2 (A second practice in series is only provided when % impervious is greater than 20% and infiltration is not provided)
1.1S, 1.2S, 1.3S	17.9	0.0	3.0	17%	I-2, Infiltration Basin	Not Required
2.1S, 2.2S, 2.3S, 2.4S, 2.5S, 2.6S	20.5	0.0	7.7	38%	I-2, Infiltration Basin	Not Required

[1] This table lists the standard SMP's used to treat the balance of the WQ_v / RR_v after the application of GIP's.

As shown in the above table, all the subcatchments where treatment is required are greater than 20% imperviousness. To satisfy the requirement for two practices in series, standard SMP's with RRv capacity or infiltration practices have been used as the GIP's for the project. By proposing infiltration practices for all subcatchments, per the NYSDEP requirements, a second stormwater management practice in series is not required.

3.0 STORMWATER CONVEYANCE SYSTEM

The stormwater collection and conveyance systems for the project will consist of catch basins and HDPE pipe. As required by the Design Manual and NYCDEP the pipe system will be sized to collect and convey at minimum the 10-year, 1-hour design storm using the Rational Method. The Rational Method is a standard method used by engineers to develop flow rates for sizing collection systems. The Rational Method calculates flows based on a one-hour design storm. The collection system has been sized to convey, at a minimum, the 10-year design storm.

4.0 EROSION AND SEDIMENT CONTROL

Erosion and sediment control should be accomplished by four basic principles: diversion of clean water, containment of sediment, treatment of dirty water, and stabilization of disturbed areas. Diversion of clean water should be accomplished with swales. This diverted water should be safely conveyed around the construction area as necessary and discharged downstream of the disturbed areas. Sediment should be contained with the use of silt fence at the toe of disturbed slopes. Disturbed areas should be permanently stabilized within 7 days of final grading to limit the required length of time that the temporary facilities must be utilized. The owner will be responsible for the maintenance of the temporary erosion control facilities. Refer to the Project Drawings for further information on the implementation of the Erosion Control Plan and Construction Sequence.

4.1 Temporary Erosion and Sediment Control Facilities

Temporary erosion and sediment control facilities should be installed and maintained as required to reduce the impacts to off-site properties. The owner will be required to provide maintenance for the temporary erosion and sediment control facilities. In general, the following temporary methods and materials should be used to control erosion and sedimentation from the project site:

- Stabilized Construction Entrance
- Silt Fence Barriers
- Storm Drain Inlet Protection

- Temporary Soil Stabilization
- Temporary Sediment Trap

All temporary erosion control measures shall be maintained in accordance with the Erosion & Sediment Control Maintenance Schedule contained on the Project Drawings, and as discussed below.

A stabilized construction entrance should be installed at the site entrance as shown on the project plans. The design drawings will include details to guide the contractor in the construction of this entrance. The intent of the stabilized construction entrance is to prevent the "tracking" of soil from the site. Dust control should be accomplished with water sprinkling trucks if required. During dry periods, sprinkler trucks should wet all exposed earth surfaces as required to prevent the transport of air-borne particles to adjoining areas.

Siltation barriers constructed of geosynthetic filter cloth should be installed at the toe of all disturbed slopes. The intent of these barriers is to contain silt and sediment at the source and inhibit its transport by stormwater runoff. The siltation barriers will also help reduce the rate of runoff by creating filters through which the stormwater must pass. During construction, the siltation barriers shall be inspected weekly and after a rainfall event and shall be cleaned/replaced when needed.

Storm drain inlet protection in the form of stone drop inlet protection will be installed around all proposed inlets. The stone drop inlet protection will serve to filter stormwater runoff before it enters the collection system. Throughout construction the concrete drainage structures, associated piping and inlet protections shall be inspected weekly and after a rainfall event. These items shall be cleaned, repaired and/or replaced when needed.

The extended detention stormwater basins will act as temporary sediment traps during construction of the site. The stormwater runoff from disturbed areas will be directed to the sediment traps. These traps have been sized in accordance with the NYSSSESC, as shown in Appendix H of this report.

When land is exposed during development, the exposure shall be kept to the shortest practical period, but in no case more than 7 days. Temporary grass seed and mulch shall be applied to any construction area idle for two weeks. The temporary seeding and mulching shall be performed in accordance with the seeding notes illustrated on the project drawings. Disturbance shall be minimized in the areas required to perform construction. Upon completion of final grading topsoil, permanent seeding and mulch shall be applied in accordance with the project drawings.

The stormwater runoff will be managed by the temporary erosion and sediment control facilities during construction. As discussed in the construction sequences provided the project plans the stabilized construction entrance shall be installed at the site entrance and silt fence shall be installed along the down hill perimeter of where soil disturbing activities will occur containing sediment laden stormwater runoff on-site.

4.2 Permanent Erosion and Sediment Control Facilities

Permanent erosion and sediment control will be accomplished by diverting stormwater runoff from steep slopes, controlling/reducing stormwater runoff velocities and volumes, and vegetative and structural surface stabilization. All of the permanent facilities are relatively maintenance free and only require periodic inspections. The owner will provide maintenance for all the permanent erosion and sediment control facilities.

Rock outlet protection will be provided at the discharge end of all piped drainage systems, and will be sized in accordance with the Blue Book. The purpose of the rock outlet protection is to reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving downstream reach. The rock outlet protection shall be inspected for evidence of scour beneath the riprap and/or for any dislodged stones. Inspections of the rock outlet protection shall be performed during the inspections of the post-construction SMP's for the project.

Other than the paved or gravel surfaces, disturbed surfaces will be stabilized with vegetation within 10 days of final grading. Permanent seed mix and mulch shall be applied to idle areas to minimize the amount of exposed soil. Permanent seed mixtures are proposed for the project and illustrated on project drawings. Application rates for the seed and mulch are provided on the project

drawings. The vegetation will control stormwater runoff by preventing soil erosion, reducing runoff volume and velocities, and providing a filter medium. Permanent seeding should optimally be undertaken in the spring from March 21st through May 20th and in late summer from August 15th to October 15th.

5.0 IMPLEMENTATION, MAINTENANCE & GENERAL HOUSEKEEPING

5.1 Construction Phase

Details associated with the implementation and maintenance of the proposed stormwater facilities and erosion control measures during construction are shown on the project drawings. Soil disturbance for the proposed project will be phased so it will not exceed five acres at one time. The erosion control plan will include associated details and notes to aid the contractor in implementing the plan.

During construction, a Site Log Book, Appendix D, is required to be kept per NYSDEC SPDES General Permit GP-0-20-001. Erosion and sediment control inspections are required to be conducted as necessary under coverage of the permit. The erosion and sediment control inspections must be performed daily by a trained contractor and the two (2) weekly inspection performed by a qualified inspector shall be performed on days separated by two (2) full calendar days. The owner or operator must begin implementing corrective actions within one business day and complete the corrective actions in a reasonable time frame. An updated logbook and a copy of the SWPPP is required to be kept on site for the duration of the construction activities. The Construction Site Log Book is an appendix taken from the *New York Standards and Specifications for Erosion and Sediment Control* (Blue Book).

In addition to the proposed erosion and sediment control facilities, the following good housekeeping best management practices shall be implemented to mitigate potential pollution during the construction phase of the project. The general contractor overseeing the day-to-day site operation shall be responsible for the good housekeeping best management practices included in the following general categories:

- Material Handling and Waste Management
- Establishment of Staging Areas
- Establishment of Washout Areas
- Proper Equipment Fueling and Maintenance Practices
- Spill Prevention and Control Plan

All construction waste materials shall be collected and removed from the site regularly by the general contractor. The general contractor shall supply waste barrels for proper disposal of waste materials. All personnel working on the site shall be instructed of the proper procedures for construction waste disposal.

Although it is not anticipated any hazardous waste materials will be utilized during construction, any hazardous waste materials shall be disposed of in accordance with federal, state, and local regulations. No hazardous waste shall be disposed of on-site. Hazardous waste materials shall be stored in appropriate and clearly marked containers and segregated from the other non-waste materials. All hazardous waste shall be stored in a structurally sound and sealed shipping containers located in the staging areas. Material safety data sheets, material inventory, and emergency contact numbers will be maintained in the office trailer. All personnel working on the site shall be instructed of the proper procedures for hazardous waste disposal.

Temporary sanitary facilities (portable toilets) shall be provided on site during the entire length of construction. The sanitary facilities shall be located in the project staging area, or in an alternate area away from the construction activities on the site. The portable toilets shall be inspected weekly for evidence of leaking holding tanks.

All recyclables, including wood pallets, cardboard boxes, and all other recyclable construction scraps shall be disposed of in a designated recycling barrel provided by the contractor and removed from the site regularly. All personnel working on the site shall be instructed of the proper procedures for construction waste recycling.

All construction equipment and maintenance materials shall be stored in a construction staging area. Silt fence shall be installed down gradient of the construction staging area. Shipping containers shall be utilized to store hand tools, small parts, and other construction materials, not taken off site daily. Construction waste barrels, recycling barrels and if necessary hazardous waste containers shall be located within the limits of the construction staging area.

Throughout the construction of the project several types of vehicles and equipment will be used on-site. Fueling of the equipment shall occur within the limits of the construction staging area. Fuel will be delivered to the site as needed, by the general contractor, or a party chosen by the general contractor. Only minor vehicle equipment maintenance shall occur on-site, all major maintenance shall be performed off-site. All equipment fluids generated from minor maintenance activities shall be disposed of into designated drums and stored in accordance with the hazardous waste storage as previously discussed.

Vehicles and equipment shall be inspected on each day of use. Any leak discovered shall be repaired immediately. All leaking equipment unable to be repaired shall be removed from the site. Ample supplies of absorbent, spill-cleanup materials, and spill kits shall be located in the construction staging area. All spills shall be cleaned up immediately upon discovery. Spent absorbent materials and rags shall be hauled off-site immediately after the spill is cleaned for disposal at a local landfill. All personnel working on the site shall be instructed of the proper procedures for spill prevention and control. Any spill large enough to discharge to surface water will be immediately reported to the local fire / police departments, NYCDEP, and the National Response Center 1-800-424-8802.

Vegetation should be inspected every 30 days and after every major storm event until established, after which inspections should take place on a quarterly basis and after every large storm event. Damaged areas should be immediately re-seeded and re-mulched.

5.2 Soil Restoration

Soil Restoration is required to be applied across areas of the development site where soils have been disturbed and will be vegetated. The purpose is to recover the original properties and porosity of the soil compacted during construction activity. Soil Restoration is applied in the cleanup, restoration, and landscaping phase of construction followed by the permanent establishment of an appropriate, deep-rooted groundcover to help maintain the restored soil structure. Soil restoration includes mechanical decompaction and compost amendment. The table below describes various soil disturbance activities related to land development, soil types and the requirements for soil restoration for each activity as identified in the Design Manual. Restoration is applied across areas of a development site where soils have been compacted and will be vegetated according to the criteria defined in the table below:

<table>
<tr><th colspan="4">Soil Restoration Requirements[1, 2,4]
(Onsite soils within the limit of disturbance belong to Hydrologic Soil Groups (HSG) A, B & D)</th></tr>
<tr><th>Type of Soil Disturbance</th><th colspan="2">Soil Restoration Requirement</th><th>Comments/Examples</th></tr>
<tr><td>No soil disturbance</td><td colspan="2">Restoration not permitted</td><td>Preservation of Natural Features</td></tr>
<tr><td>Minimal soil disturbance</td><td colspan="2">Restoration not required</td><td>Clearing and grubbing</td></tr>
<tr><td rowspan="2">Areas where topsoil is stripped only - no change in grade</td><td>HSG A & B</td><td>HSG C&D</td><td rowspan="2">Protect area from any ongoing construction activities.</td></tr>
<tr><td>Apply 6 inches of topsoil</td><td>Aerate[3] and apply 6 inches of topsoil</td></tr>
<tr><td rowspan="2">Areas of cut or fill</td><td>HSG A &B</td><td>HSG C&D</td><td rowspan="2"></td></tr>
<tr><td>Aerate[1] and apply 6 inches of topsoil</td><td>Apply full Soil Restoration [2]</td></tr>
</table>

Soil Restoration Requirements[1, 2,4] (Onsite soils within the limit of disturbance belong to Hydrologic Soil Groups (HSG) A, B & D)		
Heavy traffic areas on site (especially in a zone 5-25 feet around buildings but not within a 5-foot perimeter around foundation walls)	Apply full Soil Restoration (decompaction and compost Enhancement[6])	
Areas where Runoff Reduction and/or Infiltration practices are applied	Restoration not required, but may be applied to enhance the reduction specified for appropriate practices.	Keep construction equipment from crossing these areas. To protect newly installed practice from any ongoing construction activities construct a single phase operation fence area
Redevelopment projects	Soil Restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious area.	

1. Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which function like a mini-subsoiler.
2. Per "Deep Ripping and De-compaction, DEC 2008".
3. Aeration includes the use of machines such as tractor-drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which functions like a mini-subsoiler.
4. During periods of relatively low to moderate subsoil moisture, the disturbed soils are returned to rough grade and the following Soil Restoration steps applied:
   - 5.1. Apply 3 inches of compost over subsoil.
   - 5.2. Till compost into subsoil to a depth of at least 12 inches using a cat-mounted ripper, tractor-mounted disc, or tiller, mixing, and circulating air and compost into subsoils.
   - 5.3. Rock-pick until uplifted stone/rock materials of four inches and larger size area cleaned off the site.
   - 5.4. Apply topsoil to a depth of 6 inches.
   - 5.5. Vegetate as required by seeding notes located on the project drawings.
   - 5.6. Tilling should not be performed within the drip line of any existing trees or over any utility installations that are within 24 inches of the surface.
   - 6. Compost shall be aged, from plant derived materials, free of viable weed seeds, have no visible free water or dust produced when handling, pass through a half inch screen and have a pH suitable to grow desired plants.

After soil restoration is completed, an inspector should be able to push a 3/8" metal bar twelve inches into the soil with just body weight. Following decompaction/soil restoration activities, the following maintenance is anticipated during the first year:

- Initial inspections for the first six months (once after each storm greater than a half-inch).
- Reseeding to repair bare or eroding areas to assure grass stabilization.
- Water once every three days for first month, and then provide a half inch of water per week during first year. Irrigation plan may be adjusted according to the rain event.
- Fertilization may be needed in the fall after the first growing season to increase plant vigor.

In order to ensure the soil remains decompacted the following ongoing maintenance is recommended:

- Planting the appropriate ground cover with deep roots to maintain the soil structure.
- Keeping the site free of vehicular and foot traffic or other weight loads. Consider pedestrian footpaths (sometimes it may be necessary to de-thatch the turf every few years).

5.3 Long Term Maintenance Plan

The stormwater facilities for the subject project have been designed to minimize the required maintenance. This section discusses the minimum maintenance requirements to insure long-term performance of the stormwater facilities. Initially the stormwater facilities will require an increased maintenance and inspection schedule until all portions of the site are stable. Generally the stormwater facilities consist of either collection and conveyance components or treatment components.

The owner will be responsible for the maintenance of the permanent erosion control and stormwater facilities. Each spring the paved areas should be cleaned to remove the winter's accumulation of traction sand. After this is completed, all catch basin sumps and pipes should be checked for debris and blockages and cleaned as required. During the cleaning process, the catch basins and pipes should be inspected for structural integrity and overall condition; repairs and/or replacement will be made as required.

Once the desired vegetative cover is established over the infiltration system, only limited maintenance is required. The infiltration system should be inspected after major storm events and semi-annually. During the inspections, the following should be checked:

- Evidence of clogging in the outlet structures / flow splitters.
- Drain down times exceeding 48 hours in the infiltration system and basins
- Adequacy of upstream/downstream channel erosion control measures.
- Sources of erosion in the contributory drainage, which should be stabilized

In addition to guidelines discussed above all maintenance requirements outlined in the Design Manual shall be followed. See Appendix G.

APPENDIX A
RR_v Calculations

APPENDIX B
Pre Development Computer Data

APPENDIX C
Post Development Computer Data

APPENDIX D

NYSDEC SPDES for Construction Activities Construction Site Log Book

APPENDIX E

Project and Owner Information

Site Data:

160 & 132 Pugsley Road
Town of Southeast, New York 10509
Area: 153.5 acres ±

Owner Information:

Town of Southeast
1360 Route 22
Brewster, NY 10509
845-279-4313
thay@southeast-ny.gov

Applicant Information:

ProSwing Sports Realty, Inc.
27 Radio Circle Drive
Mount Kisco, NY 10590
914-242-1626
Dan@proswingbaseball.com

Parties Responsible for Implementation of the Short and Long Term Maintenance Plan:

To Be Determined

Qualified Professional Responsible for Inspection of the Stormwater Pollution Prevention Plan:

Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512
845-225-9690

APPENDIX F
NYSDEC Stormwater Design Manual Chapter 5 Analysis

Table Key: ● = Practice Used in Accordance with Chapter 5 Requirements
o = Practice Not Used
- = Practice is Not Applicable

NYSDEC Chapter 5 Requirements	Remarks		
	Design Line 1	Design Line 2	
Practices			
Preservation of Undisturbed Areas	●	●	See Note #1
Preservation of Buffers	●	●	See Note #1
Reduction of Clearing & Grading	●	●	See Note #2
Locating Development in Less Sensitive Areas	●	●	See Note #1
Open Space Design	-		
Soil Restoration	●	●	See Note #3
Practices			
Roadway Reduction	●	●	See Note #2
Sidewalk Reduction	●	●	See Note #2
Driveway Reduction	-		
Cul-de-sac Reduction	-		
Building Footprint Reduction	-		
Parking Reduction	●	●	
Conservation of Natural Areas	●	●	See Note #1
Sheetflow to Riparian Buffers or Filter Strips	o		
Vegetated Swale	o		See Note #4
Tree Planting / Tree Pit	o		
Disconnection of Rooftop Runoff	o		
Stream Daylighting	o		
Rain Gardens	o		
Green Roofs	o		
Stormwater Planters	o		
Rain Barrels / Cisterns	o	o	See Note #4
Porous Pavement	o		See Note #4

Notes:

1. Although no formal calculations have been provided, the subject project has provided conservation of natural areas, development in less sensitive areas and preservation of buffers and undisturbed areas to the maximum extent practical.
2. The reduction in clearing and grading as well as the driveway and parking areas foot print reduction will be enforced with the approval of the project SWPPP. Notes on the project plans, establish that any changes in the project plans would require an amended approval from the necessary regulatory agencies.
3. Soil restoration notes have been provided on the project plans.
4. Two (2) infiltration practices have been designed as a standard stormwater management practice (SMP) and are proposed for treatment of the RRv and WQv from the proposed development.

APPENDIX G

NYSDEC Stormwater Management Practice Construction and Maintenance Checklists

APPENDIX H

Temporary Sediment Trap Sizing Calculations

3,600 CF minimum of storage required for each acre of contributing area

Sediment Trap #	Contributing Area (Acres)	Minimum Volume Required (cf)	Volume Provided (cf)
1.2	9.0	32,400	70,656
1.4	8.9	32,040	82,370
2.2	6.8	24,480	34,670
2.5	6.9	24,840	74,685
2.7	6.8	24,480	81,307

FIGURES

APPENDIX A
RR_v Calculations

RRv Calculation Worksheet - 1.1, 1.2, 1.3

Project: Brewster Yards
Project #: 19249.100
Date: 1/18/2022

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

1. RRv Initial = Water Quality Volume (WQv) *1.946 ac-ft* = *84,768 c.f.*
(refer to HydroCAD Subcatchments 1.1S for Water Quality Volume)

2. *RRv Minimum* = [(P) (Rv) (S) (Aic)] /12 where…

P = Rainfall (in.)	=	2.76	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor	=	0.36	
[HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]			
Aic = Total area of new impervious cover	=	3.0	Acres
RRv Minimum	=	*10,279*	*c.f.*

3. *RRv Required* = RRv Initial - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project		
5.3.1 Conservation of Natural Area	N/A	
5.3.2 Sheet Flow to Riparian Buffers or Filter Strips	N/A	
5.3.4 Tree Planting / Tree Box		c.f.
5.3.5 Disconnection of Rooftop Runoff	-	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)(Refer to HydroCAD output in this Appendix)	= 84,768	c.f.

4. *RRv Provided*

GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales		20%	0
[HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]		10%	0
5.3.7 Rain Garden		40%	0
[No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]			
5.3.8 Green Roof		100%	0
[RRv provided equals volume provided in Green Roof]			
5.3.9 Stormwater Planters		45%	0
[Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]			
5.3.10 Rain Tank / Cisterns		100%	0
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)	84,768	100%	84,768
Bioretention Practice (Standard SMP)		40%	0
[Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]			
Dry Swale (Open Channel Practice) (Standard SMP)		20%	0
[HSG A/B = 40%] [HSG C/D = 20%]			
RRv Provided =			*84,768*

5. Summary

RRv Initial	=	84,768 c.f.	
RRv Required	=	84,768 c.f.	
RRv Minimum	=	10,279 c.f.	
RRv Provided	=	84,768 c.f.	
WQv Required for Downstream SMP	=	0 c.f.	(= RRv Required - RRv Provided)

Is RRv Provided greater than or equal to RRv Minimum? Yes

Refer to the " Analysis of Green Infrastructure Practices" contained in Appendix F for an explanation demonstrating the maximum RRv Provided has been achieved for the site.

RRv Calculation Worksheet - 2.1, 2.2, 2.3, 2.4, 2.5, 2.6

Project: Brewster Yards
Project #: 19249.100
Date: 1/18/2022

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

1. RRv Initial = Water Quality Volume (WQv) *2.270 ac-ft* = *98,881 c.f.*
(refer to HydroCAD Subcatchments 1.1S for Water Quality Volume)

2. *RRv Minimum* = [(P) (Rv) (S) (Aic)] /12 where…

P = Rainfall (in.)	=	2.76	in.
Rv = 0.05 + 0.009 (100%)	=	0.95	
S = Hydrologic Soil Group Specific Reduction Factor	=	0.35	
[HSG A = 0.55] [HSG B = 0.40] [HSG C = 0.30] [HSG D = 0.20]			
Aic = Total area of new impervious cover	=	7.7	Acres
RRv Minimum	=	*25,651*	*c.f.*

3. *RRv Required* = RRv Initial - Green Infrastructure Practice (GIP) with Area Reduction

GIP with Area Reduction Applied in Project		
5.3.1 Conservation of Natural Area	N/A	
5.3.2 Sheet Flow to Riparian Buffers or Filter Strips	N/A	
5.3.4 Tree Planting / Tree Box		c.f.
5.3.5 Disconnection of Rooftop Runoff	-	
5.3.6 Stream Daylighting	N/A	
RRv Required(=WQv-RRV by area)(Refer to HydroCAD output in this Appendix)	= 98,881	c.f.

4. *RRv Provided*

GIP with Volume Reduction Applied in Project	WQv Treated (c.f.)	% of WQv Applied to *RRv Provided*	*RRv Provided (c.f.)*
5.3.3 Vegetated Open Swales		20%	0
[HSG A / B = 20%] [HSG C / D = 10%] {Modified HSG C - D = 15% - 12%]		10%	0
5.3.7 Rain Garden		40%	0
[No underdrains / Good Soils = 100%] [With underdrains / Poor Soils = 40%]			
5.3.8 Green Roof		100%	0
[RRv provided equals volume provided in Green Roof]			
5.3.9 Stormwater Planters		45%	0
[Infiltration Planters = 100%] [Flow Through HSG C = 45%] [Flow Though HSG D = 30%]			
5.3.10 Rain Tank / Cisterns		100%	0
5.3.11 Porous Pavement		100%	0
Infiltration Practice (Standard SMP)	98,881	100%	98,881
Bioretention Practice (Standard SMP)		40%	0
[Without Underdrains HSG A/B = 80%] [With Underdrain HSG C\D = 40%]			
Dry Swale (Open Channel Practice) (Standard SMP)		20%	0
[HSG A/B = 40%] [HSG C/D = 20%]			
RRv Provided =			*98,881*

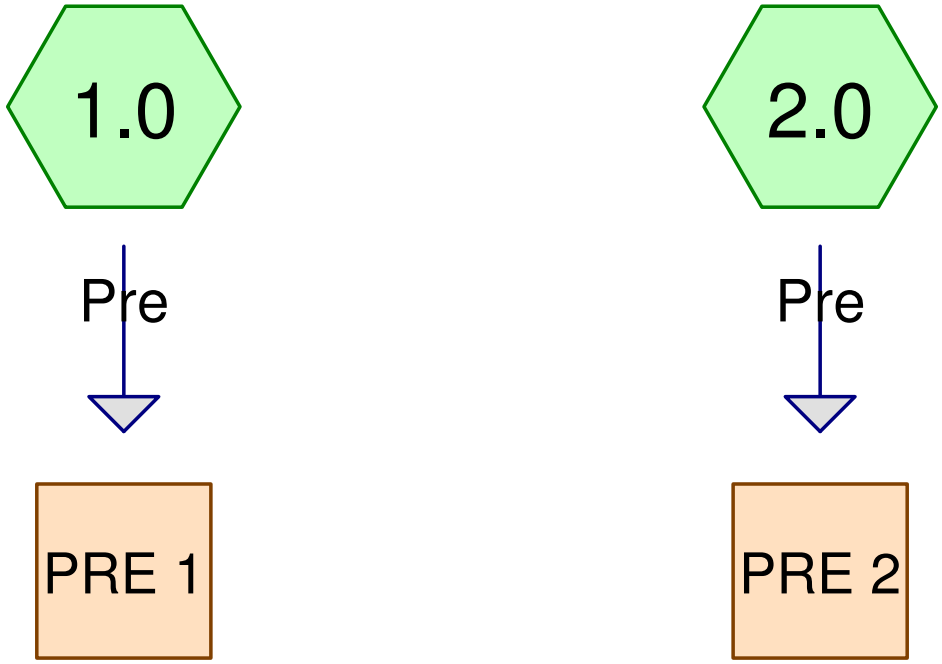
5. Summary

RRv Initial	=	98,881 c.f.	
RRv Required	=	98,881 c.f.	
RRv Minimum	=	25,651 c.f.	
RRv Provided	=	98,881 c.f.	
WQv Required for Downstream SMP	=	0 c.f.	(= RRv Required - RRv Provided)

Is RRv Provided greater than or equal to RRv Minimum? Yes

Refer to the " Analysis of Green Infrastructure Practices" contained in Appendix F for an explanation demonstrating the maximum RRv Provided has been achieved for the site.

APPENDIX B
Pre Development Computer Data



Subcat Reach Pond Link

Routing Diagram for Brewster Yards Pre

Prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., Printed 3/1/2022

HydroCAD® 10.00-15 s/n 00891 © 2015 HydroCAD Software Solutions LLC

Summary for Subcatchment 1.0: Pre

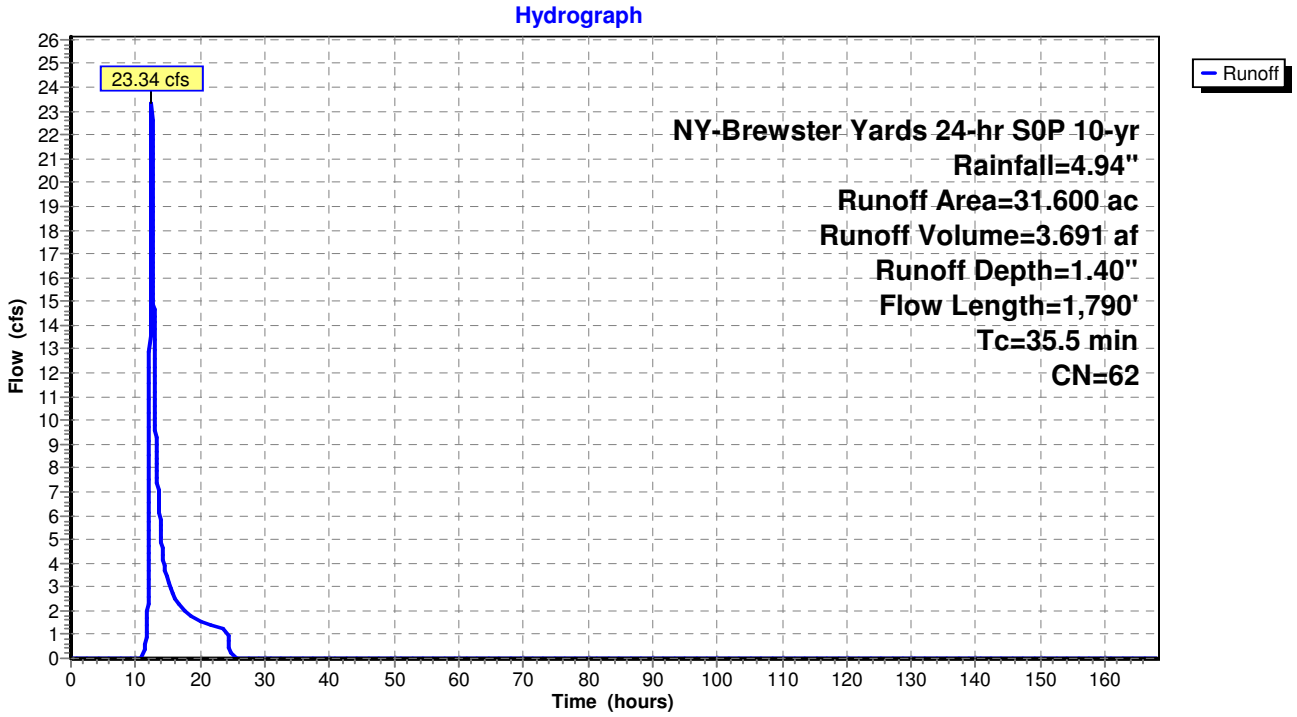
Runoff = 23.34 cfs @ 12.50 hrs, Volume= 3.691 af, Depth= 1.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

Area (ac)	CN	Description
16.900	55	Woods, Good, HSG B
14.500	70	Woods, Good, HSG C
0.200	77	Woods, Good, HSG D
31.600	62	Weighted Average
31.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0300	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
2.8	380	0.2020	2.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.9	655	0.0490	1.11		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.8	230	0.1830	2.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.9	280	0.1070	1.64		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	145	0.1100	4.39	21.97	**Channel Flow,** Area= 5.0 sf Perim= 8.3' r= 0.60' n= 0.080 Earth, long dense weeds
35.5	1,790	Total			

Subcatchment 1.0: Pre



Summary for Subcatchment 2.0: Pre

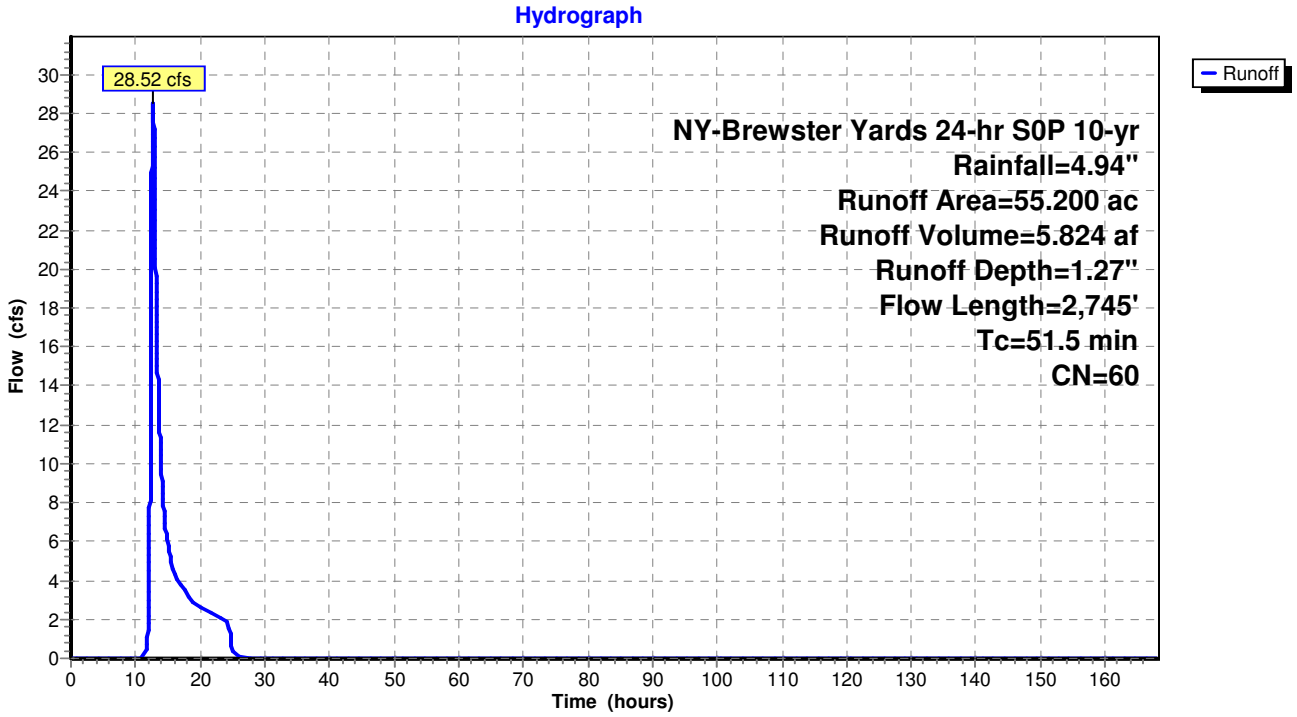
Runoff = 28.52 cfs @ 12.71 hrs, Volume= 5.824 af, Depth= 1.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

Area (ac)	CN	Description
43.500	55	Woods, Good, HSG B
0.100	70	Woods, Good, HSG C
11.600	77	Woods, Good, HSG D
55.200	60	Weighted Average
55.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0500	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
3.0	380	0.1800	2.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.8	355	0.0620	1.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.9	375	0.0160	0.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.9	655	0.0490	1.11		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	85	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.2	365	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	430	0.0470	2.87	14.36	**Channel Flow,** Area= 5.0 sf Perim= 8.3' r= 0.60' n= 0.080 Earth, long dense weeds
51.5	2,745	Total			

Subcatchment 2.0: Pre

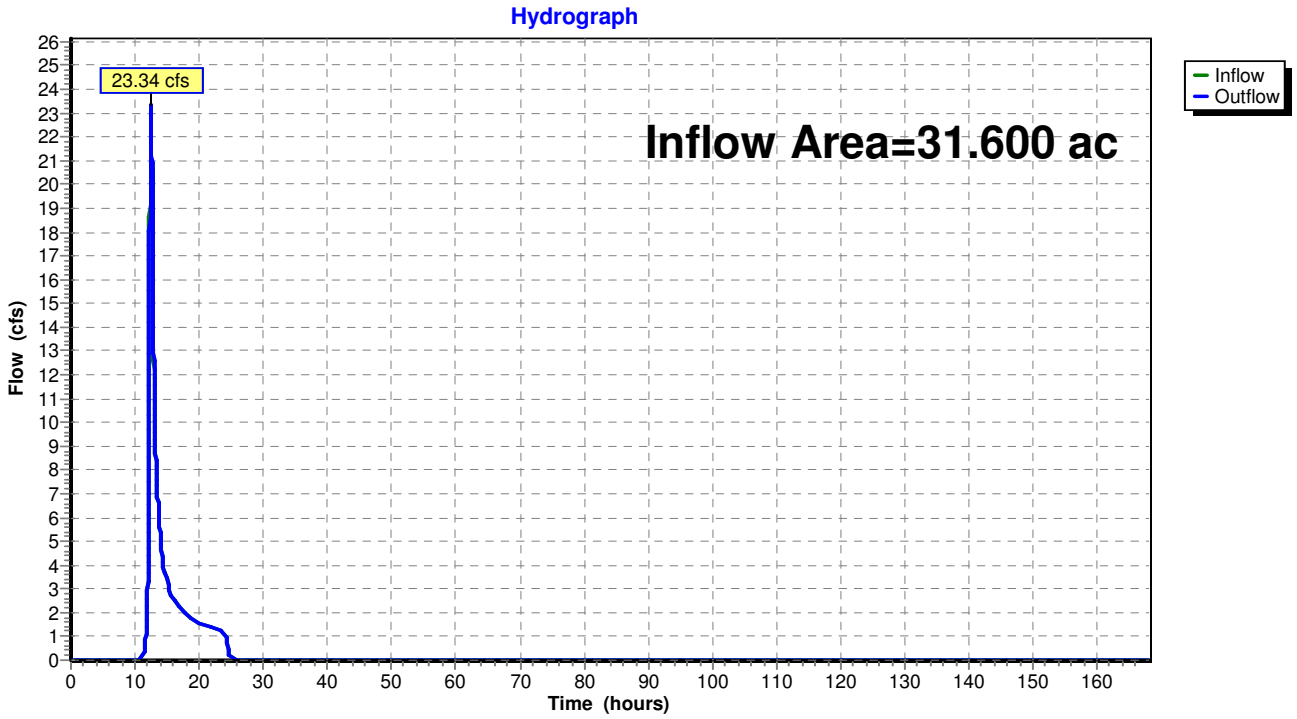


Summary for Reach PRE 1:

Inflow Area = 31.600 ac, 0.00% Impervious, Inflow Depth = 1.40" for 10-yr event
Inflow = 23.34 cfs @ 12.50 hrs, Volume= 3.691 af
Outflow = 23.34 cfs @ 12.51 hrs, Volume= 3.691 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach PRE 1:

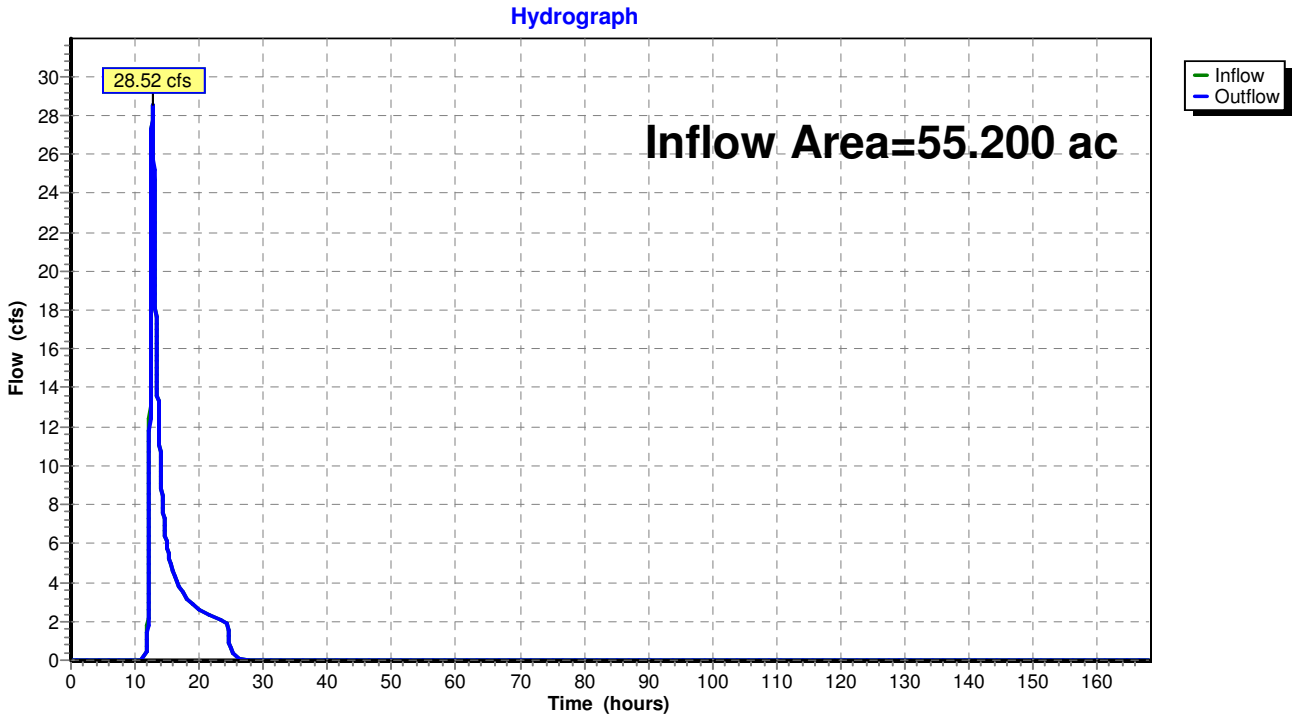


Summary for Reach PRE 2:

Inflow Area = 55.200 ac, 0.00% Impervious, Inflow Depth = 1.27" for 10-yr event
Inflow = 28.52 cfs @ 12.71 hrs, Volume= 5.824 af
Outflow = 28.52 cfs @ 12.72 hrs, Volume= 5.824 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach PRE 2:



Summary for Subcatchment 1.0: Pre

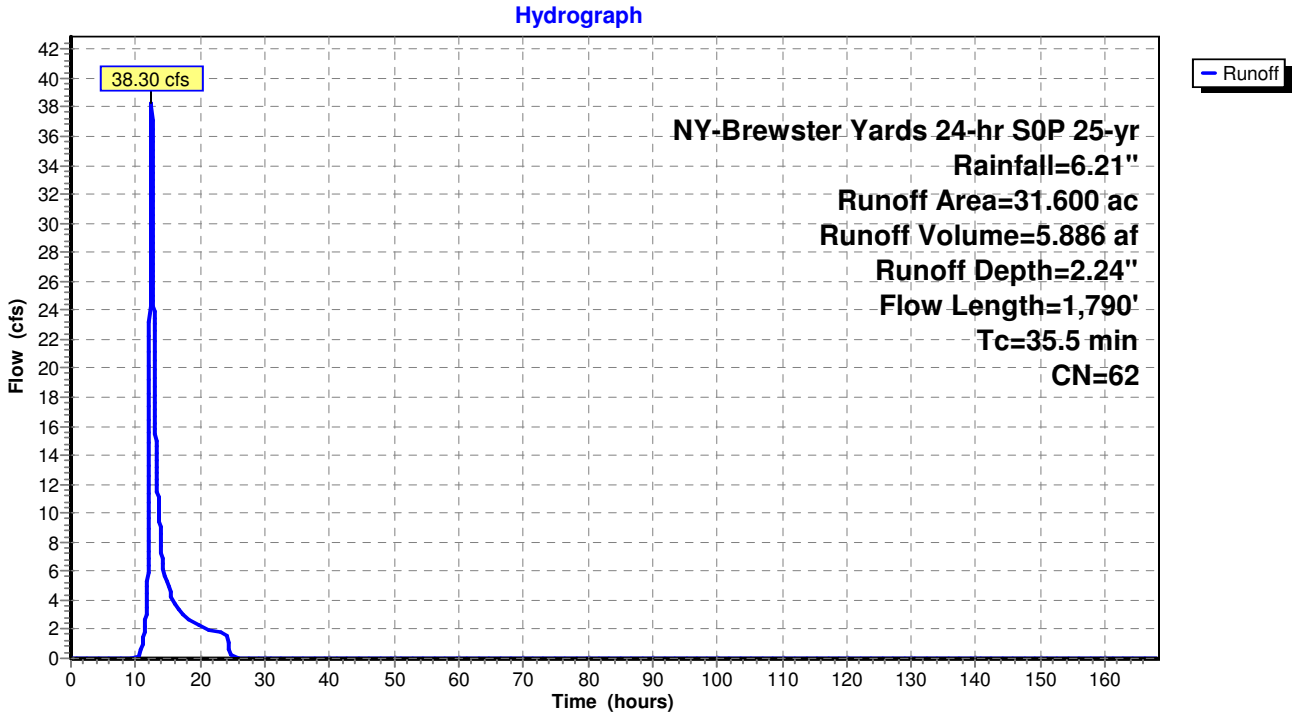
Runoff = 38.30 cfs @ 12.47 hrs, Volume= 5.886 af, Depth= 2.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

Area (ac)	CN	Description
16.900	55	Woods, Good, HSG B
14.500	70	Woods, Good, HSG C
0.200	77	Woods, Good, HSG D
31.600	62	Weighted Average
31.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0300	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
2.8	380	0.2020	2.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.9	655	0.0490	1.11		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.8	230	0.1830	2.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.9	280	0.1070	1.64		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	145	0.1100	4.39	21.97	**Channel Flow,** Area= 5.0 sf Perim= 8.3' r= 0.60' n= 0.080 Earth, long dense weeds
35.5	1,790	Total			

Subcatchment 1.0: Pre



Summary for Subcatchment 2.0: Pre

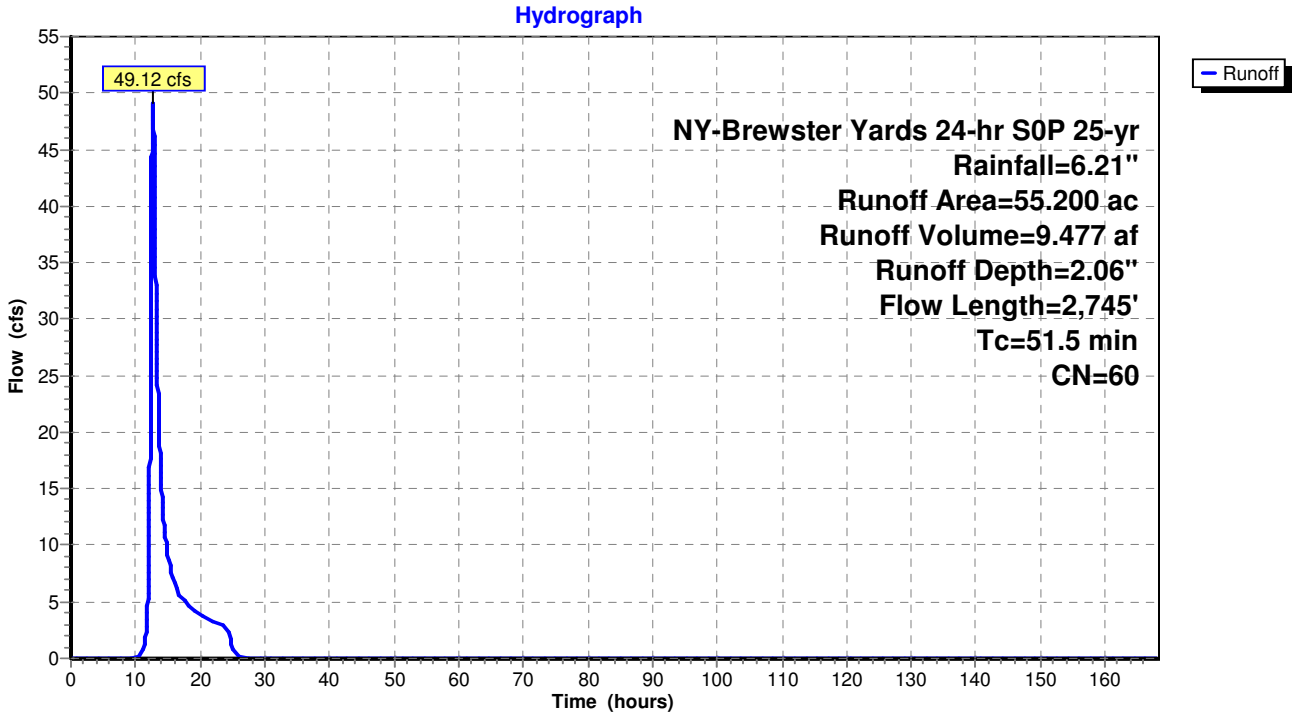
Runoff = 49.12 cfs @ 12.70 hrs, Volume= 9.477 af, Depth= 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

Area (ac)	CN	Description
43.500	55	Woods, Good, HSG B
0.100	70	Woods, Good, HSG C
11.600	77	Woods, Good, HSG D
55.200	60	Weighted Average
55.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0500	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
3.0	380	0.1800	2.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.8	355	0.0620	1.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.9	375	0.0160	0.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.9	655	0.0490	1.11		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	85	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.2	365	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	430	0.0470	2.87	14.36	**Channel Flow,** Area= 5.0 sf Perim= 8.3' r= 0.60' n= 0.080 Earth, long dense weeds
51.5	2,745	Total			

Subcatchment 2.0: Pre

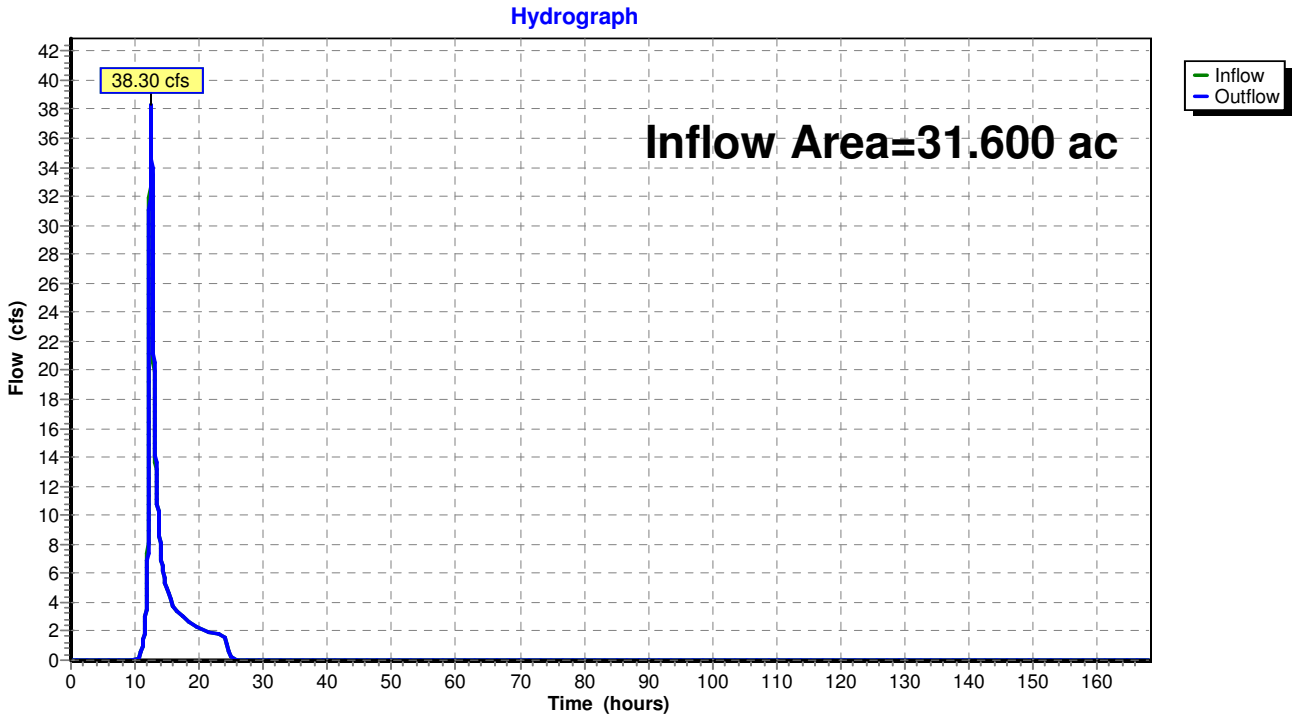


Summary for Reach PRE 1:

Inflow Area = 31.600 ac, 0.00% Impervious, Inflow Depth = 2.24" for 25-yr event
Inflow = 38.30 cfs @ 12.47 hrs, Volume= 5.886 af
Outflow = 38.30 cfs @ 12.48 hrs, Volume= 5.886 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach PRE 1:

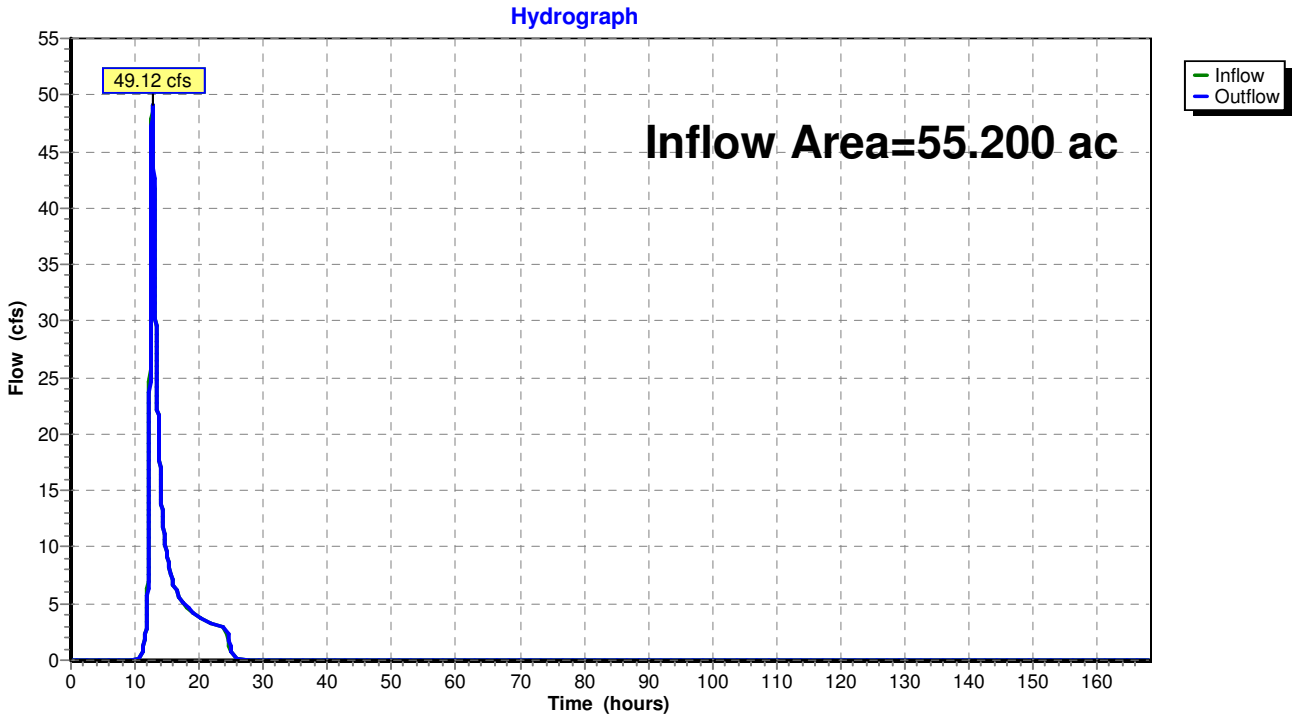


Summary for Reach PRE 2:

Inflow Area = 55.200 ac, 0.00% Impervious, Inflow Depth = 2.06" for 25-yr event
Inflow = 49.12 cfs @ 12.70 hrs, Volume= 9.477 af
Outflow = 49.12 cfs @ 12.71 hrs, Volume= 9.477 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach PRE 2:



Summary for Subcatchment 1.0: Pre

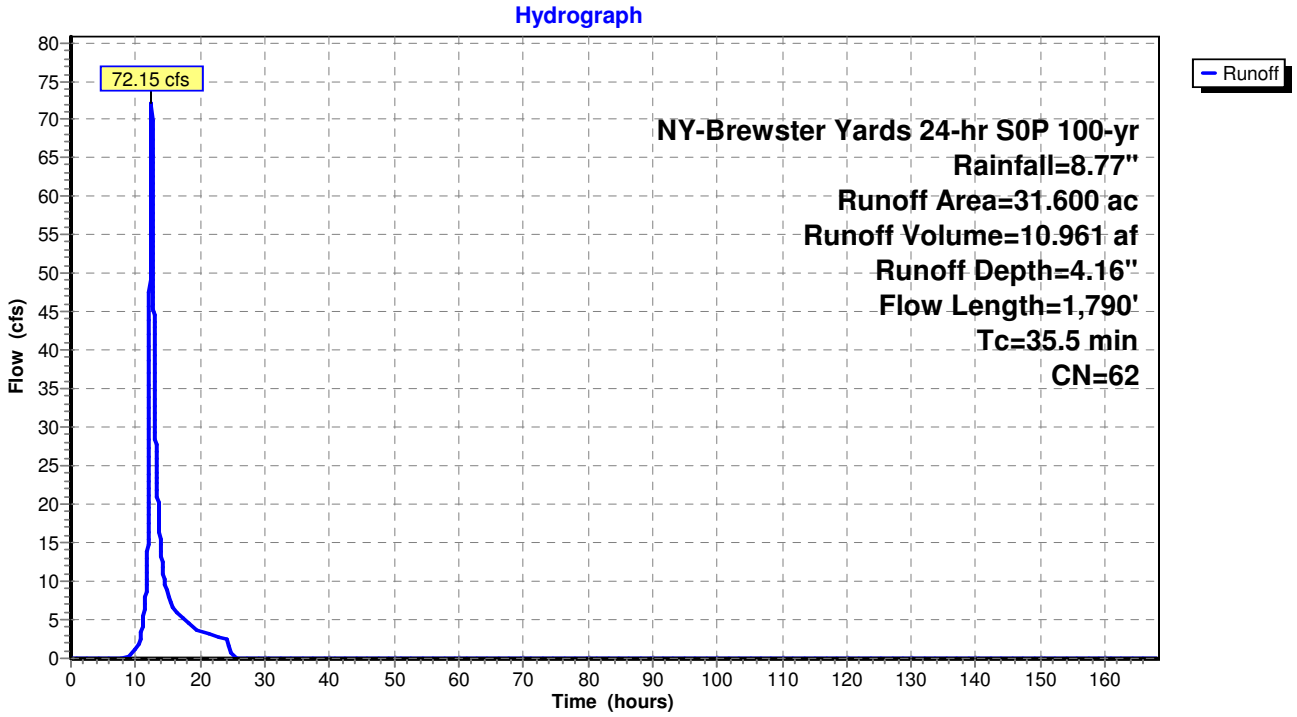
Runoff = 72.15 cfs @ 12.46 hrs, Volume= 10.961 af, Depth= 4.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

Area (ac)	CN	Description
16.900	55	Woods, Good, HSG B
14.500	70	Woods, Good, HSG C
0.200	77	Woods, Good, HSG D
31.600	62	Weighted Average
31.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0300	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
2.8	380	0.2020	2.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.9	655	0.0490	1.11		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.8	230	0.1830	2.14		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.9	280	0.1070	1.64		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	145	0.1100	4.39	21.97	**Channel Flow,** Area= 5.0 sf Perim= 8.3' r= 0.60' n= 0.080 Earth, long dense weeds
35.5	1,790	Total			

Subcatchment 1.0: Pre



Summary for Subcatchment 2.0: Pre

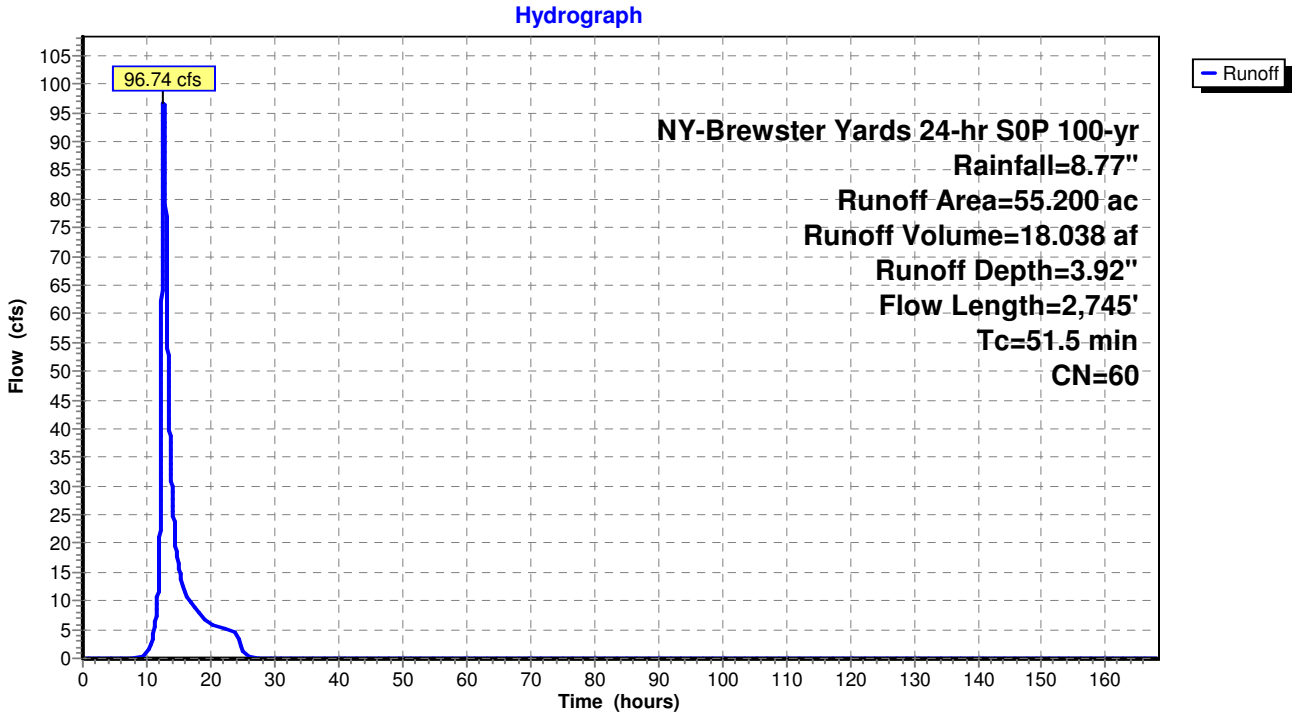
Runoff = 96.74 cfs @ 12.65 hrs, Volume= 18.038 af, Depth= 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

Area (ac)	CN	Description
43.500	55	Woods, Good, HSG B
0.100	70	Woods, Good, HSG C
11.600	77	Woods, Good, HSG D
55.200	60	Weighted Average
55.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	100	0.0500	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
3.0	380	0.1800	2.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.8	355	0.0620	1.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.9	375	0.0160	0.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.9	655	0.0490	1.11		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	85	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.2	365	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	430	0.0470	2.87	14.36	**Channel Flow,** Area= 5.0 sf Perim= 8.3' r= 0.60' n= 0.080 Earth, long dense weeds
51.5	2,745	Total			

Subcatchment 2.0: Pre

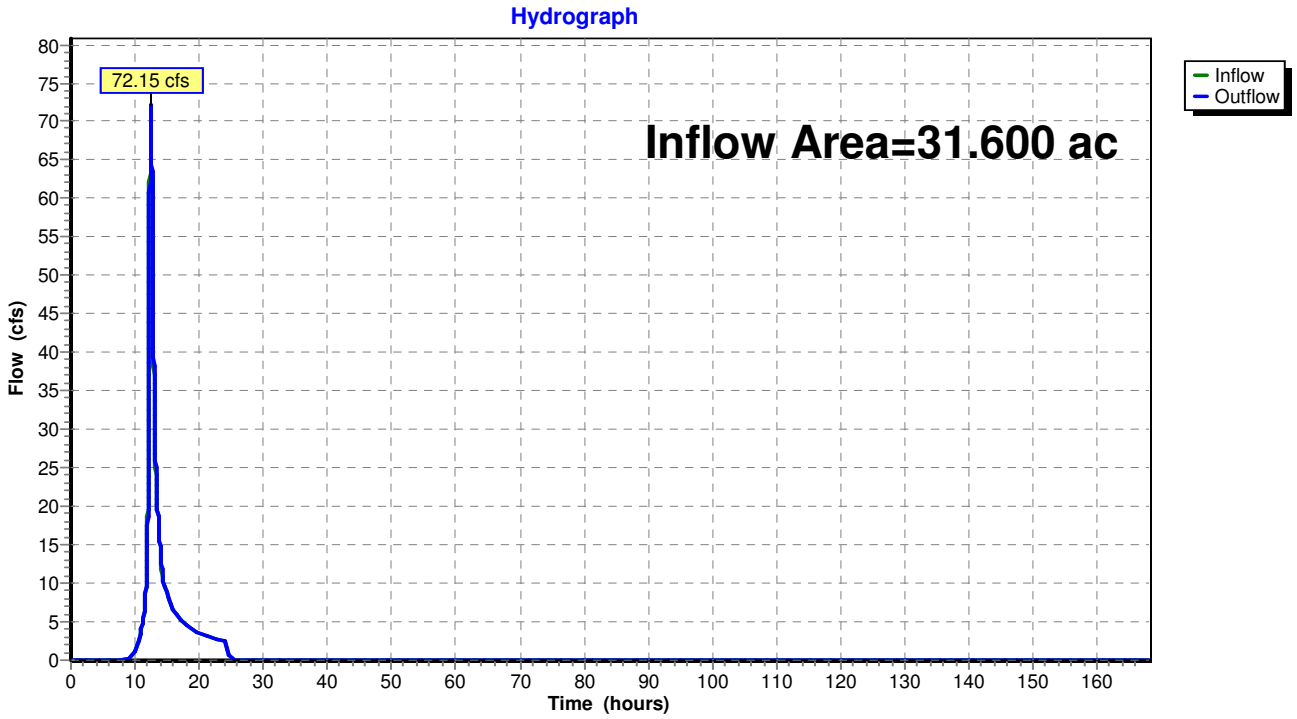


Summary for Reach PRE 1:

Inflow Area = 31.600 ac, 0.00% Impervious, Inflow Depth = 4.16" for 100-yr event
Inflow = 72.15 cfs @ 12.46 hrs, Volume= 10.961 af
Outflow = 72.15 cfs @ 12.47 hrs, Volume= 10.961 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach PRE 1:

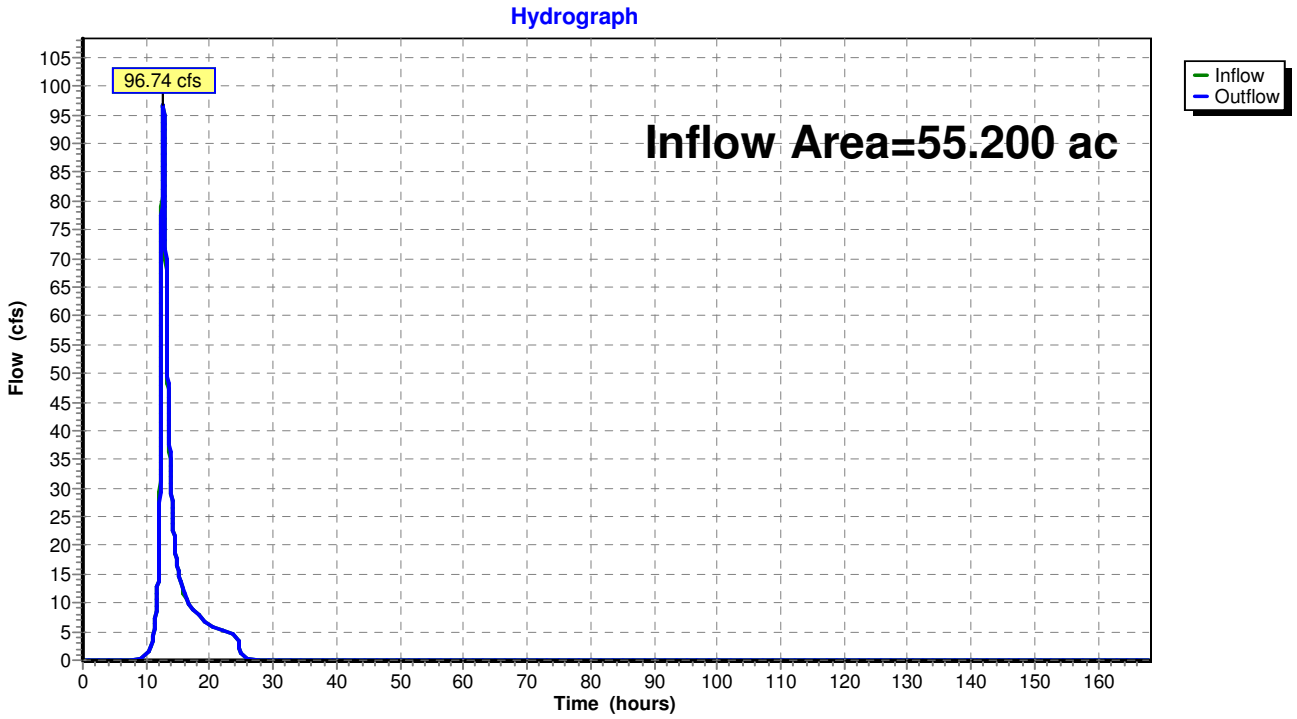


Summary for Reach PRE 2:

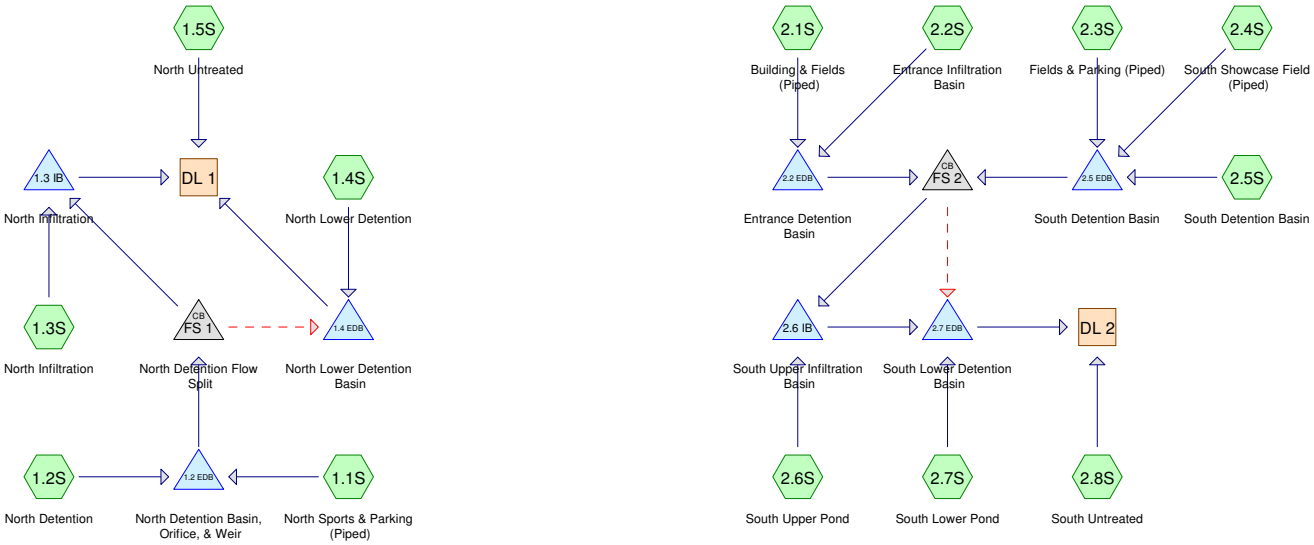
Inflow Area = 55.200 ac, 0.00% Impervious, Inflow Depth = 3.92" for 100-yr event
Inflow = 96.74 cfs @ 12.65 hrs, Volume= 18.038 af
Outflow = 96.74 cfs @ 12.66 hrs, Volume= 18.038 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach PRE 2:



APPENDIX C
Post Development Computer Data



Subcat Reach Pond Link

Routing Diagram for Brewster Yards Post

Prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., Printed 2/28/2022

HydroCAD® 10.00-15 s/n 00891 © 2015 HydroCAD Software Solutions LLC

Summary for Subcatchment 1.1S: North Sports & Parking (Piped)

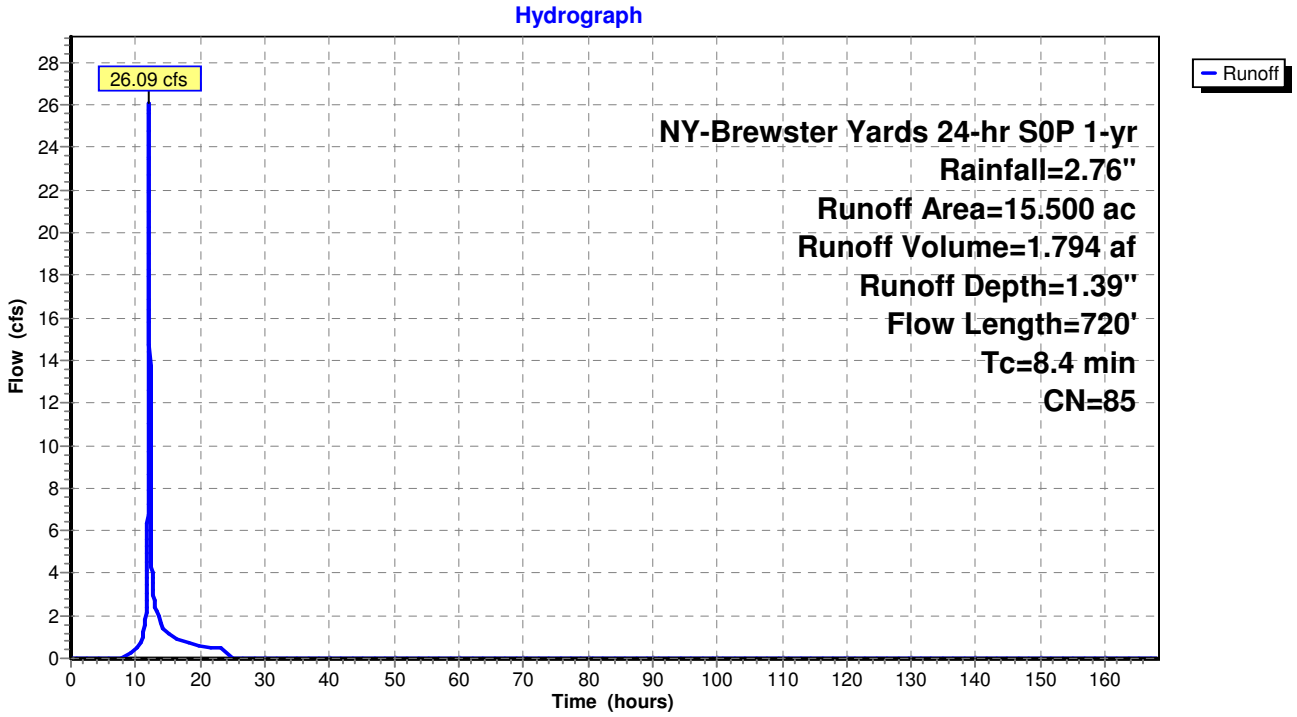
Runoff = 26.09 cfs @ 12.08 hrs, Volume= 1.794 af, Depth= 1.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 1-yr Rainfall=2.76"

	Area (ac)	CN	Description
*	9.900	86	Field Turf
	1.400	61	>75% Grass cover, Good, HSG B
	1.200	74	>75% Grass cover, Good, HSG C
*	3.000	98	Impervious
	15.500	85	Weighted Average
	12.500		80.65% Pervious Area
	3.000		19.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.0600	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"
0.8	160	0.0438	3.14		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.1	190	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	270	0.0200	10.18	31.99	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
8.4	720	Total			

Subcatchment 1.1S: North Sports & Parking (Piped)



Summary for Subcatchment 1.2S: North Detention

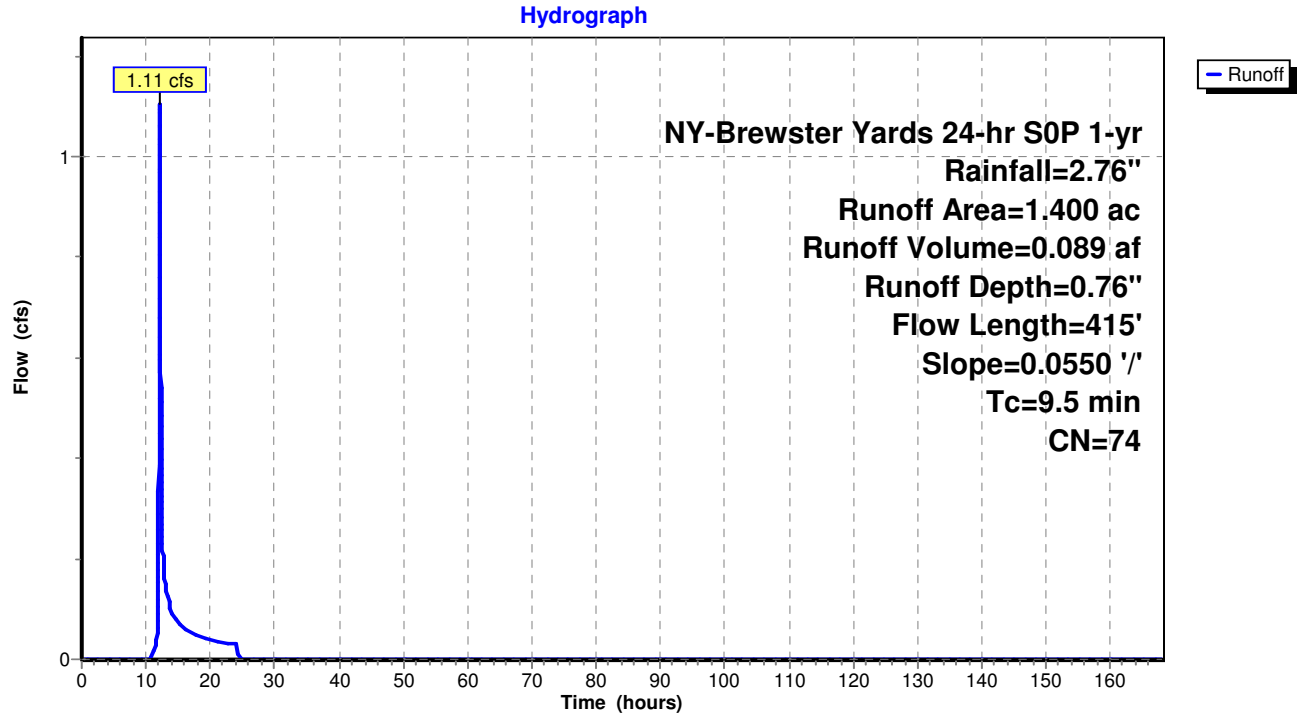
Runoff = 1.11 cfs @ 12.11 hrs, Volume= 0.089 af, Depth= 0.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 1-yr Rainfall=2.76"

Area (ac)	CN	Description
1.400	74	>75% Grass cover, Good, HSG C
1.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	100	0.0550	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"
3.2	315	0.0550	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.5	415	Total			

Subcatchment 1.2S: North Detention



Summary for Subcatchment 1.3S: North Infiltration

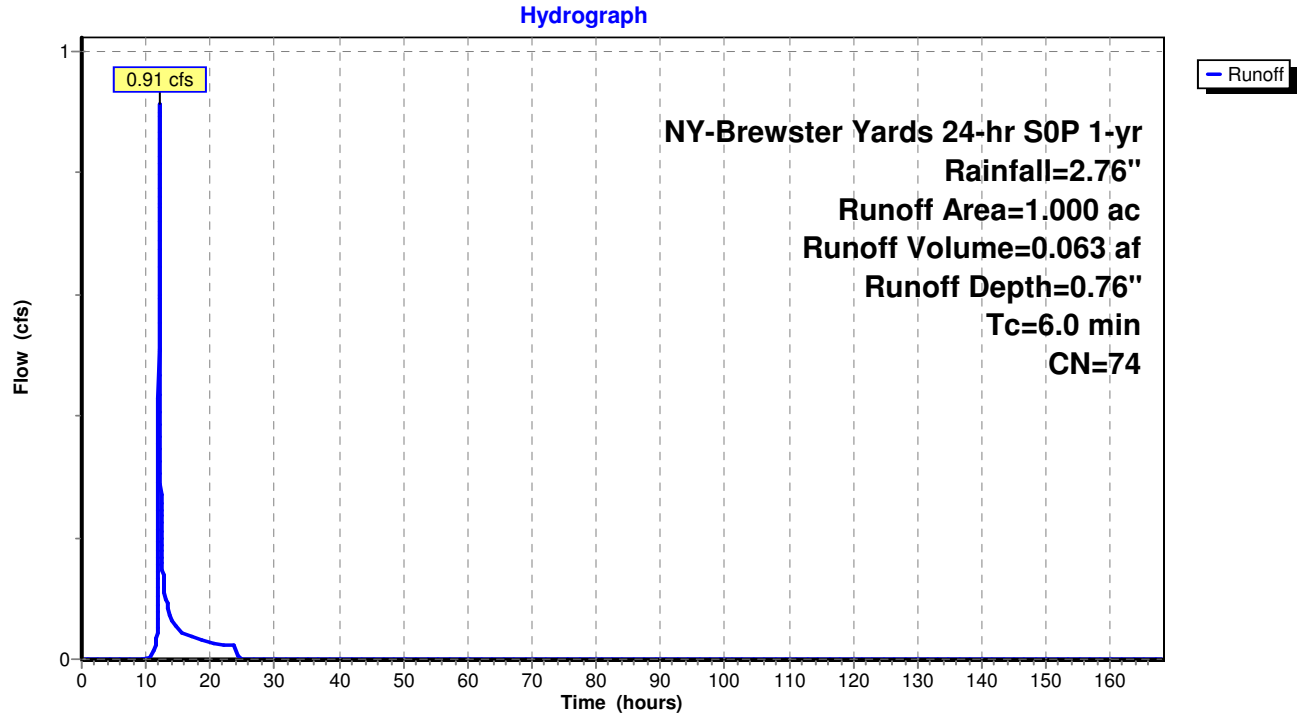
Runoff = 0.91 cfs @ 12.05 hrs, Volume= 0.063 af, Depth= 0.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 1-yr Rainfall=2.76"

Area (ac)	CN	Description
1.000	74	>75% Grass cover, Good, HSG C
1.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.3S: North Infiltration



Summary for Subcatchment 1.4S: North Lower Detention

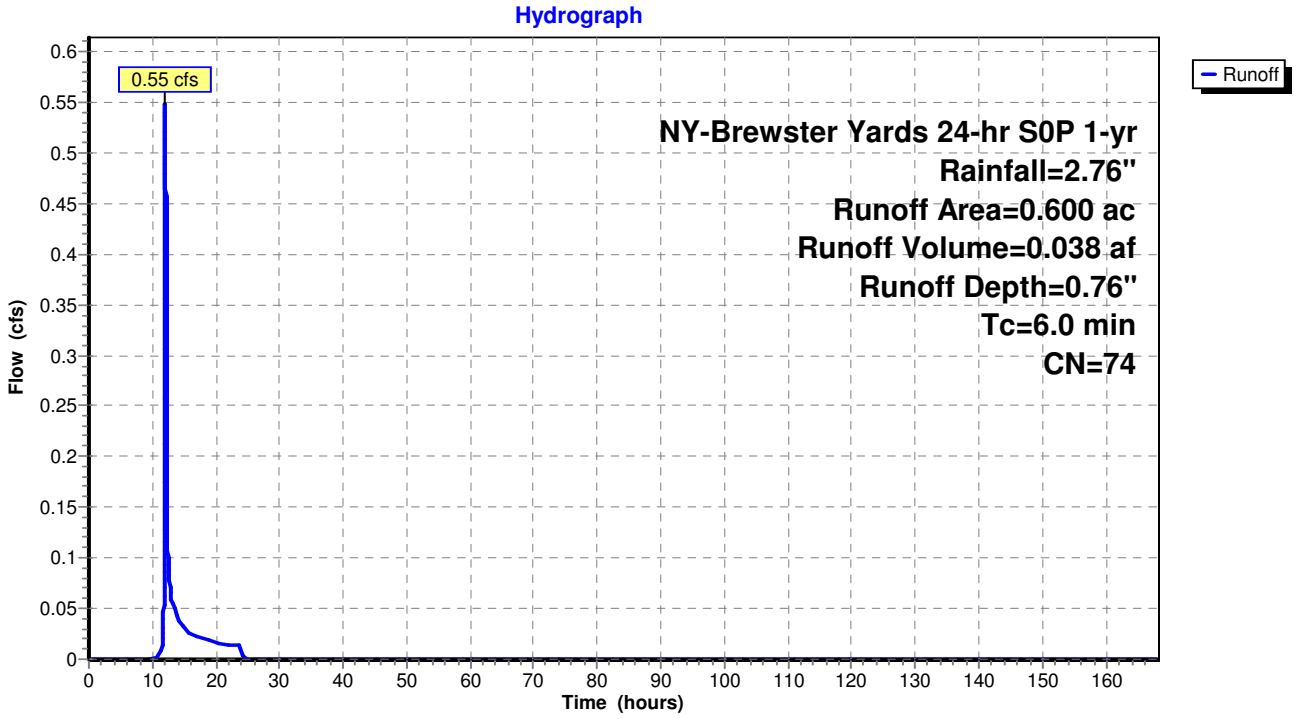
Runoff = 0.55 cfs @ 12.05 hrs, Volume= 0.038 af, Depth= 0.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 1-yr Rainfall=2.76"

Area (ac)	CN	Description
0.600	74	>75% Grass cover, Good, HSG C
0.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.4S: North Lower Detention



Summary for Subcatchment 1.5S: North Untreated

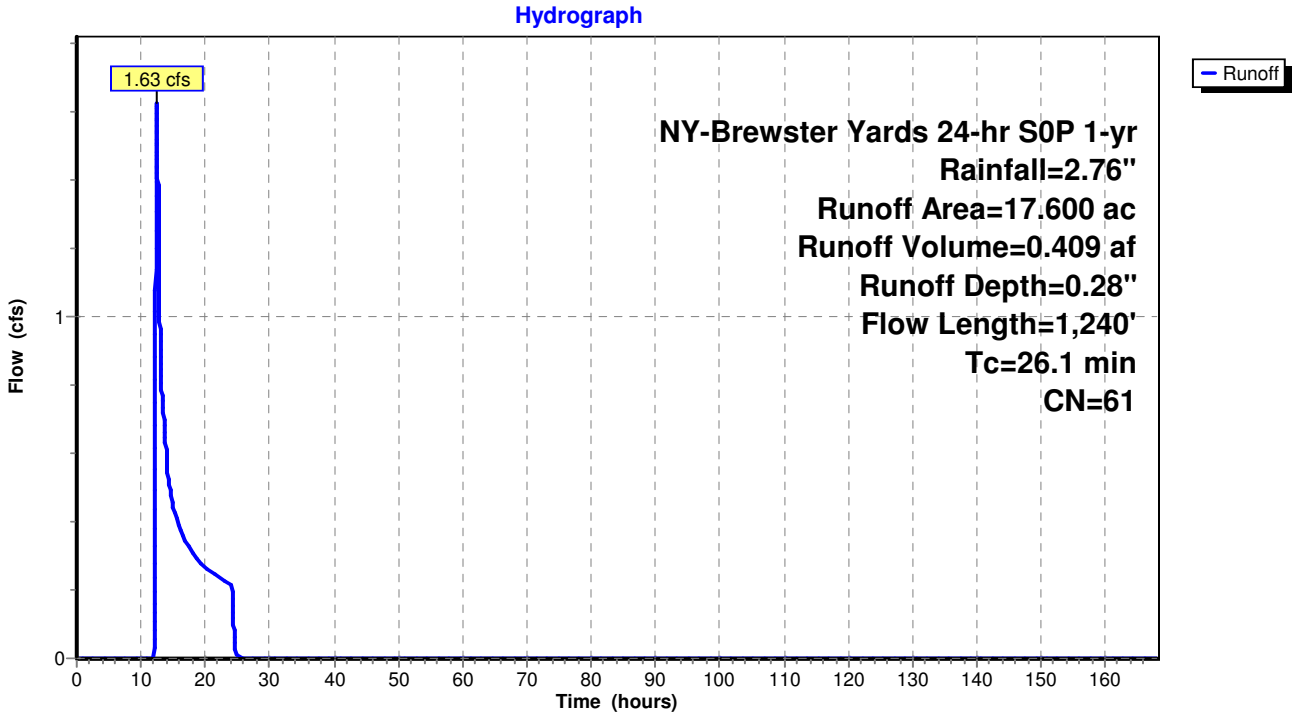
Runoff = 1.63 cfs @ 12.44 hrs, Volume= 0.409 af, Depth= 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 1-yr Rainfall=2.76"

Area (ac)	CN	Description
10.300	55	Woods, Good, HSG B
5.800	70	Woods, Good, HSG C
0.200	77	Woods, Good, HSG D
0.300	61	>75% Grass cover, Good, HSG B
1.000	74	>75% Grass cover, Good, HSG C
17.600	61	Weighted Average
17.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0300	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
0.5	60	0.1330	1.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.2	200	0.2900	2.69		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	150	0.0930	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	160	0.2875	2.68		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.4	350	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	220	0.1100	4.39	21.97	**Channel Flow,** Area= 5.0 sf Perim= 8.3' r= 0.60' n= 0.080 Earth, long dense weeds
26.1	1,240	Total			

Subcatchment 1.5S: North Untreated



Summary for Subcatchment 2.1S: Building & Fields (Piped)

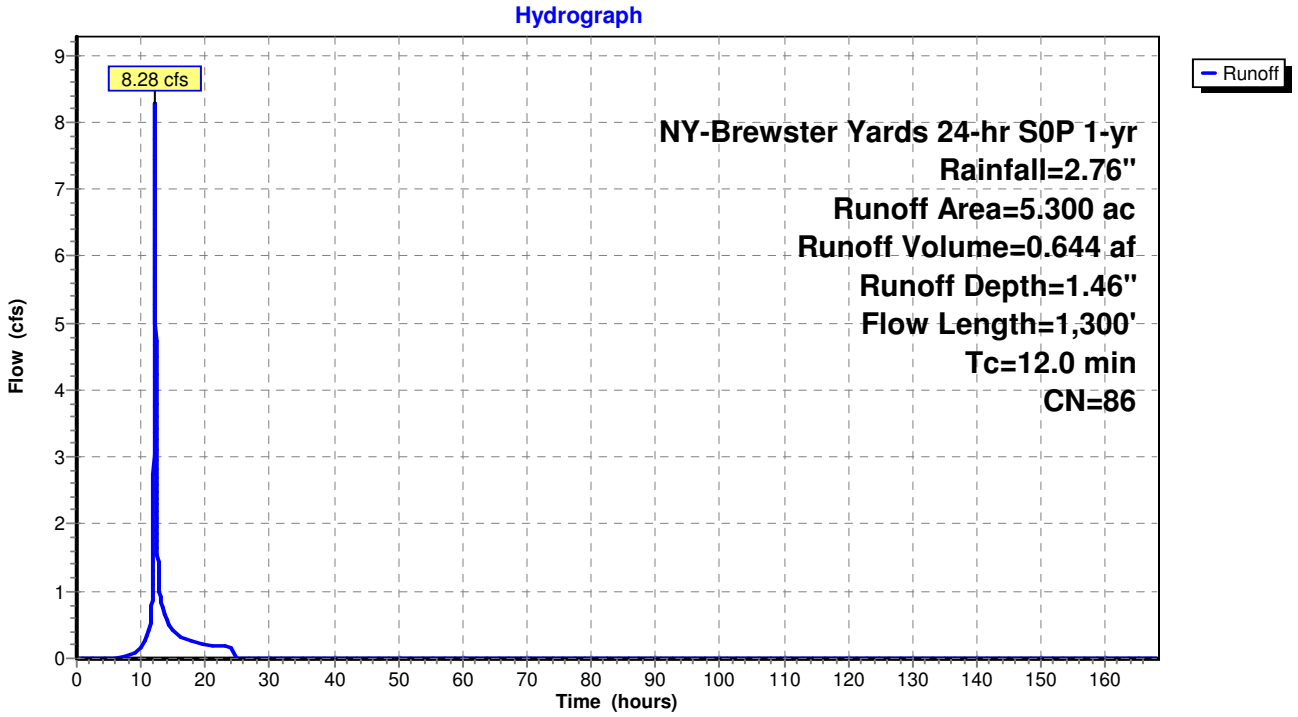
Runoff = 8.28 cfs @ 12.13 hrs, Volume= 0.644 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 1-yr Rainfall=2.76"

	Area (ac)	CN	Description
*	2.700	98	Impervious
*	1.400	86	Field Turf
	1.200	61	>75% Grass cover, Good, HSG B
	5.300	86	Weighted Average
	2.600		49.06% Pervious Area
	2.700		50.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0300	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"
1.2	150	0.0200	2.12		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	250	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.9	800	0.0412	14.62	45.92	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
12.0	1,300	Total			

Subcatchment 2.1S: Building & Fields (Piped)



Summary for Subcatchment 2.2S: Entrance Infiltration Basin

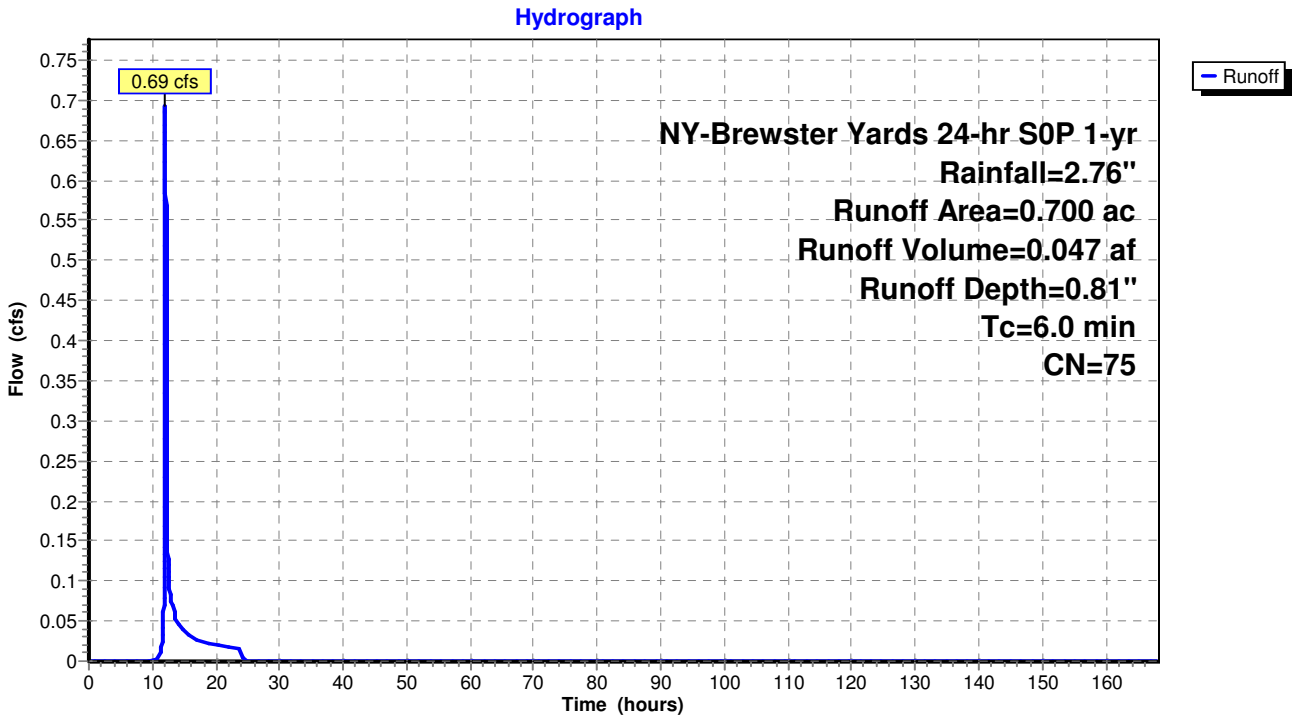
Runoff = 0.69 cfs @ 12.05 hrs, Volume= 0.047 af, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 1-yr Rainfall=2.76"

Area (ac)	CN	Description
0.200	61	>75% Grass cover, Good, HSG B
0.500	80	>75% Grass cover, Good, HSG D
0.700	75	Weighted Average
0.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.2S: Entrance Infiltration Basin



Summary for Subcatchment 2.3S: Fields & Parking (Piped)

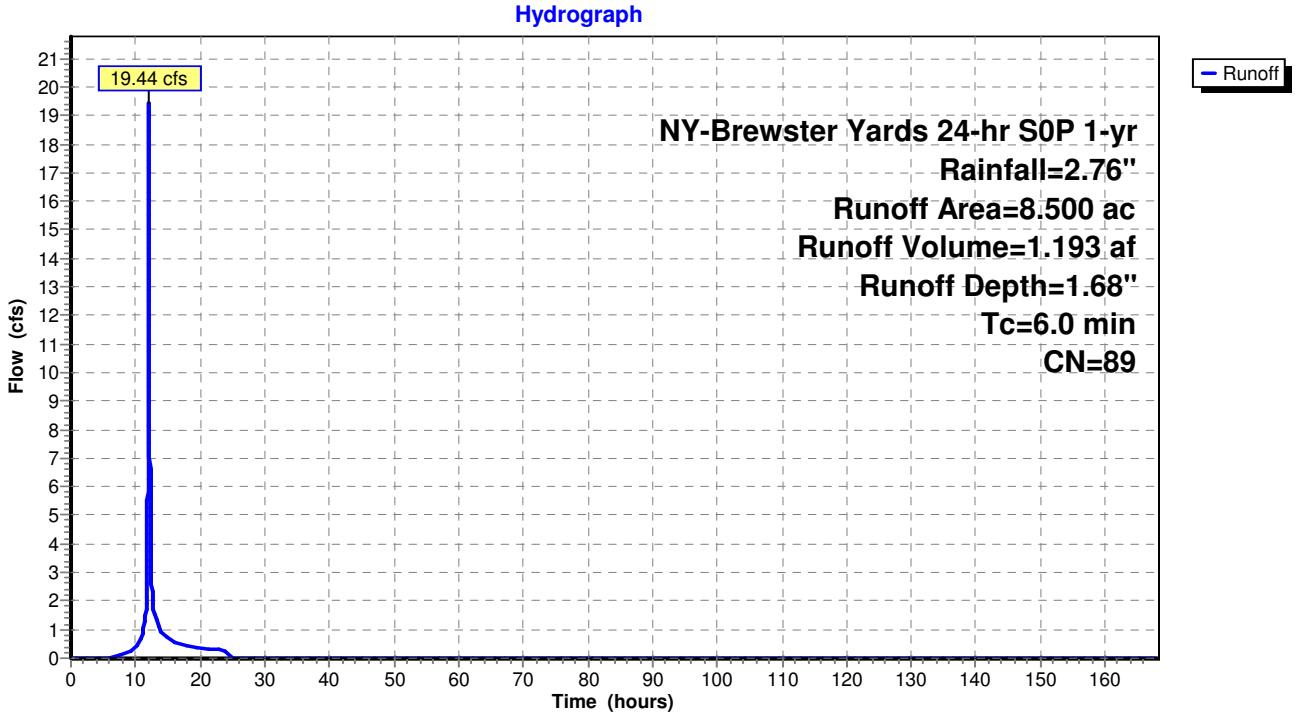
Runoff = 19.44 cfs @ 12.04 hrs, Volume= 1.193 af, Depth= 1.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 1-yr Rainfall=2.76"

	Area (ac)	CN	Description
*	4.700	98	Impervious
*	2.400	86	Filed Turf
	1.400	61	>75% Grass cover, Good, HSG B
	8.500	89	Weighted Average
	3.800		44.71% Pervious Area
	4.700		55.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.3S: Fields & Parking (Piped)



Summary for Subcatchment 2.4S: South Showcase Field (Piped)

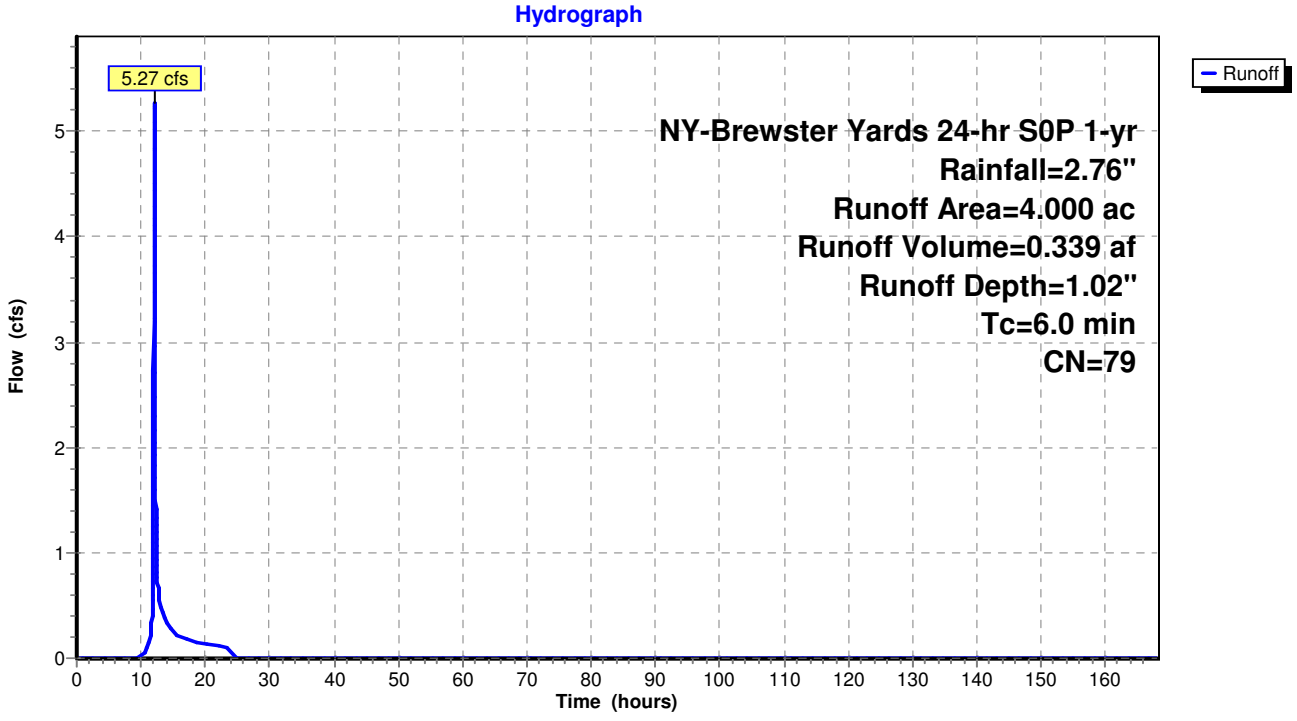
Runoff = 5.27 cfs @ 12.05 hrs, Volume= 0.339 af, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 1-yr Rainfall=2.76"

	Area (ac)	CN	Description
*	0.300	98	Impervious
*	2.500	86	Filed Turf
	1.200	61	>75% Grass cover, Good, HSG B
	4.000	79	Weighted Average
	3.700		92.50% Pervious Area
	0.300		7.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.4S: South Showcase Field (Piped)



Summary for Subcatchment 2.5S: South Detention Basin

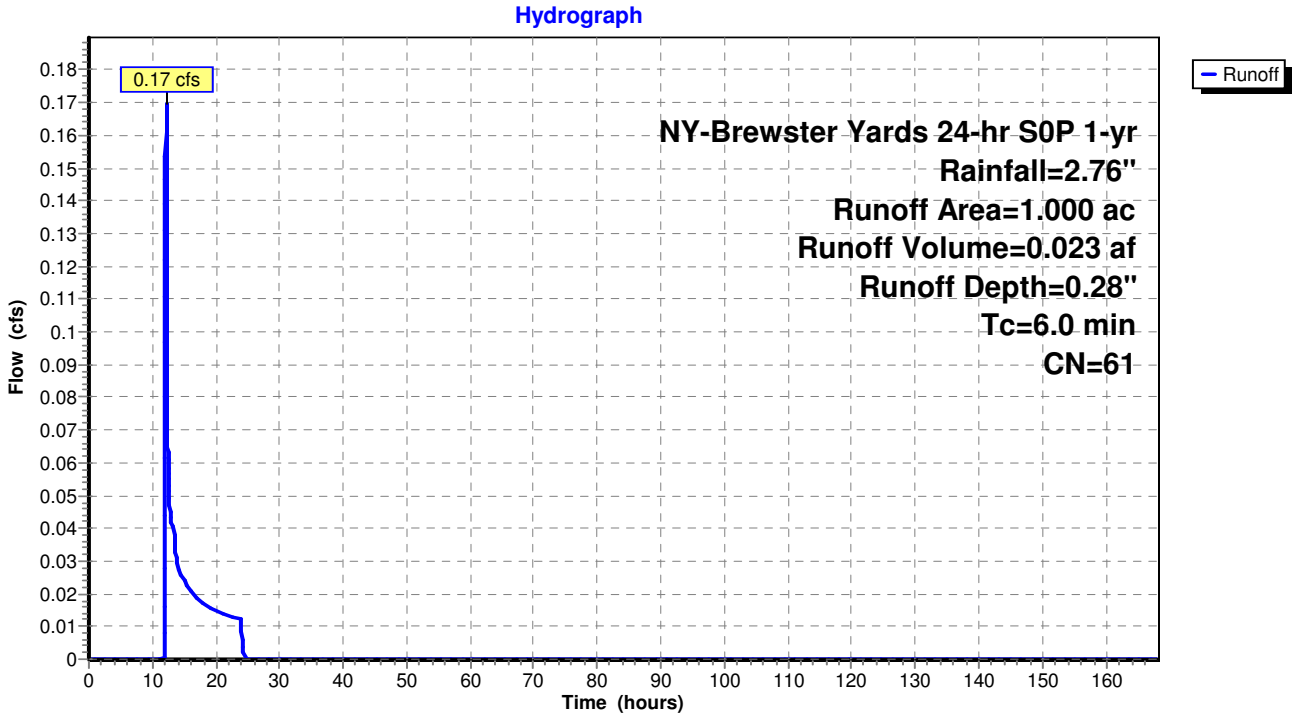
Runoff = 0.17 cfs @ 12.14 hrs, Volume= 0.023 af, Depth= 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 1-yr Rainfall=2.76"

Area (ac)	CN	Description
1.000	61	>75% Grass cover, Good, HSG B
1.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.5S: South Detention Basin



Summary for Subcatchment 2.6S: South Upper Pond

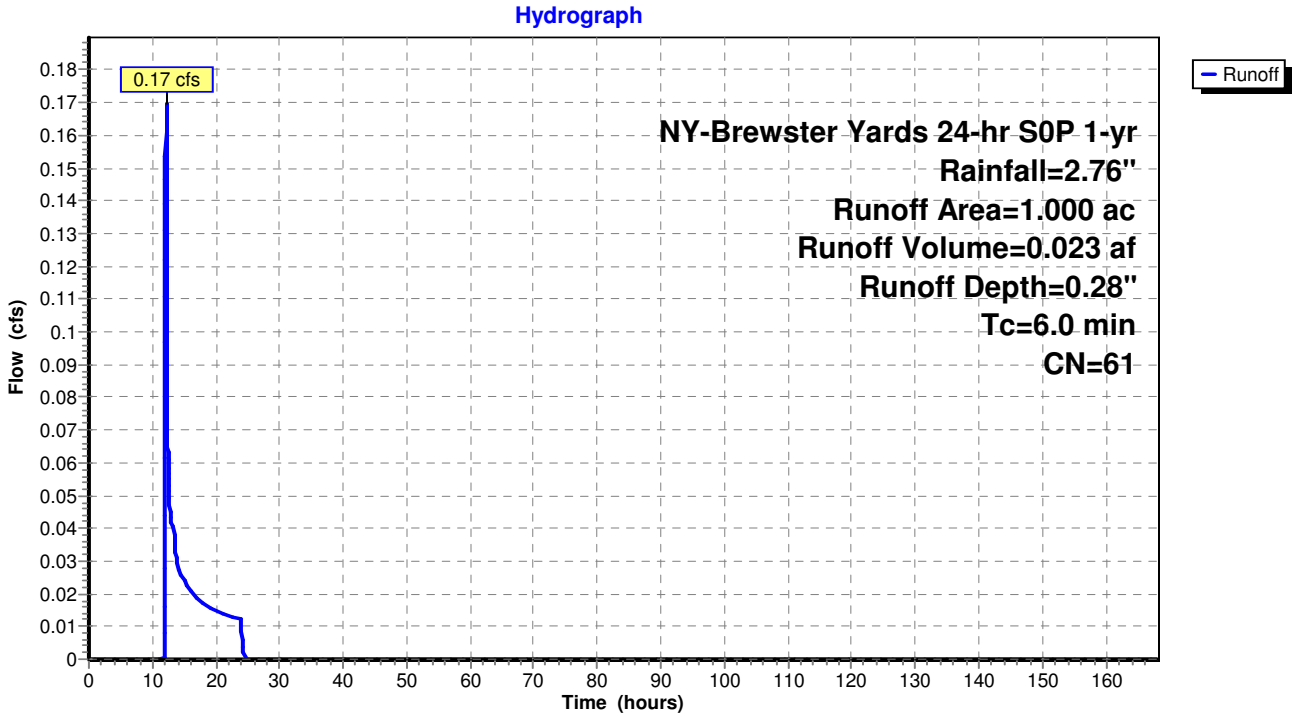
Runoff = 0.17 cfs @ 12.14 hrs, Volume= 0.023 af, Depth= 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 1-yr Rainfall=2.76"

Area (ac)	CN	Description
1.000	61	>75% Grass cover, Good, HSG B
1.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.6S: South Upper Pond



Summary for Subcatchment 2.7S: South Lower Pond

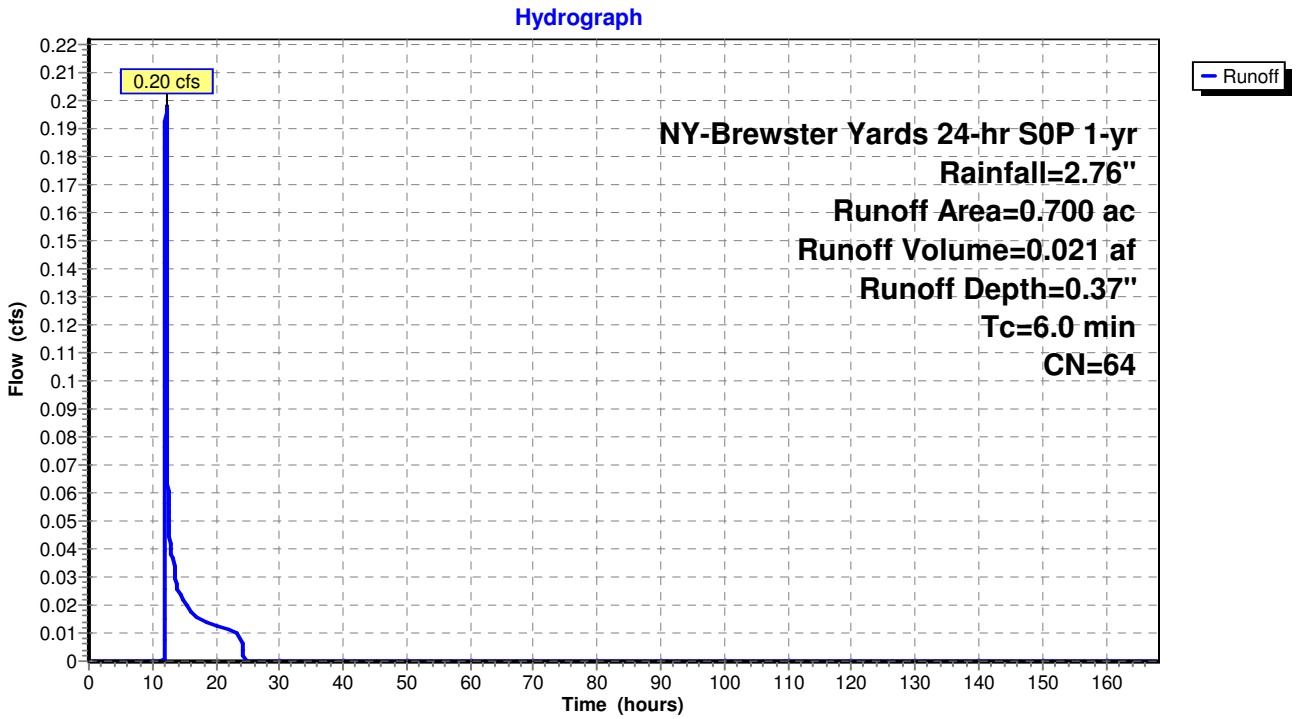
Runoff = 0.20 cfs @ 12.13 hrs, Volume= 0.021 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 1-yr Rainfall=2.76"

Area (ac)	CN	Description
0.600	61	>75% Grass cover, Good, HSG B
0.100	80	>75% Grass cover, Good, HSG D
0.700	64	Weighted Average
0.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.7S: South Lower Pond



Summary for Subcatchment 2.8S: South Untreated

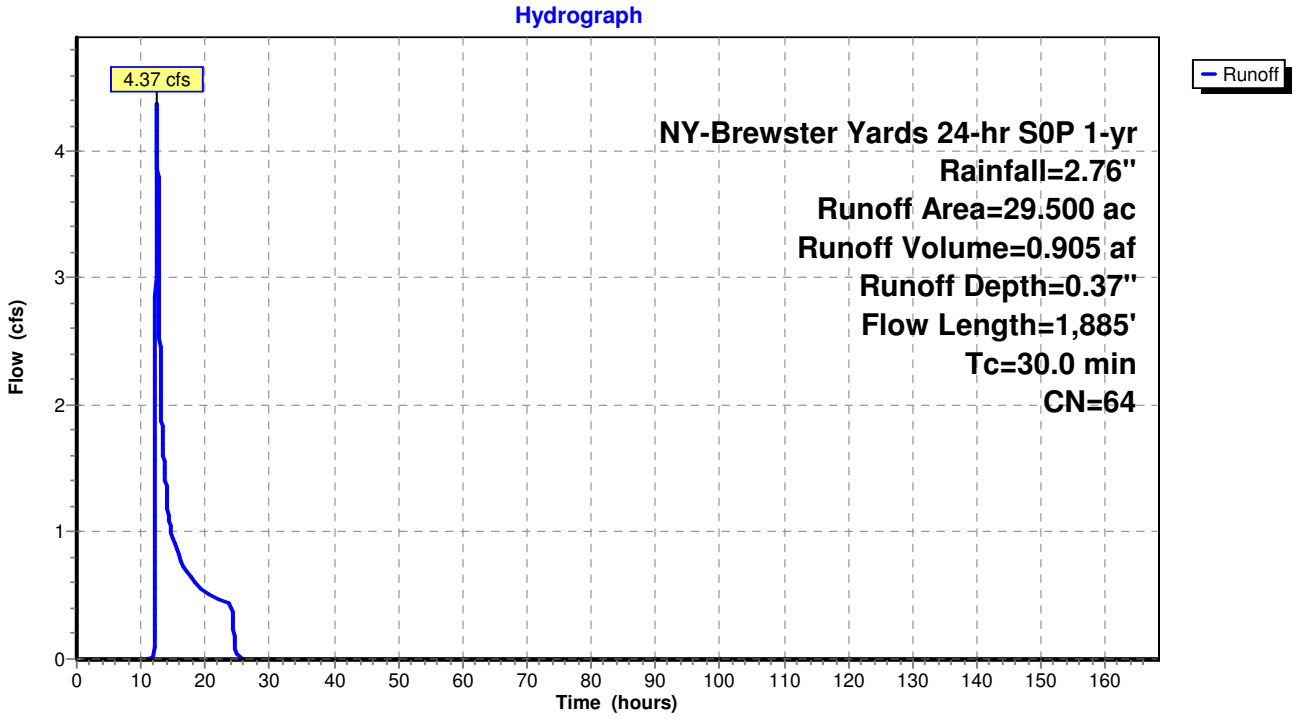
Runoff = 4.37 cfs @ 12.47 hrs, Volume= 0.905 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 1-yr Rainfall=2.76"

Area (ac)	CN	Description
14.800	55	Woods, Good, HSG B
0.100	70	Woods, Good, HSG C
10.300	77	Woods, Good, HSG D
4.100	61	>75% Grass cover, Good, HSG B
0.200	80	>75% Grass cover, Good, HSG D
29.500	64	Weighted Average
29.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.3	100	0.0240	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
7.8	885	0.1430	1.89		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.9	900	0.0500	5.09	71.20	**Channel Flow,** Area= 14.0 sf Perim= 45.0' r= 0.31' n= 0.030 Earth, grassed & winding
30.0	1,885	Total			

Subcatchment 2.8S: South Untreated

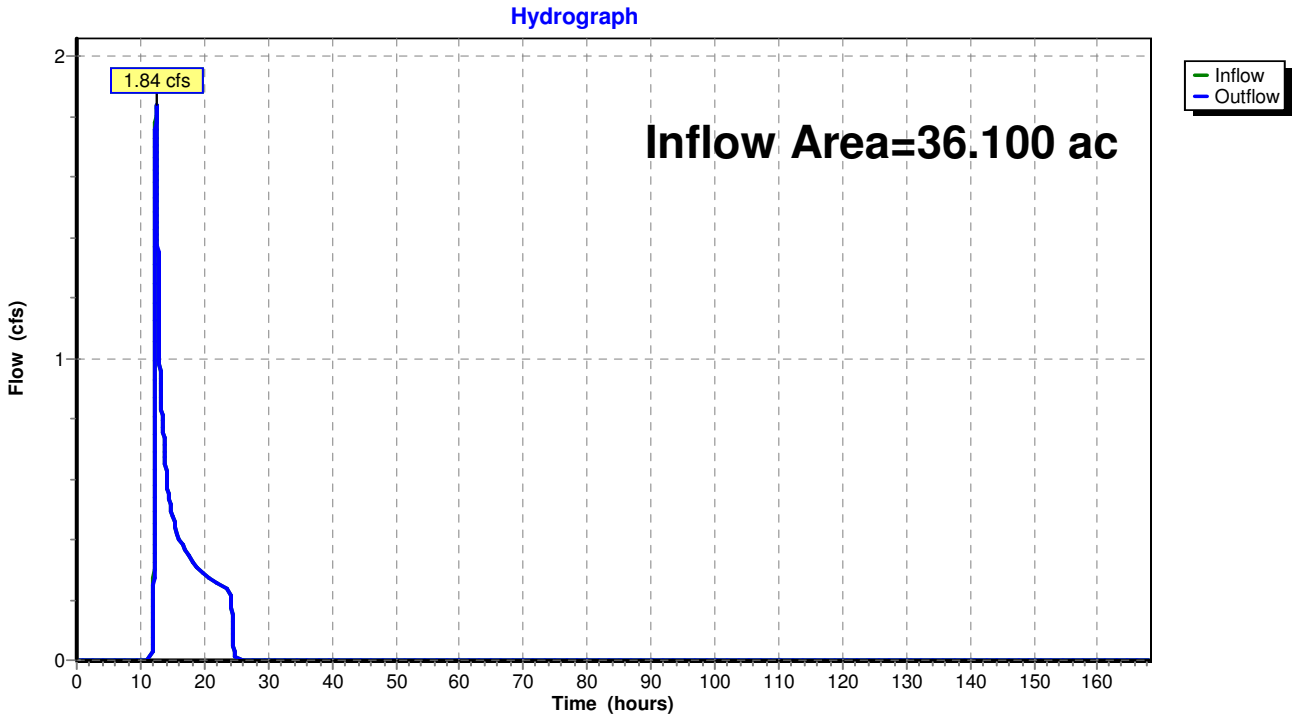


Summary for Reach DL 1:

Inflow Area = 36.100 ac, 8.31% Impervious, Inflow Depth = 0.15" for 1-yr event
Inflow = 1.84 cfs @ 12.44 hrs, Volume= 0.447 af
Outflow = 1.84 cfs @ 12.45 hrs, Volume= 0.447 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach DL 1:

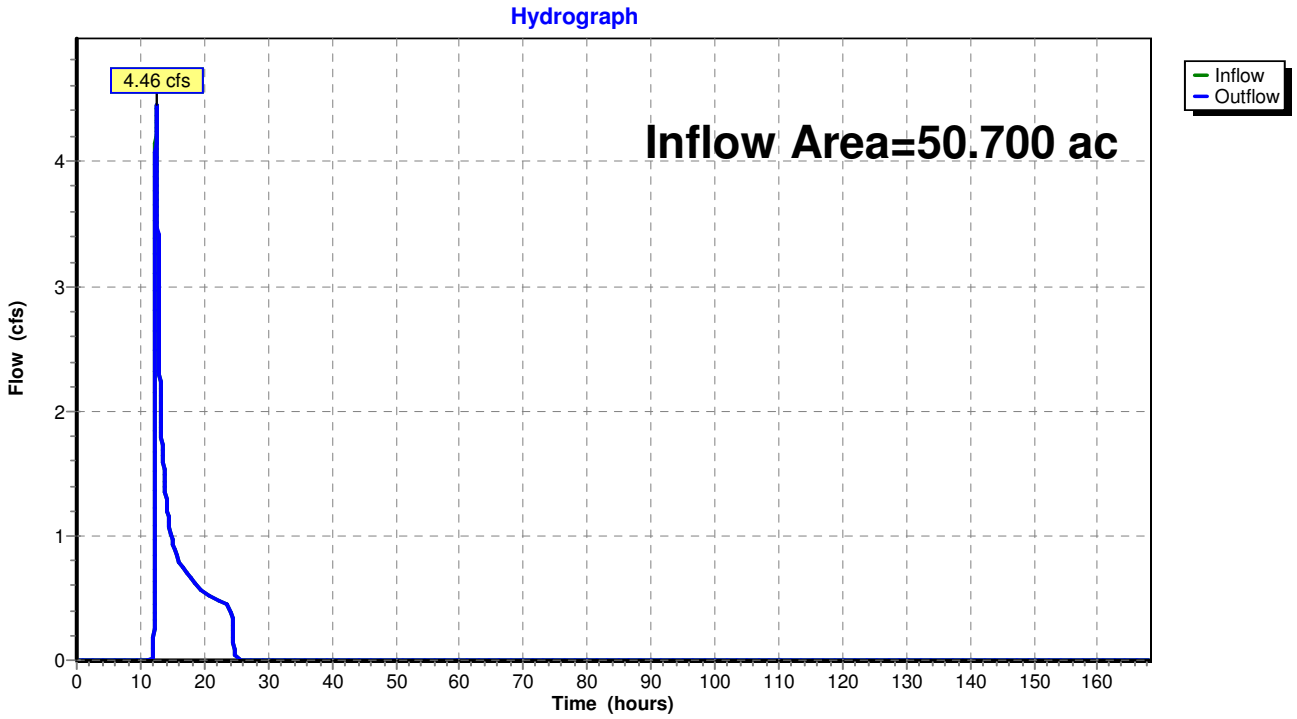


Summary for Reach DL 2:

Inflow Area = 50.700 ac, 15.19% Impervious, Inflow Depth = 0.22" for 1-yr event
Inflow = 4.46 cfs @ 12.47 hrs, Volume= 0.927 af
Outflow = 4.46 cfs @ 12.48 hrs, Volume= 0.927 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach DL 2:



Summary for Pond 1.2 EDB: North Detention Basin, Orifice, & Weir

Inflow Area = 16.900 ac, 17.75% Impervious, Inflow Depth = 1.34" for 1-yr event
Inflow = 27.14 cfs @ 12.08 hrs, Volume= 1.883 af
Outflow = 0.28 cfs @ 24.11 hrs, Volume= 1.883 af, Atten= 99%, Lag= 722.1 min
Primary = 0.28 cfs @ 24.11 hrs, Volume= 1.883 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 666.60' @ 24.11 hrs Surf.Area= 21,743 sf Storage= 68,536 cf
Flood Elev= 669.50' Surf.Area= 34,100 sf Storage= 147,015 cf

Plug-Flow detention time= 2,420.1 min calculated for 1.882 af (100% of inflow)
Center-of-Mass det. time= 2,420.2 min (3,274.8 - 854.5)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	240 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 600 cf Overall x 40.0% Voids
#2	660.00'	164,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		164,340 cf	Total Available Storage

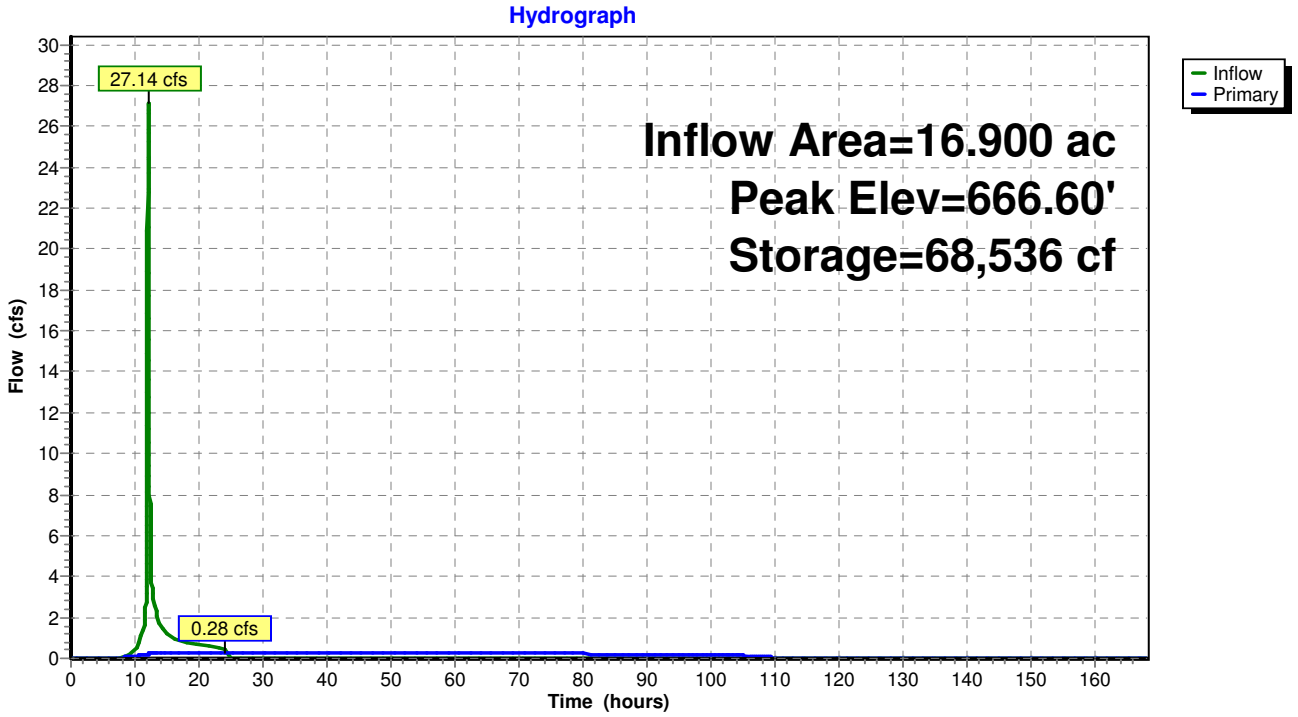
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
659.00	600	0	0
660.00	600	600	600

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
660.00	1,900	0	0
662.00	6,000	7,900	7,900
664.00	11,800	17,800	25,700
666.00	18,800	30,600	56,300
668.00	26,600	45,400	101,700
670.00	35,800	62,400	164,100

Device	Routing	Invert	Outlet Devices
#1	Primary	659.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	666.70'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.28 cfs @ 24.11 hrs HW=666.60' TW=659.52' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.28 cfs @ 12.81 fps)
└—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.2 EDB: North Detention Basin, Orifice, & Weir



Stage-Area-Storage for Pond 1.2 EDB: North Detention Basin, Orifice, & Weir

Elevation (feet)	Storage (cubic-feet)
659.00	0
659.15	36
659.30	72
659.45	108
659.60	144
659.75	180
659.90	216
660.05	338
660.20	661
660.35	1,031
660.50	1,446
660.65	1,908
660.80	2,416
660.95	2,970
661.10	3,570
661.25	4,217
661.40	4,909
661.55	5,648
661.70	6,432
661.85	7,263
662.00	8,140
662.15	9,073
662.30	10,070
662.45	11,134
662.60	12,262
662.75	13,456
662.90	14,714
663.05	16,039
663.20	17,428
663.35	18,883
663.50	20,403
663.65	21,988
663.80	23,638
663.95	25,354
664.10	27,138
664.25	28,999
664.40	30,940
664.55	32,959
664.70	35,058
664.85	37,234
665.00	39,490
665.15	41,824
665.30	44,237
665.45	46,729
665.60	49,300
665.75	51,949
665.90	54,677
666.05	57,485
666.20	60,378
666.35	63,359
666.50	66,428
666.65	69,584
666.80	72,828
666.95	76,160
667.10	79,580
667.25	83,087
667.40	86,682
667.55	90,365
667.70	94,136
667.85	97,994
668.00	101,940
668.15	105,982
668.30	110,127
668.45	114,376
668.60	118,728
668.75	123,184
668.90	127,743
669.05	132,406
669.20	137,172
669.35	142,042
669.50	147,015
669.65	152,092
669.80	157,272
669.95	**162,556**

Summary for Pond 1.3 IB: North Infiltration

Inflow Area = 17.900 ac, 16.76% Impervious, Inflow Depth = 1.30" for 1-yr event
Inflow = 1.12 cfs @ 12.05 hrs, Volume= 1.946 af
Outflow = 0.18 cfs @ 92.11 hrs, Volume= 1.946 af, Atten= 84%, Lag= 4,803.5 min
Discarded = 0.18 cfs @ 92.11 hrs, Volume= 1.946 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 655.68' @ 92.11 hrs Surf.Area= 15,922 sf Storage= 24,194 cf
Flood Elev= 659.00' Surf.Area= 22,300 sf Storage= 87,500 cf

Plug-Flow detention time= 1,485.8 min calculated for 1.946 af (100% of inflow)
Center-of-Mass det. time= 1,485.8 min (4,683.8 - 3,198.0)

Volume	Invert	Avail.Storage	Storage Description
#1	654.00'	110,800 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

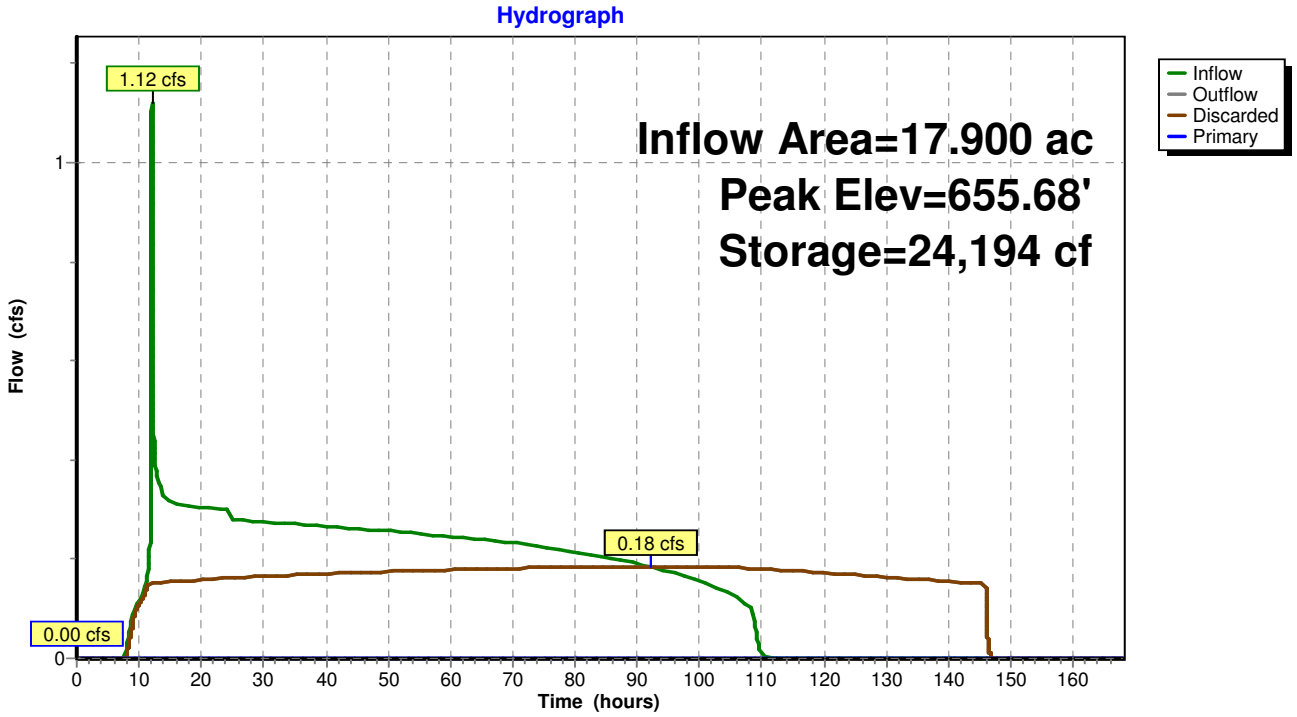
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
654.00	12,900	0	0
656.00	16,500	29,400	29,400
658.00	20,300	36,800	66,200
660.00	24,300	44,600	110,800

Device	Routing	Invert	Outlet Devices
#1	Discarded	654.00'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	658.90'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.18 cfs @ 92.11 hrs HW=655.68' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.18 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=654.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.3 IB: North Infiltration



Stage-Area-Storage for Pond 1.3 IB: North Infiltration

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
654.00	12,900	0
654.10	13,080	1,299
654.20	13,260	2,616
654.30	13,440	3,951
654.40	13,620	5,304
654.50	13,800	6,675
654.60	13,980	8,064
654.70	14,160	9,471
654.80	14,340	10,896
654.90	14,520	12,339
655.00	14,700	13,800
655.10	14,880	15,279
655.20	15,060	16,776
655.30	15,240	18,291
655.40	15,420	19,824
655.50	15,600	21,375
655.60	15,780	22,944
655.70	15,960	24,531
655.80	16,140	26,136
655.90	16,320	27,759
656.00	16,500	29,400
656.10	16,690	31,060
656.20	16,880	32,738
656.30	17,070	34,435
656.40	17,260	36,152
656.50	17,450	37,888
656.60	17,640	39,642
656.70	17,830	41,416
656.80	18,020	43,208
656.90	18,210	45,019
657.00	18,400	46,850
657.10	18,590	48,700
657.20	18,780	50,568
657.30	18,970	52,455
657.40	19,160	54,362
657.50	19,350	56,288
657.60	19,540	58,232
657.70	19,730	60,196
657.80	19,920	62,178
657.90	20,110	64,179
658.00	20,300	66,200
658.10	20,500	68,240
658.20	20,700	70,300
658.30	20,900	72,380
658.40	21,100	74,480
658.50	21,300	76,600
658.60	21,500	78,740
658.70	21,700	80,900
658.80	21,900	83,080
658.90	22,100	85,280
659.00	22,300	87,500
659.10	22,500	89,740
659.20	22,700	92,000
659.30	22,900	94,280
659.40	23,100	96,580
659.50	23,300	98,900
659.60	23,500	101,240
659.70	23,700	103,600
659.80	23,900	105,980
659.90	24,100	108,380
660.00	**24,300**	**110,800**

Summary for Pond 1.4 EDB: North Lower Detention Basin

Inflow Area = 0.600 ac, 0.00% Impervious, Inflow Depth = 0.76" for 1-yr event
Inflow = 0.55 cfs @ 12.05 hrs, Volume= 0.038 af
Outflow = 0.31 cfs @ 12.19 hrs, Volume= 0.038 af, Atten= 43%, Lag= 8.4 min
Primary = 0.31 cfs @ 12.19 hrs, Volume= 0.038 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Starting Elev= 594.00' Surf.Area= 0 sf Storage= 0 cf
Peak Elev= 651.72' @ 12.19 hrs Surf.Area= 800 sf Storage= 232 cf
Flood Elev= 659.50' Surf.Area= 17,950 sf Storage= 90,758 cf

Plug-Flow detention time= 19.2 min calculated for 0.038 af (100% of inflow)
Center-of-Mass det. time= 19.5 min (915.9 - 896.4)

Volume	Invert	Avail.Storage	Storage Description
#1	651.00'	320 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	652.00'	99,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		99,520 cf	Total Available Storage

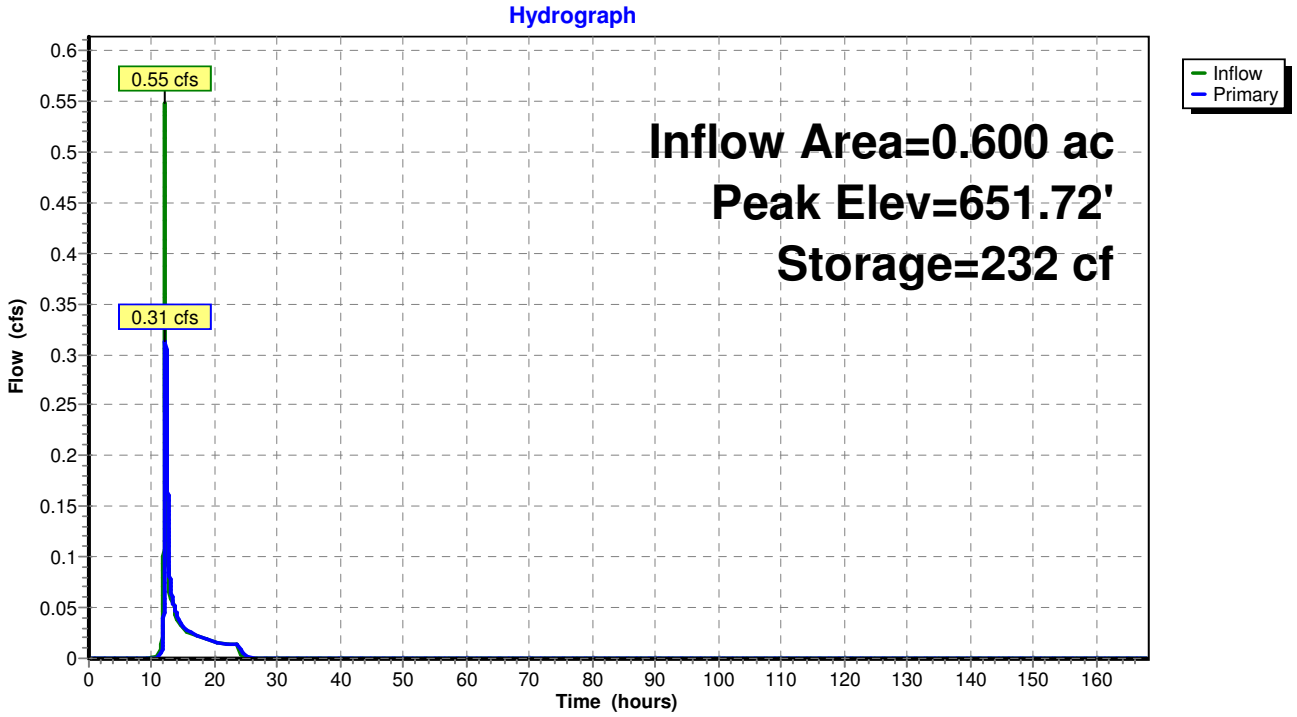
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
651.00	800	0	0
652.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
652.00	7,500	0	0
654.00	9,800	17,300	17,300
656.00	12,200	22,000	39,300
658.00	14,900	27,100	66,400
660.00	17,900	32,800	99,200

Device	Routing	Invert	Outlet Devices
#1	Primary	651.00'	**36.0" Round Culvert** L= 600.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 651.00' / 640.00' S= 0.0183 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	654.80'	**1.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	651.00'	**4.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.31 cfs @ 12.19 hrs HW=651.72' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.31 cfs of 3.81 cfs potential flow)
  ├─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 0.31 cfs @ 3.59 fps)

Pond 1.4 EDB: North Lower Detention Basin



Stage-Area-Storage for Pond 1.4 EDB: North Lower Detention Basin

Elevation (feet)	Storage (cubic-feet)
651.00	0
651.10	32
651.20	64
651.30	96
651.40	128
651.50	160
651.60	192
651.70	224
651.80	256
651.90	288
652.00	320
652.10	1,076
652.20	1,843
652.30	2,622
652.40	3,412
652.50	4,214
652.60	5,027
652.70	5,852
652.80	6,688
652.90	7,536
653.00	8,395
653.10	9,266
653.20	10,148
653.30	11,042
653.40	11,947
653.50	12,864
653.60	13,792
653.70	14,732
653.80	15,683
653.90	16,646
654.00	17,620
654.10	18,606
654.20	19,604
654.30	20,614
654.40	21,636
654.50	22,670
654.60	23,716
654.70	24,774
654.80	25,844
654.90	26,926
655.00	28,020
655.10	29,126
655.20	30,244
655.30	31,374
655.40	32,516
655.50	33,670
655.60	34,836
655.70	36,014
655.80	37,204
655.90	38,406
656.00	39,620
656.10	40,847
656.20	42,087
656.30	43,341
656.40	44,608
656.50	45,889
656.60	47,183
656.70	48,491
656.80	49,812
656.90	51,147
657.00	52,495
657.10	53,857
657.20	55,232
657.30	56,621
657.40	58,023
657.50	59,439
657.60	60,868
657.70	62,311
657.80	63,767
657.90	65,237
658.00	66,720
658.10	68,218
658.20	69,730
658.30	71,257
658.40	72,800
658.50	74,358
658.60	75,930
658.70	77,518
658.80	79,120
658.90	80,737
659.00	82,370
659.10	84,018
659.20	85,680
659.30	87,357
659.40	89,050
659.50	90,758
659.60	92,480
659.70	94,218
659.80	95,970
659.90	97,737
660.00	**99,520**

Summary for Pond 2.2 EDB: Entrance Detention Basin

Inflow Area = 6.000 ac, 45.00% Impervious, Inflow Depth = 1.38" for 1-yr event
Inflow = 8.84 cfs @ 12.13 hrs, Volume= 0.691 af
Outflow = 0.55 cfs @ 14.20 hrs, Volume= 0.691 af, Atten= 94%, Lag= 124.6 min
Primary = 0.55 cfs @ 14.20 hrs, Volume= 0.691 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 668.63' @ 14.20 hrs Surf.Area= 5,620 sf Storage= 13,718 cf
Flood Elev= 673.00' Surf.Area= 12,550 sf Storage= 50,895 cf

Plug-Flow detention time= 274.8 min calculated for 0.691 af (100% of inflow)
Center-of-Mass det. time= 274.5 min (1,128.4 - 853.9)

Volume	Invert	Avail.Storage	Storage Description
#1	663.00'	120 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 300 cf Overall x 40.0% Voids
#2	664.00'	64,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		64,120 cf	Total Available Storage

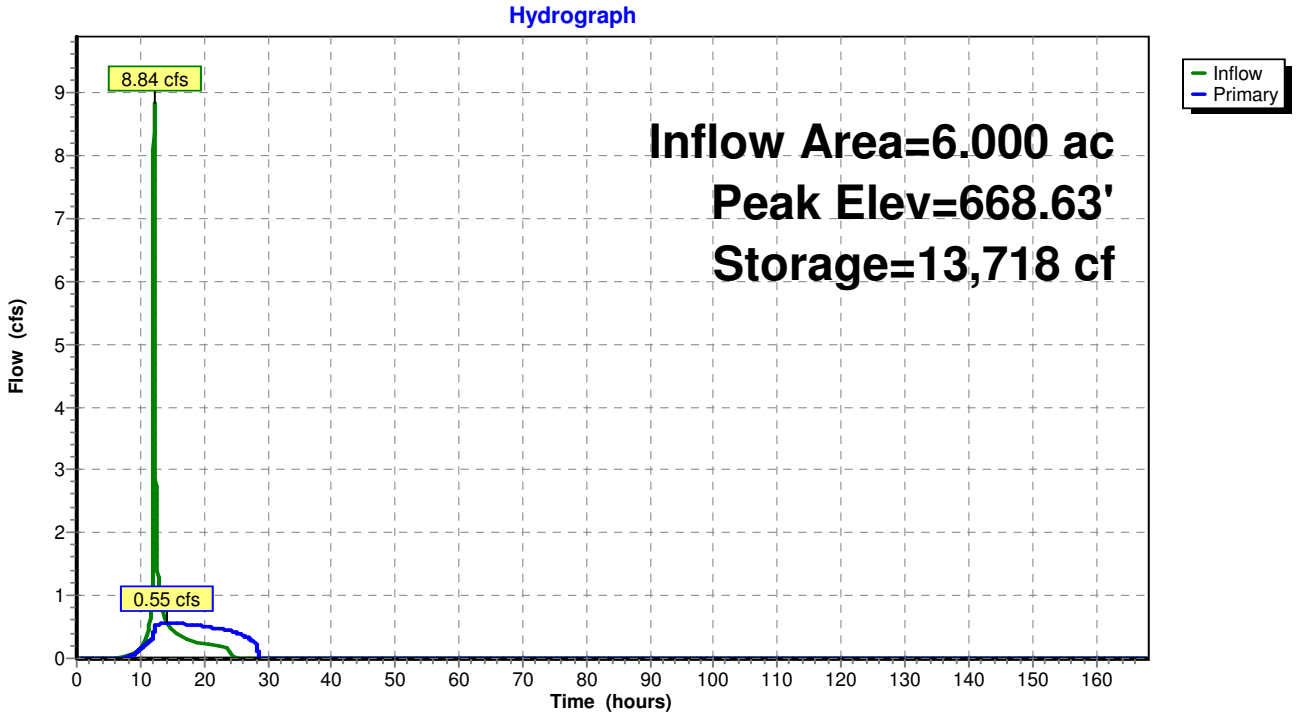
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
663.00	300	0	0
664.00	300	300	300

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
664.00	1,000	0	0
666.00	2,500	3,500	3,500
668.00	4,500	7,000	10,500
670.00	7,100	11,600	22,100
672.00	10,300	17,400	39,500
674.00	14,200	24,500	64,000

Device	Routing	Invert	Outlet Devices
#1	Primary	663.00'	**18.0" Round Culvert** L= 160.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 663.00' / 656.00' S= 0.0437 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	663.00'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	671.50'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.55 cfs @ 14.20 hrs HW=668.63' TW=617.11' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.55 cfs of 18.80 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.55 cfs @ 11.30 fps)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2.2 EDB: Entrance Detention Basin



Stage-Area-Storage for Pond 2.2 EDB: Entrance Detention Basin

Elevation (feet)	Storage (cubic-feet)
663.00	0
663.15	18
663.30	36
663.45	54
663.60	72
663.75	90
663.90	108
664.05	171
664.20	335
664.35	516
664.50	714
664.65	928
664.80	1,160
664.95	1,408
665.10	1,674
665.25	1,956
665.40	2,255
665.55	2,571
665.70	2,904
665.85	3,253
666.00	3,620
666.15	4,006
666.30	4,415
666.45	4,846
666.60	5,300
666.75	5,776
666.90	6,275
667.05	6,796
667.20	7,340
667.35	7,906
667.50	8,495
667.65	9,106
667.80	9,740
667.95	10,396
668.10	11,077
668.25	11,786
668.40	12,524
668.55	13,292
668.70	14,089
668.85	14,915
669.00	15,770
669.15	16,655
669.30	17,568
669.45	18,512
669.60	19,484
669.75	20,486
669.90	21,516
670.05	22,577
670.20	23,672
670.35	24,803
670.50	25,970
670.65	27,173
670.80	28,412
670.95	29,687
671.10	30,998
671.25	32,345
671.40	33,728
671.55	35,147
671.70	36,602
671.85	38,093
672.00	39,620
672.15	41,187
672.30	42,798
672.45	44,452
672.60	46,151
672.75	47,893
672.90	49,680
673.05	51,510
673.20	53,384
673.35	55,302
673.50	57,264
673.65	59,269
673.80	61,319
673.95	**63,412**

Summary for Pond 2.5 EDB: South Detention Basin

Inflow Area = 13.500 ac, 37.04% Impervious, Inflow Depth = 1.38" for 1-yr event
Inflow = 24.79 cfs @ 12.04 hrs, Volume= 1.555 af
Outflow = 0.57 cfs @ 18.65 hrs, Volume= 1.555 af, Atten= 98%, Lag= 396.4 min
Primary = 0.57 cfs @ 18.65 hrs, Volume= 1.555 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 625.84' @ 18.65 hrs Surf.Area= 12,402 sf Storage= 42,119 cf
Flood Elev= 631.50' Surf.Area= 20,525 sf Storage= 130,014 cf

Plug-Flow detention time= 851.4 min calculated for 1.555 af (100% of inflow)
Center-of-Mass det. time= 851.2 min (1,694.0 - 842.8)

Volume	Invert	Avail.Storage	Storage Description
#1	620.00'	320 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	621.00'	139,750 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		140,070 cf	Total Available Storage

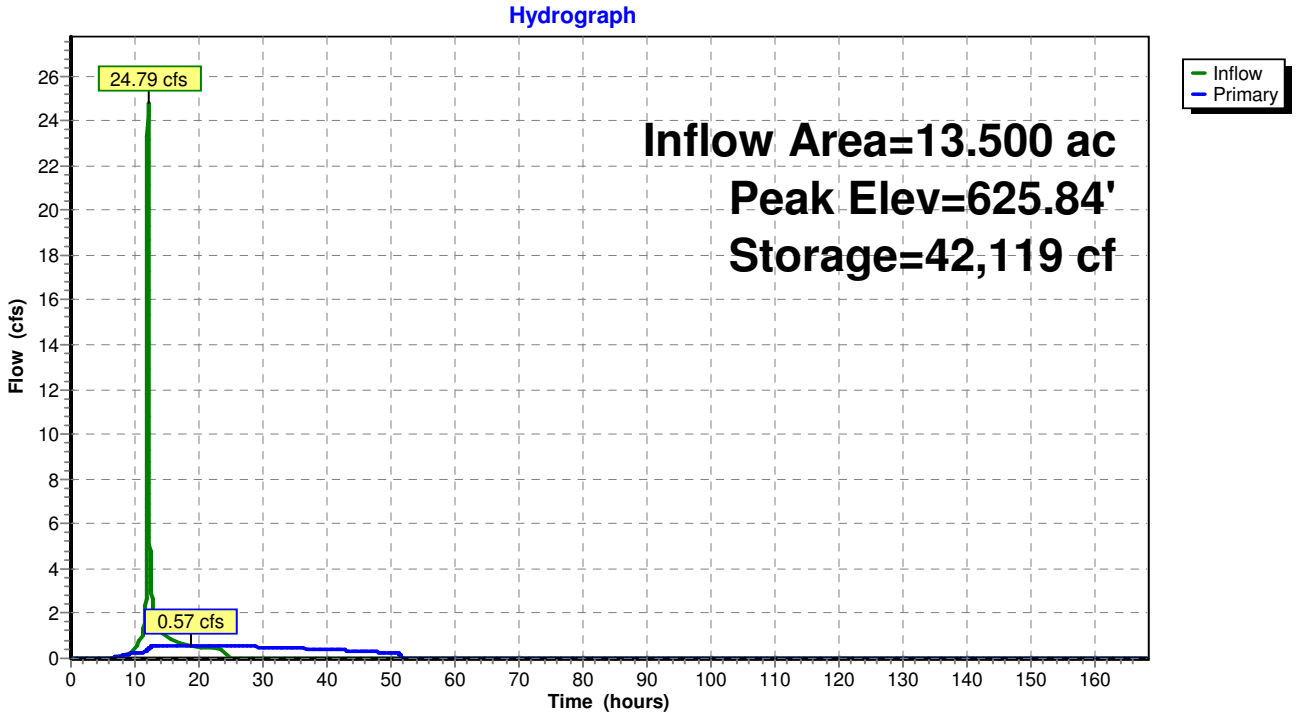
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
620.00	800	0	0
621.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
621.00	5,200	0	0
622.00	7,100	6,150	6,150
624.00	9,300	16,400	22,550
626.00	11,800	21,100	43,650
628.00	14,500	26,300	69,950
630.00	17,400	31,900	101,850
632.00	20,500	37,900	139,750

Device	Routing	Invert	Outlet Devices
#1	Primary	620.00'	**24.0" Round Culvert** L= 450.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 620.00' / 615.50' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	628.30'	**8.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	620.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.57 cfs @ 18.65 hrs HW=625.84' TW=617.08' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.57 cfs of 27.31 cfs potential flow)
  ├─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
  └─**3=Orifice/Grate** (Orifice Controls 0.57 cfs @ 11.51 fps)

Pond 2.5 EDB: South Detention Basin



Stage-Area-Storage for Pond 2.5 EDB: South Detention Basin

Elevation (feet)	Storage (cubic-feet)
620.00	0
620.15	48
620.30	96
620.45	144
620.60	192
620.75	240
620.90	288
621.05	582
621.20	1,398
621.35	2,256
621.50	3,158
621.65	4,101
621.80	5,088
621.95	6,117
622.10	7,186
622.25	8,279
622.40	9,398
622.55	10,541
622.70	11,710
622.85	12,902
623.00	14,120
623.15	15,362
623.30	16,629
623.45	17,921
623.60	19,238
623.75	20,579
623.90	21,945
624.05	23,337
624.20	24,755
624.35	26,202
624.50	27,676
624.65	29,179
624.80	30,710
624.95	32,269
625.10	33,856
625.25	35,472
625.40	37,115
625.55	38,787
625.70	40,486
625.85	42,214
626.00	43,970
626.15	45,755
626.30	47,571
626.45	49,417
626.60	51,293
626.75	53,200
626.90	55,137
627.05	57,104
627.20	59,102
627.35	61,130
627.50	63,189
627.65	65,278
627.80	67,397
627.95	69,547
628.10	71,727
628.25	73,940
628.40	76,186
628.55	78,464
628.70	80,775
628.85	83,119
629.00	85,495
629.15	87,904
629.30	90,345
629.45	92,819
629.60	95,326
629.75	97,865
629.90	100,437
630.05	103,042
630.20	105,681
630.35	108,355
630.50	111,064
630.65	113,807
630.80	116,586
630.95	119,399
631.10	122,248
631.25	125,131
631.40	128,049
631.55	131,002
631.70	133,990
631.85	137,012
632.00	**140,070**

Summary for Pond 2.6 IB: South Upper Infiltration Basin

Inflow Area = 20.500 ac, 37.56% Impervious, Inflow Depth = 1.33" for 1-yr event
Inflow = 1.13 cfs @ 14.85 hrs, Volume= 2.270 af
Outflow = 1.13 cfs @ 14.86 hrs, Volume= 2.270 af, Atten= 0%, Lag= 0.7 min
Discarded = 1.13 cfs @ 14.86 hrs, Volume= 2.270 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 609.01' @ 14.86 hrs Surf.Area= 6,609 sf Storage= 49 cf
Flood Elev= 617.50' Surf.Area= 18,675 sf Storage= 104,556 cf

Plug-Flow detention time= 0.7 min calculated for 2.270 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (1,515.6 - 1,514.9)

Volume	Invert	Avail.Storage	Storage Description
#1	609.00'	114,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

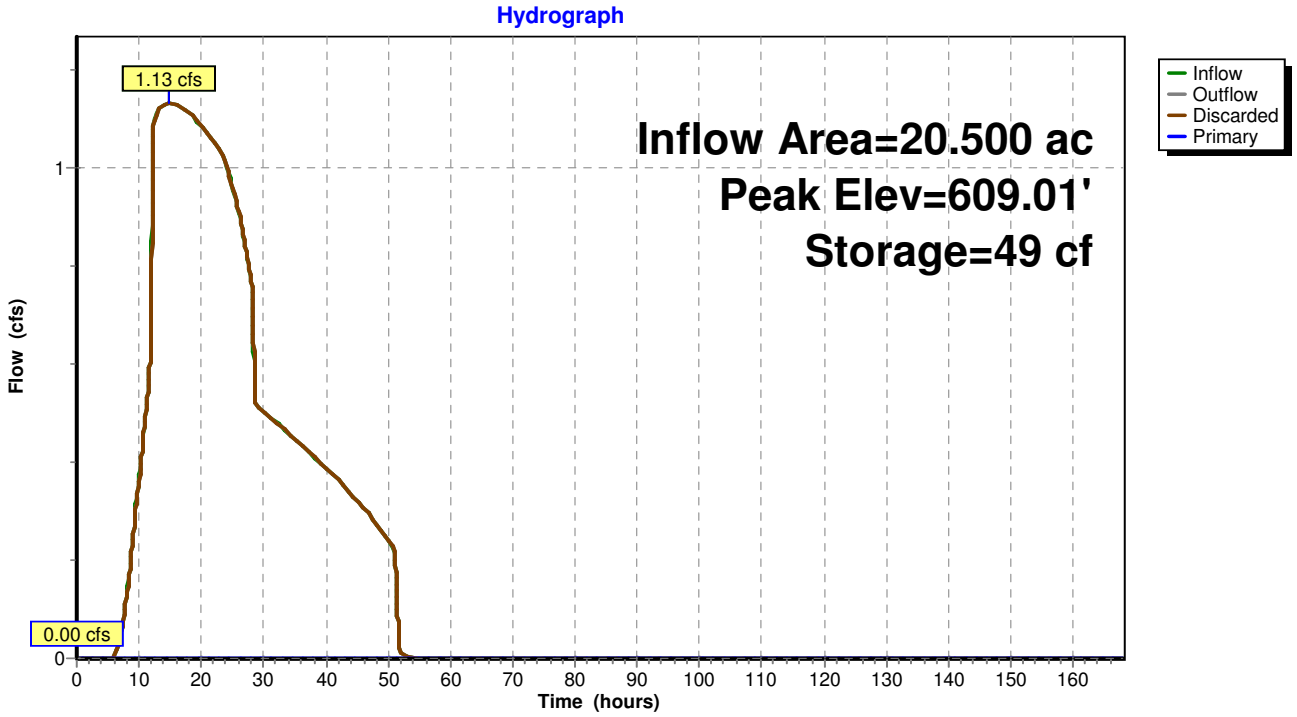
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
609.00	6,600	0	0
610.00	7,800	7,200	7,200
612.00	10,400	18,200	25,400
614.00	13,200	23,600	49,000
616.00	16,200	29,400	78,400
618.00	19,500	35,700	114,100

Device	Routing	Invert	Outlet Devices
#1	Primary	609.00'	**12.0" Round Culvert** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 609.00' / 594.00' S= 0.1875 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	617.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Discarded	609.00'	**20.000 in/hr Exfiltration over Surface area** Phase-In= 0.02'

Discarded OutFlow Max=1.13 cfs @ 14.86 hrs HW=609.01' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 1.13 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=609.00' TW=593.00' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2.6 IB: South Upper Infiltration Basin



Stage-Area-Storage for Pond 2.6 IB: South Upper Infiltration Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
609.00	6,600	0
609.10	6,720	666
609.20	6,840	1,344
609.30	6,960	2,034
609.40	7,080	2,736
609.50	7,200	3,450
609.60	7,320	4,176
609.70	7,440	4,914
609.80	7,560	5,664
609.90	7,680	6,426
610.00	7,800	7,200
610.10	7,930	7,987
610.20	8,060	8,786
610.30	8,190	9,598
610.40	8,320	10,424
610.50	8,450	11,263
610.60	8,580	12,114
610.70	8,710	12,979
610.80	8,840	13,856
610.90	8,970	14,746
611.00	9,100	15,650
611.10	9,230	16,567
611.20	9,360	17,496
611.30	9,490	18,438
611.40	9,620	19,394
611.50	9,750	20,363
611.60	9,880	21,344
611.70	10,010	22,339
611.80	10,140	23,346
611.90	10,270	24,366
612.00	10,400	25,400
612.10	10,540	26,447
612.20	10,680	27,508
612.30	10,820	28,583
612.40	10,960	29,672
612.50	11,100	30,775
612.60	11,240	31,892
612.70	11,380	33,023
612.80	11,520	34,168
612.90	11,660	35,327
613.00	11,800	36,500
613.10	11,940	37,687
613.20	12,080	38,888
613.30	12,220	40,103
613.40	12,360	41,332
613.50	12,500	42,575
613.60	12,640	43,832
613.70	12,780	45,103
613.80	12,920	46,388
613.90	13,060	47,687
614.00	13,200	49,000
614.10	13,350	50,328
614.20	13,500	51,670
614.30	13,650	53,027
614.40	13,800	54,400
614.50	13,950	55,788
614.60	14,100	57,190
614.70	14,250	58,608
614.80	14,400	60,040
614.90	14,550	61,487
615.00	14,700	62,950
615.10	14,850	64,428
615.20	15,000	65,920
615.30	15,150	67,427
615.40	15,300	68,950
615.50	15,450	70,488
615.60	15,600	72,040
615.70	15,750	73,608
615.80	15,900	75,190
615.90	16,050	76,787
616.00	16,200	78,400
616.10	16,365	80,028
616.20	16,530	81,673
616.30	16,695	83,334
616.40	16,860	85,012
616.50	17,025	86,706
616.60	17,190	88,417
616.70	17,355	90,144
616.80	17,520	91,888
616.90	17,685	93,648
617.00	17,850	95,425
617.10	18,015	97,218
617.20	18,180	99,028
617.30	18,345	100,854
617.40	18,510	102,697
617.50	18,675	104,556
617.60	18,840	106,432
617.70	19,005	108,324
617.80	19,170	110,233
617.90	19,335	112,158
618.00	**19,500**	**114,100**

Summary for Pond 2.7 EDB: South Lower Detention Basin

Inflow Area = 21.200 ac, 36.32% Impervious, Inflow Depth = 0.01" for 1-yr event
Inflow = 0.20 cfs @ 12.13 hrs, Volume= 0.021 af
Outflow = 0.10 cfs @ 12.27 hrs, Volume= 0.021 af, Atten= 49%, Lag= 8.4 min
Primary = 0.10 cfs @ 12.27 hrs, Volume= 0.021 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 593.31' @ 12.27 hrs Surf.Area= 800 sf Storage= 99 cf
Flood Elev= 605.50' Surf.Area= 16,125 sf Storage= 100,089 cf

Plug-Flow detention time= 28.6 min calculated for 0.021 af (100% of inflow)
Center-of-Mass det. time= 28.6 min (977.5 - 949.0)

Volume	Invert	Avail.Storage	Storage Description
#1	593.00'	320 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	594.00'	107,600 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		107,920 cf	Total Available Storage

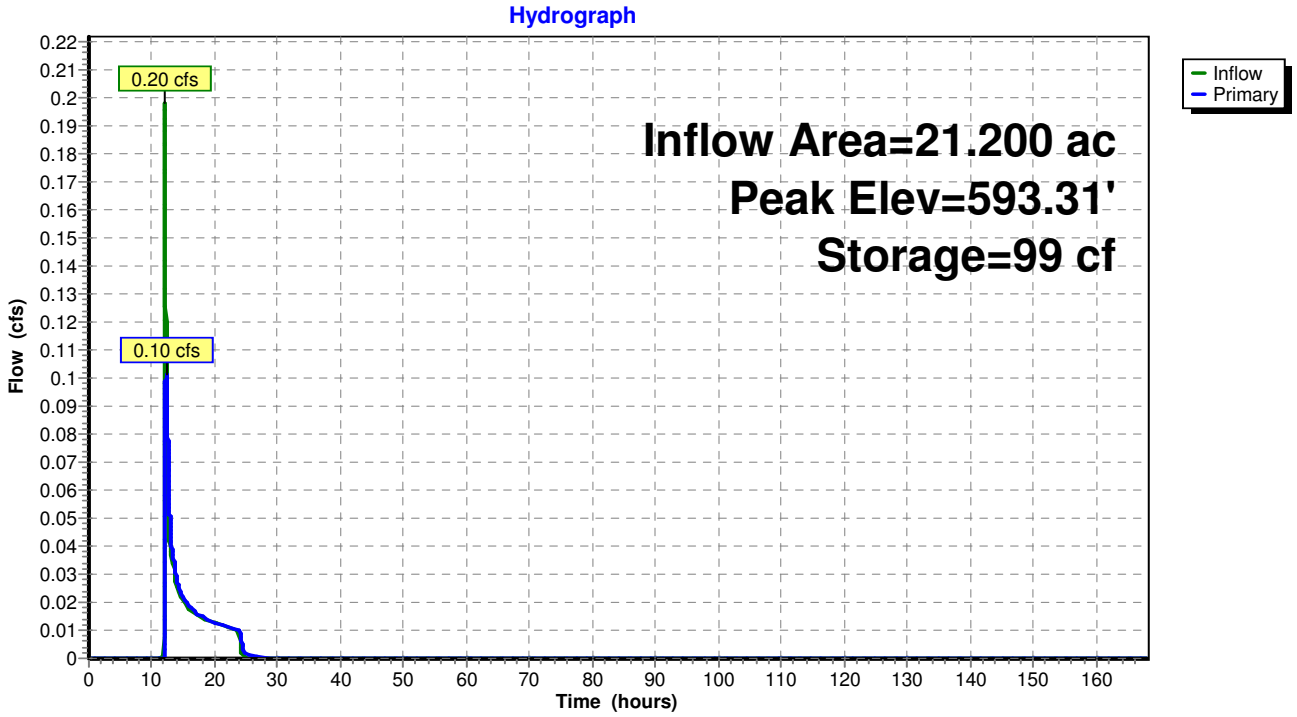
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
593.00	800	0	0
594.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
594.00	3,200	0	0
596.00	4,800	8,000	8,000
598.00	6,600	11,400	19,400
600.00	8,600	15,200	34,600
602.00	10,900	19,500	54,100
604.00	13,300	24,200	78,300
606.00	16,000	29,300	107,600

Device	Routing	Invert	Outlet Devices
#1	Primary	593.00'	**36.0" Round Culvert** L= 85.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 593.00' / 590.00' S= 0.0353 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	604.20'	**8.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	593.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.10 cfs @ 12.27 hrs HW=593.31' TW=0.00' (Dynamic Tailwater)
↑└─**1=Culvert** (Passes 0.10 cfs of 0.73 cfs potential flow)
↑ ├─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
└─**3=Orifice/Grate** (Orifice Controls 0.10 cfs @ 2.06 fps)

Pond 2.7 EDB: South Lower Detention Basin



Stage-Area-Storage for Pond 2.7 EDB: South Lower Detention Basin

Elevation (feet)	Storage (cubic-feet)
593.00	0
593.15	48
593.30	96
593.45	144
593.60	192
593.75	240
593.90	288
594.05	481
594.20	976
594.35	1,489
594.50	2,020
594.65	2,569
594.80	3,136
594.95	3,721
595.10	4,324
595.25	4,945
595.40	5,584
595.55	6,241
595.70	6,916
595.85	7,609
596.00	8,320
596.15	9,050
596.30	9,800
596.45	10,571
596.60	11,362
596.75	12,173
596.90	13,004
597.05	13,856
597.20	14,728
597.35	15,620
597.50	16,533
597.65	17,465
597.80	18,418
597.95	19,391
598.10	20,385
598.25	21,401
598.40	22,440
598.55	23,501
598.70	24,585
598.85	25,691
599.00	26,820
599.15	27,971
599.30	29,145
599.45	30,341
599.60	31,560
599.75	32,801
599.90	34,065
600.05	35,351
600.20	36,663
600.35	38,000
600.50	39,364
600.65	40,753
600.80	42,168
600.95	43,609
601.10	45,076
601.25	46,568
601.40	48,087
601.55	49,631
601.70	51,202
601.85	52,798
602.00	54,420
602.15	56,068
602.30	57,744
602.45	59,447
602.60	61,176
602.75	62,933
602.90	64,716
603.05	66,526
603.20	68,364
603.35	70,229
603.50	72,120
603.65	74,038
603.80	75,984
603.95	77,957
604.10	79,957
604.25	81,987
604.40	84,048
604.55	86,139
604.70	88,261
604.85	90,413
605.00	92,595
605.15	94,808
605.30	97,051
605.45	99,324
605.60	101,628
605.75	103,962
605.90	**106,327**

Summary for Pond FS 1: North Detention Flow Split

Inflow Area = 16.900 ac, 17.75% Impervious, Inflow Depth = 1.34" for 1-yr event
Inflow = 0.28 cfs @ 24.11 hrs, Volume= 1.883 af
Outflow = 0.28 cfs @ 24.12 hrs, Volume= 1.883 af, Atten= 0%, Lag= 0.6 min
Primary = 0.28 cfs @ 24.12 hrs, Volume= 1.883 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

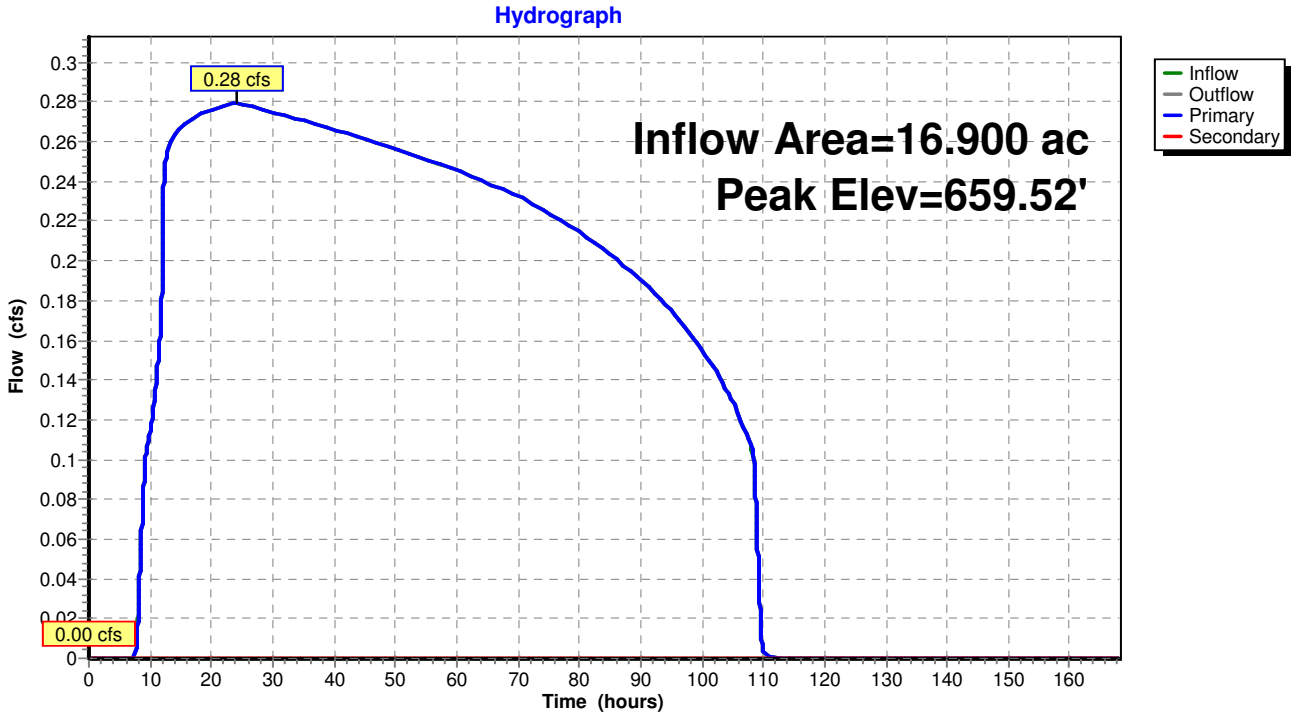
Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 659.52' @ 24.12 hrs
Flood Elev= 669.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	658.00'	**6.0" Round Culvert** L= 150.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 658.00' / 656.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	658.00'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Secondary	659.60'	**36.0" Round Culvert** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 659.60' / 656.00' S= 0.0450 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=0.28 cfs @ 24.12 hrs HW=659.52' TW=654.59' (Dynamic Tailwater)
↑└**1=Culvert** (Passes 0.28 cfs of 0.75 cfs potential flow)
↑└**2=Orifice/Grate** (Orifice Controls 0.28 cfs @ 5.69 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=658.00' TW=651.00' (Dynamic Tailwater)
↑└**3=Culvert** (Controls 0.00 cfs)

Pond FS 1: North Detention Flow Split



Stage-Area-Storage for Pond FS 1: North Detention Flow Split

Elevation (feet)	Storage (cubic-feet)
658.00	**0**
658.15	0
658.30	0
658.45	0
658.60	0
658.75	0
658.90	0
659.05	0
659.20	0
659.35	0
659.50	0
659.65	0
659.80	0
659.95	0
660.10	0
660.25	0
660.40	0
660.55	0
660.70	0
660.85	0
661.00	0
661.15	0
661.30	0
661.45	0
661.60	0
661.75	0
661.90	0
662.05	0
662.20	0
662.35	0
662.50	0
662.65	0
662.80	0
662.95	0
663.10	0
663.25	0
663.40	0
663.55	0
663.70	0
663.85	0
664.00	0
664.15	0
664.30	0
664.45	0
664.60	0
664.75	0
664.90	0
665.05	0
665.20	0
665.35	0
665.50	0
665.65	0
665.80	0
665.95	0
666.10	0
666.25	0
666.40	0
666.55	0
666.70	0
666.85	0
667.00	0
667.15	0
667.30	0
667.45	0
667.60	0
667.75	0
667.90	0
668.05	0
668.20	0
668.35	0
668.50	0
668.65	0
668.80	0
668.95	0

Summary for Pond FS 2:

Inflow Area = 19.500 ac, 39.49% Impervious, Inflow Depth = 1.38" for 1-yr event
Inflow = 1.11 cfs @ 15.41 hrs, Volume= 2.246 af
Outflow = 1.11 cfs @ 15.42 hrs, Volume= 2.246 af, Atten= 0%, Lag= 0.6 min
Primary = 1.11 cfs @ 15.42 hrs, Volume= 2.246 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

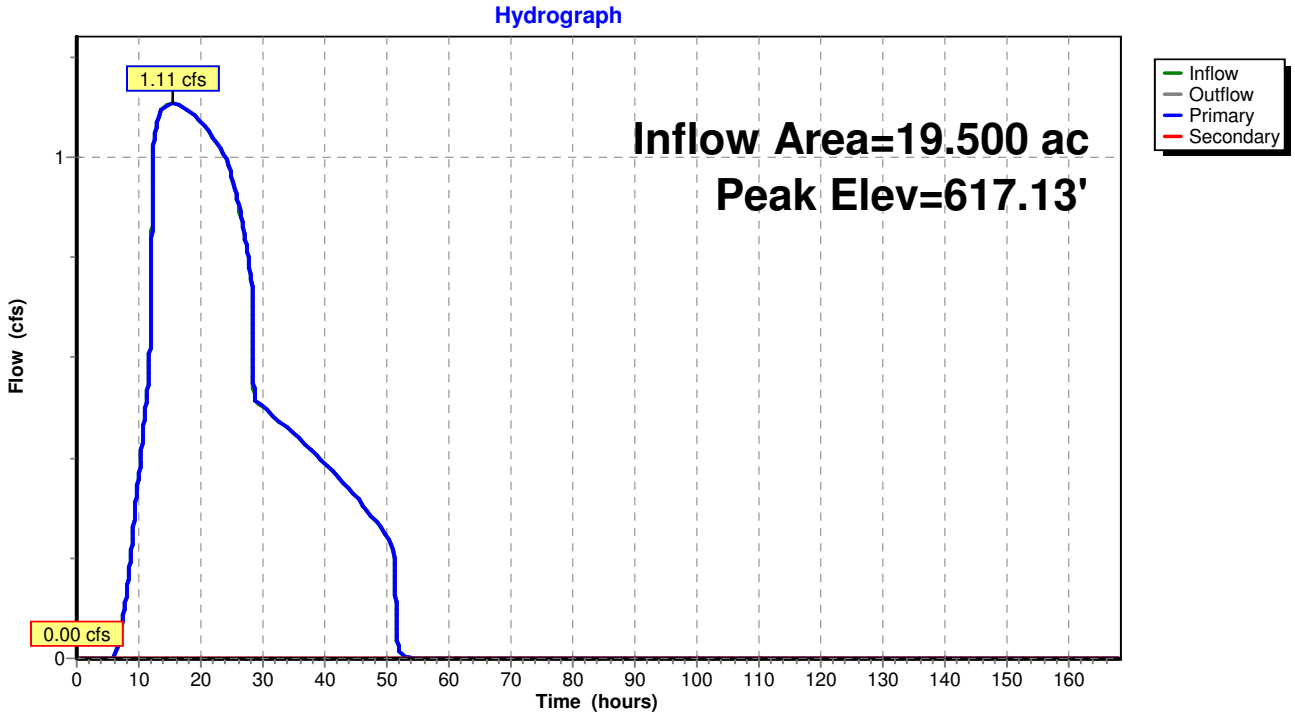
Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 617.13' @ 15.42 hrs
Flood Elev= 629.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	615.50'	**6.0" Round Culvert** L= 120.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 615.50' / 609.00' S= 0.0542 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 3	617.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	615.50'	**30.0" Round Culvert** L= 180.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 615.50' / 610.80' S= 0.0261 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=1.11 cfs @ 15.42 hrs HW=617.13' TW=609.01' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.11 cfs @ 5.65 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=615.50' TW=593.00' (Dynamic Tailwater)
└**3=Culvert** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond FS 2:


Hydrograph
1.11 cfs
0.00 cfs
Inflow Area=19.500 ac
Peak Elev=617.13'
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)
0
1
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

Stage-Area-Storage for Pond FS 2:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
615.50	**0**	623.30	0
615.65	0	623.45	0
615.80	0	623.60	0
615.95	0	623.75	0
616.10	0	623.90	0
616.25	0	624.05	0
616.40	0	624.20	0
616.55	0	624.35	0
616.70	0	624.50	0
616.85	0	624.65	0
617.00	0	624.80	0
617.15	0	624.95	0
617.30	0	625.10	0
617.45	0	625.25	0
617.60	0	625.40	0
617.75	0	625.55	0
617.90	0	625.70	0
618.05	0	625.85	0
618.20	0	626.00	0
618.35	0	626.15	0
618.50	0	626.30	0
618.65	0	626.45	0
618.80	0	626.60	0
618.95	0	626.75	0
619.10	0	626.90	0
619.25	0	627.05	0
619.40	0	627.20	0
619.55	0	627.35	0
619.70	0	627.50	0
619.85	0	627.65	0
620.00	0	627.80	0
620.15	0	627.95	0
620.30	0	628.10	0
620.45	0	628.25	0
620.60	0	628.40	0
620.75	0	628.55	0
620.90	0	628.70	0
621.05	0	628.85	0
621.20	0	629.00	0
621.35	0	629.15	0
621.50	0	629.30	0
621.65	0	629.45	0
621.80	0		
621.95	0		
622.10	0		
622.25	0		
622.40	0		
622.55	0		
622.70	0		
622.85	0		
623.00	0		
623.15	0		

Summary for Subcatchment 1.1S: North Sports & Parking (Piped)

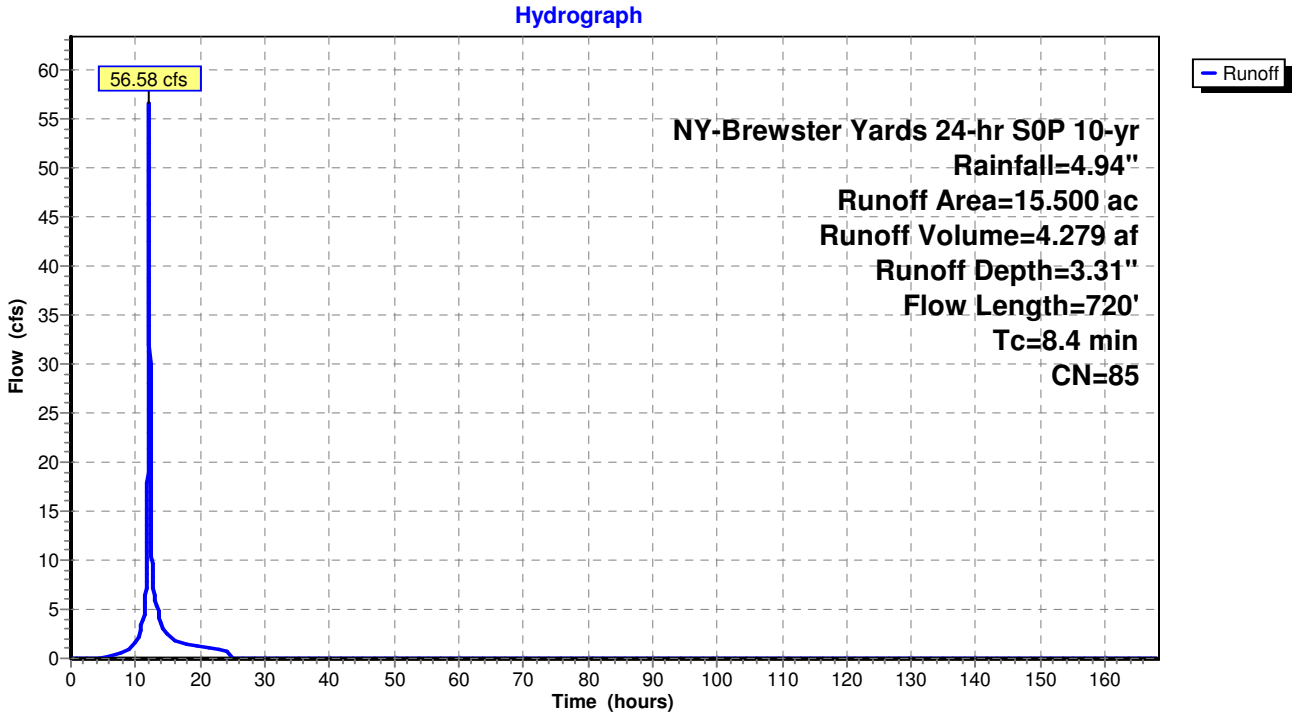
Runoff = 56.58 cfs @ 12.07 hrs, Volume= 4.279 af, Depth= 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

	Area (ac)	CN	Description
*	9.900	86	Field Turf
	1.400	61	>75% Grass cover, Good, HSG B
	1.200	74	>75% Grass cover, Good, HSG C
*	3.000	98	Impervious
	15.500	85	Weighted Average
	12.500		80.65% Pervious Area
	3.000		19.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.0600	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"
0.8	160	0.0438	3.14		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.1	190	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	270	0.0200	10.18	31.99	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
8.4	720	Total			

Subcatchment 1.1S: North Sports & Parking (Piped)



Summary for Subcatchment 1.2S: North Detention

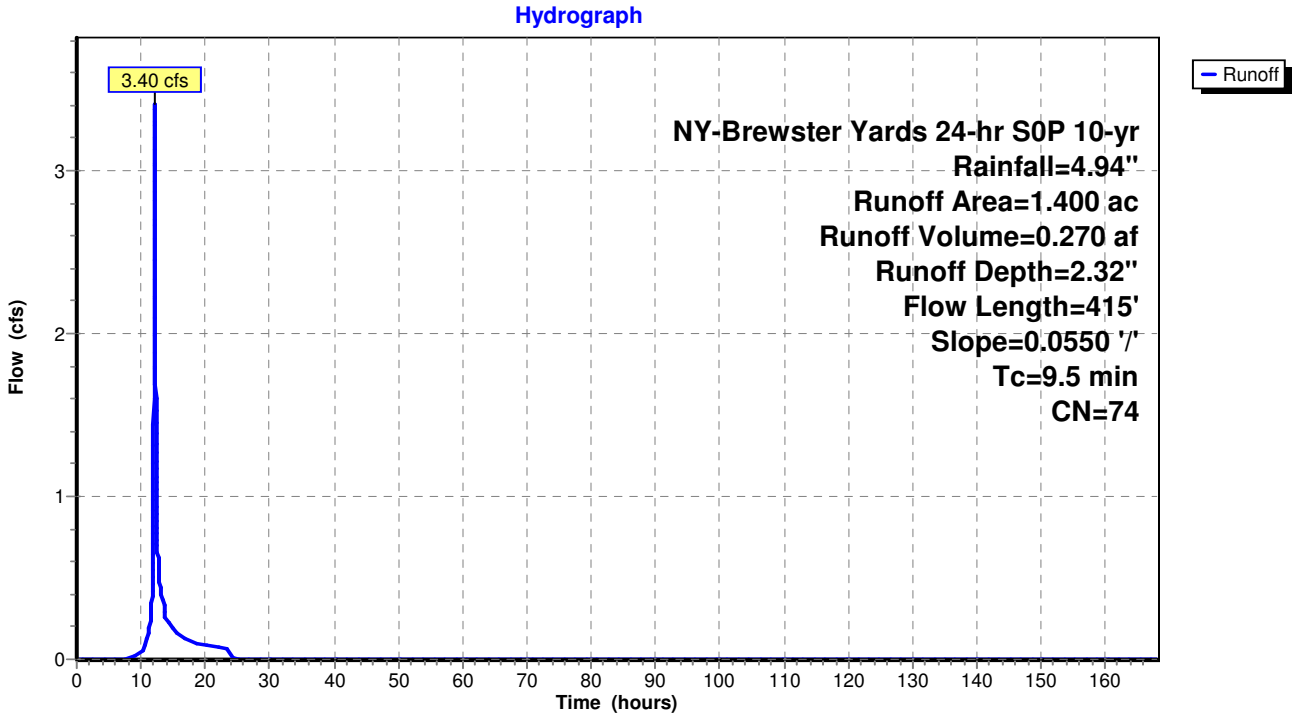
Runoff = 3.40 cfs @ 12.09 hrs, Volume= 0.270 af, Depth= 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

Area (ac)	CN	Description
1.400	74	>75% Grass cover, Good, HSG C
1.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	100	0.0550	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"
3.2	315	0.0550	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.5	415	Total			

Subcatchment 1.2S: North Detention



Summary for Subcatchment 1.3S: North Infiltration

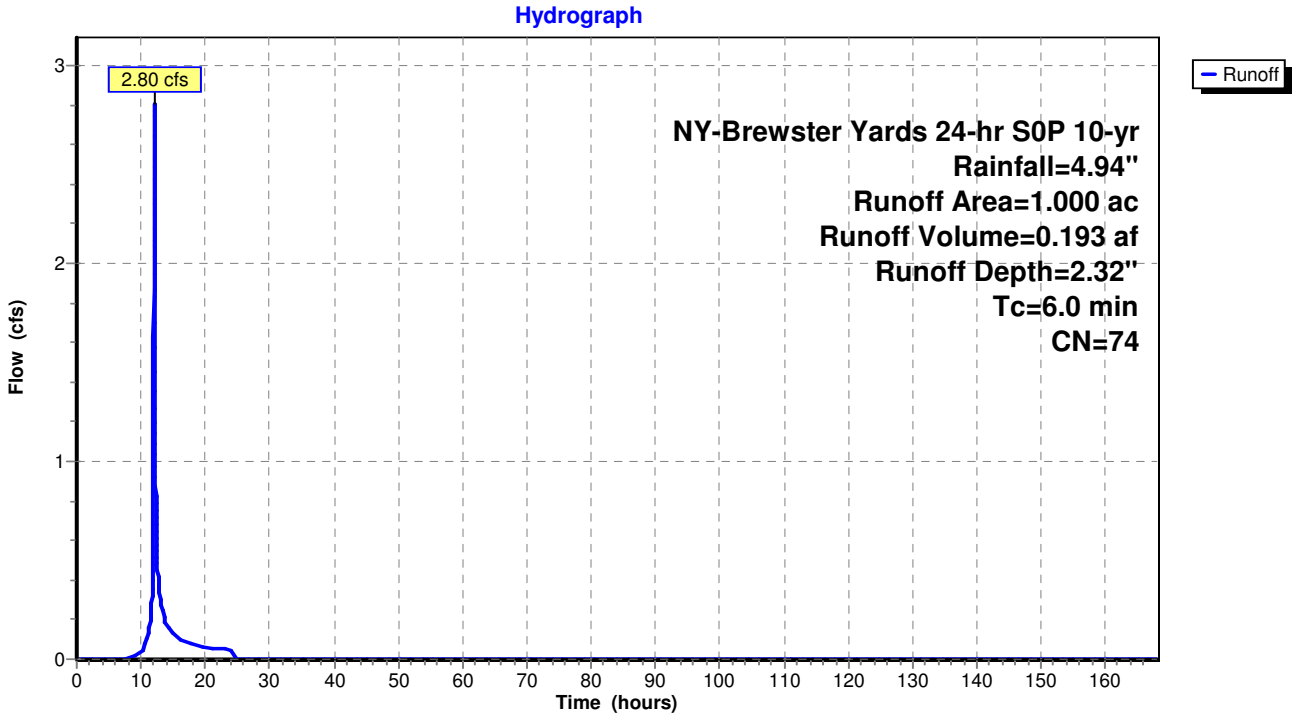
Runoff = 2.80 cfs @ 12.04 hrs, Volume= 0.193 af, Depth= 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

Area (ac)	CN	Description
1.000	74	>75% Grass cover, Good, HSG C
1.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.3S: North Infiltration



Summary for Subcatchment 1.4S: North Lower Detention

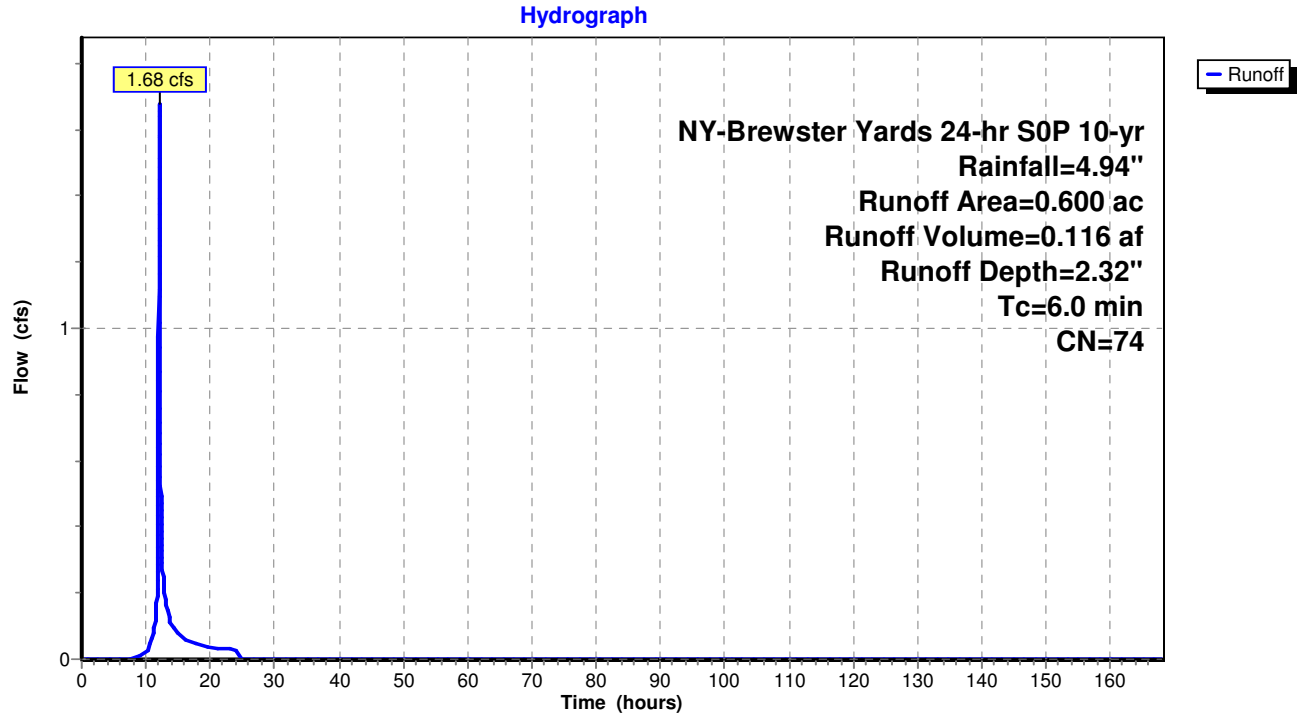
Runoff = 1.68 cfs @ 12.04 hrs, Volume= 0.116 af, Depth= 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

Area (ac)	CN	Description
0.600	74	>75% Grass cover, Good, HSG C
0.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.4S: North Lower Detention



Summary for Subcatchment 1.5S: North Untreated

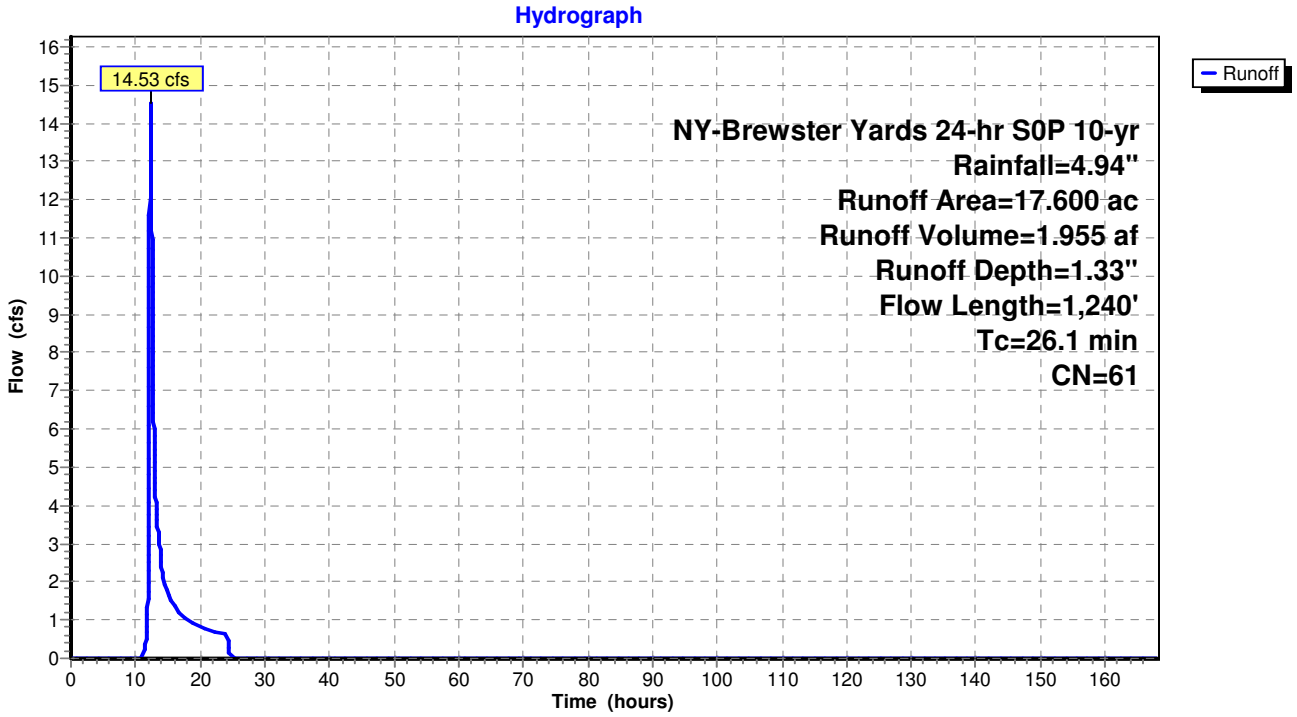
Runoff = 14.53 cfs @ 12.35 hrs, Volume= 1.955 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

Area (ac)	CN	Description
10.300	55	Woods, Good, HSG B
5.800	70	Woods, Good, HSG C
0.200	77	Woods, Good, HSG D
0.300	61	>75% Grass cover, Good, HSG B
1.000	74	>75% Grass cover, Good, HSG C
17.600	61	Weighted Average
17.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0300	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
0.5	60	0.1330	1.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.2	200	0.2900	2.69		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	150	0.0930	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	160	0.2875	2.68		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.4	350	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	220	0.1100	4.39	21.97	**Channel Flow,** Area= 5.0 sf Perim= 8.3' r= 0.60' n= 0.080 Earth, long dense weeds
26.1	1,240	Total			

Subcatchment 1.5S: North Untreated



Summary for Subcatchment 2.1S: Building & Fields (Piped)

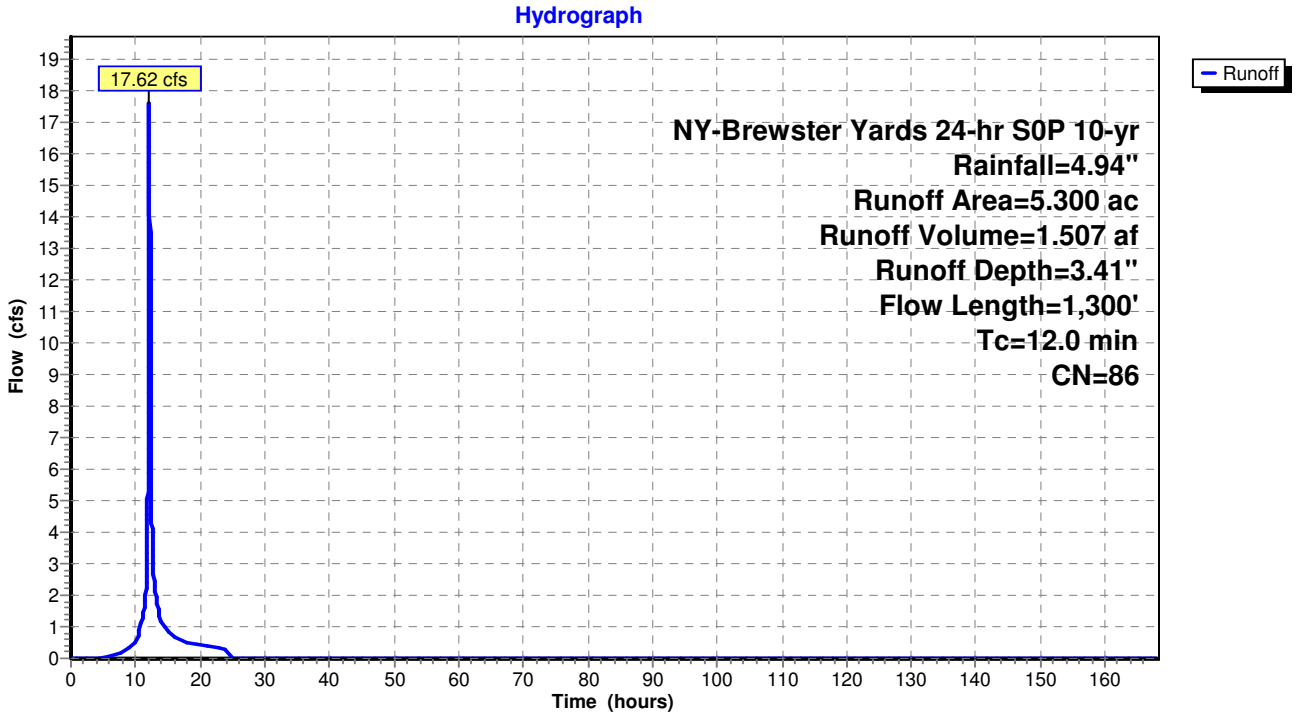
Runoff = 17.62 cfs @ 12.12 hrs, Volume= 1.507 af, Depth= 3.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

	Area (ac)	CN	Description
*	2.700	98	Impervious
*	1.400	86	Field Turf
	1.200	61	>75% Grass cover, Good, HSG B
	5.300	86	Weighted Average
	2.600		49.06% Pervious Area
	2.700		50.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0300	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"
1.2	150	0.0200	2.12		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	250	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.9	800	0.0412	14.62	45.92	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
12.0	1,300	Total			

Subcatchment 2.1S: Building & Fields (Piped)



Summary for Subcatchment 2.2S: Entrance Infiltration Basin

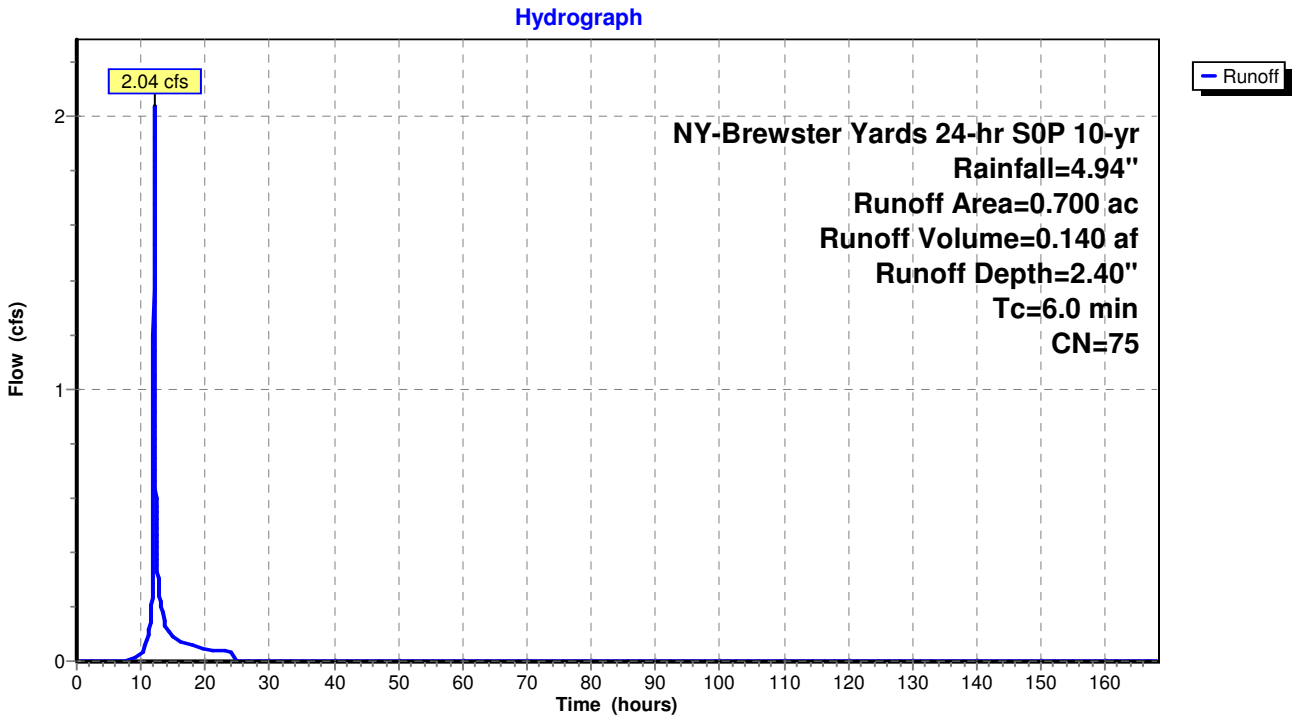
Runoff = 2.04 cfs @ 12.04 hrs, Volume= 0.140 af, Depth= 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

Area (ac)	CN	Description
0.200	61	>75% Grass cover, Good, HSG B
0.500	80	>75% Grass cover, Good, HSG D
0.700	75	Weighted Average
0.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.2S: Entrance Infiltration Basin



Summary for Subcatchment 2.3S: Fields & Parking (Piped)

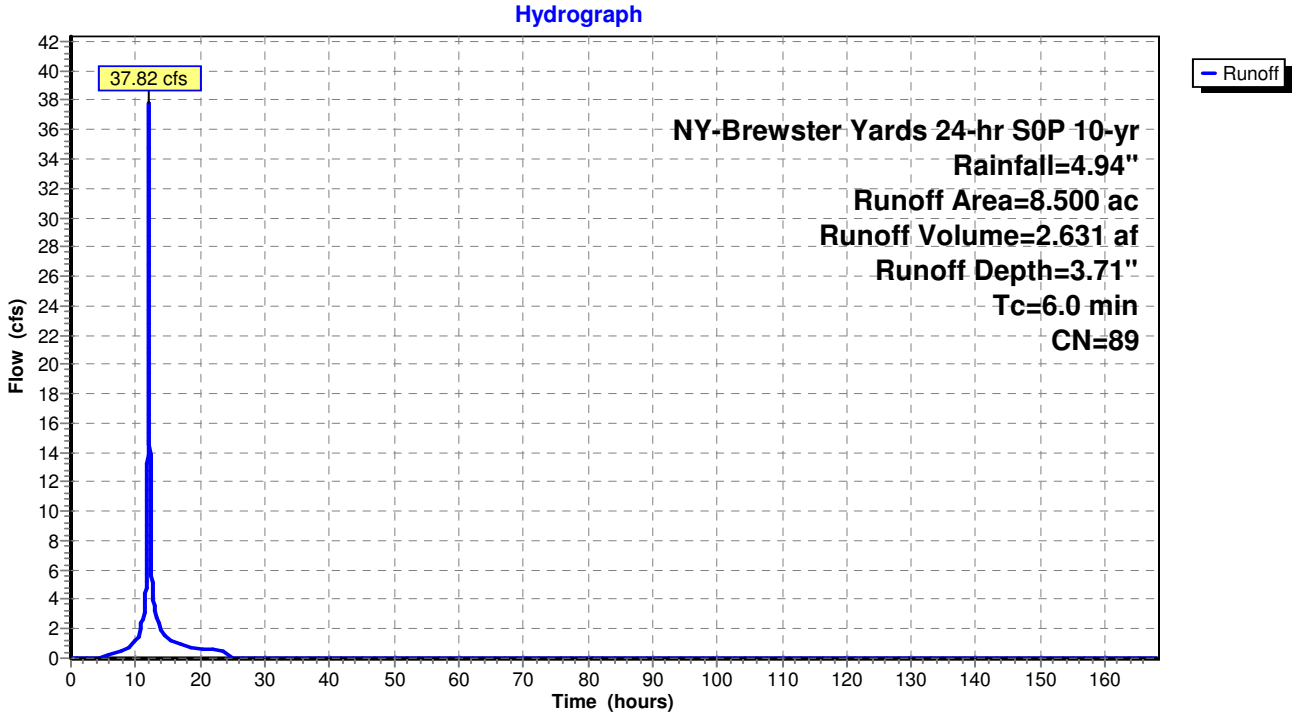
Runoff = 37.82 cfs @ 12.04 hrs, Volume= 2.631 af, Depth= 3.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

	Area (ac)	CN	Description
*	4.700	98	Impervious
*	2.400	86	Filed Turf
	1.400	61	>75% Grass cover, Good, HSG B
	8.500	89	Weighted Average
	3.800		44.71% Pervious Area
	4.700		55.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.3S: Fields & Parking (Piped)



Summary for Subcatchment 2.4S: South Showcase Field (Piped)

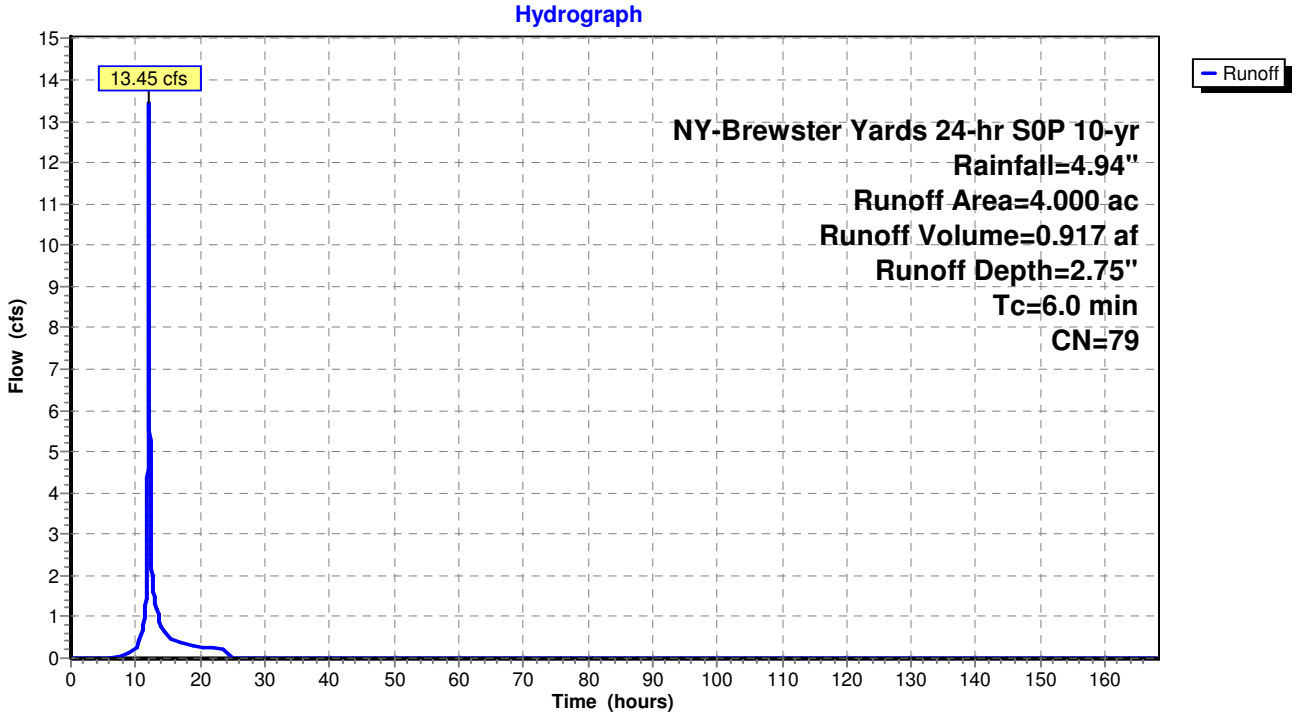
Runoff = 13.45 cfs @ 12.04 hrs, Volume= 0.917 af, Depth= 2.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

	Area (ac)	CN	Description
*	0.300	98	Impervious
*	2.500	86	Filed Turf
	1.200	61	>75% Grass cover, Good, HSG B
	4.000	79	Weighted Average
	3.700		92.50% Pervious Area
	0.300		7.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.4S: South Showcase Field (Piped)



Summary for Subcatchment 2.5S: South Detention Basin

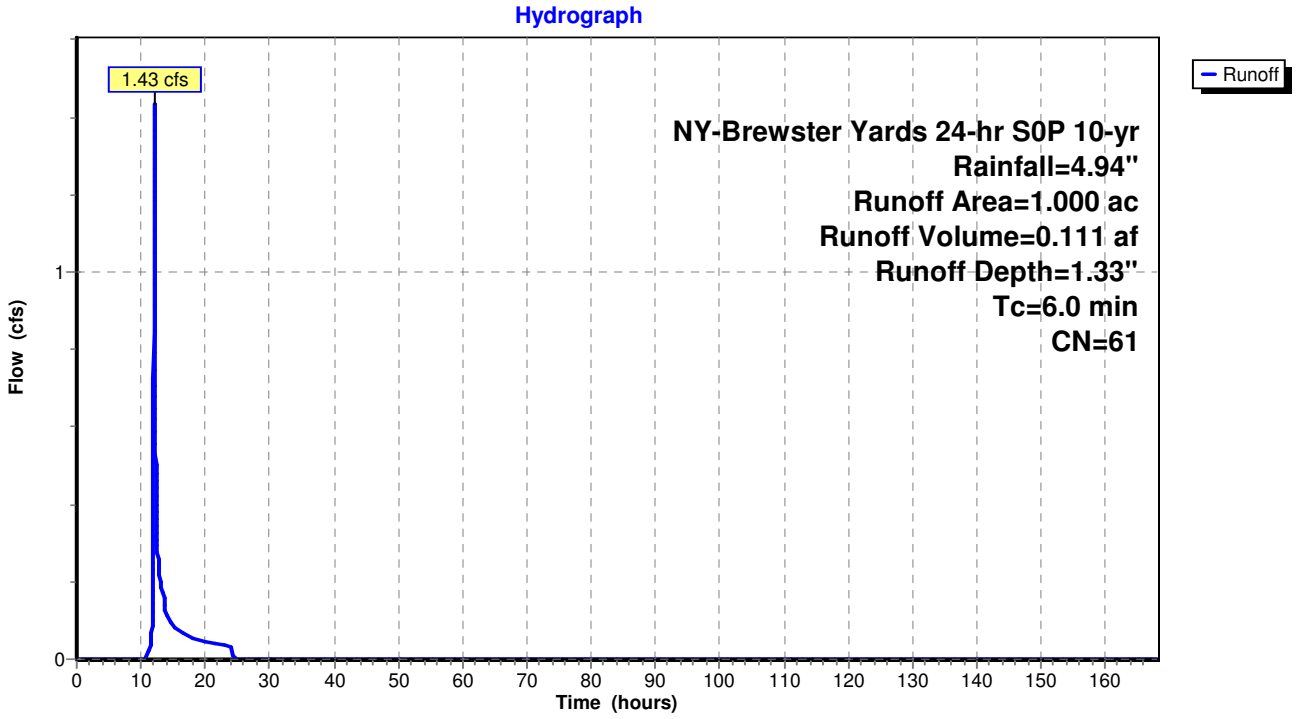
Runoff = 1.43 cfs @ 12.05 hrs, Volume= 0.111 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

Area (ac)	CN	Description
1.000	61	>75% Grass cover, Good, HSG B
1.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.5S: South Detention Basin



Summary for Subcatchment 2.6S: South Upper Pond

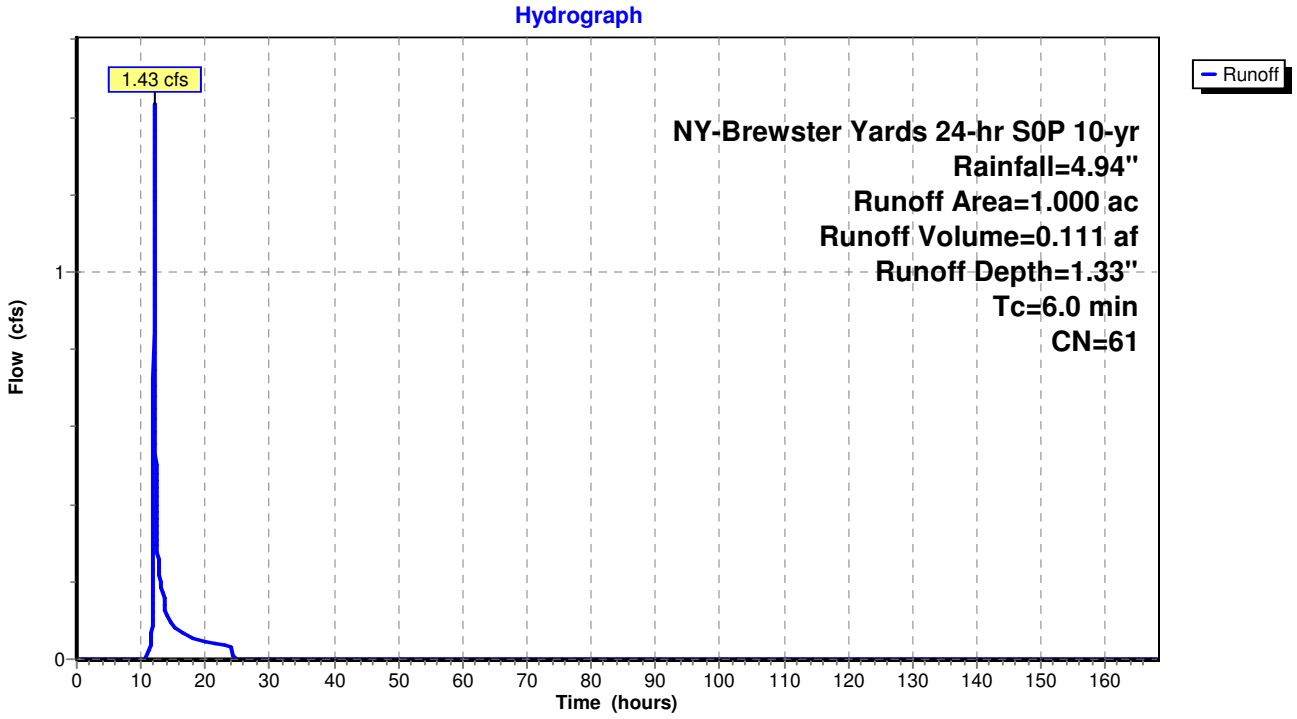
Runoff = 1.43 cfs @ 12.05 hrs, Volume= 0.111 af, Depth= 1.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

Area (ac)	CN	Description
1.000	61	>75% Grass cover, Good, HSG B
1.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.6S: South Upper Pond



Summary for Subcatchment 2.7S: South Lower Pond

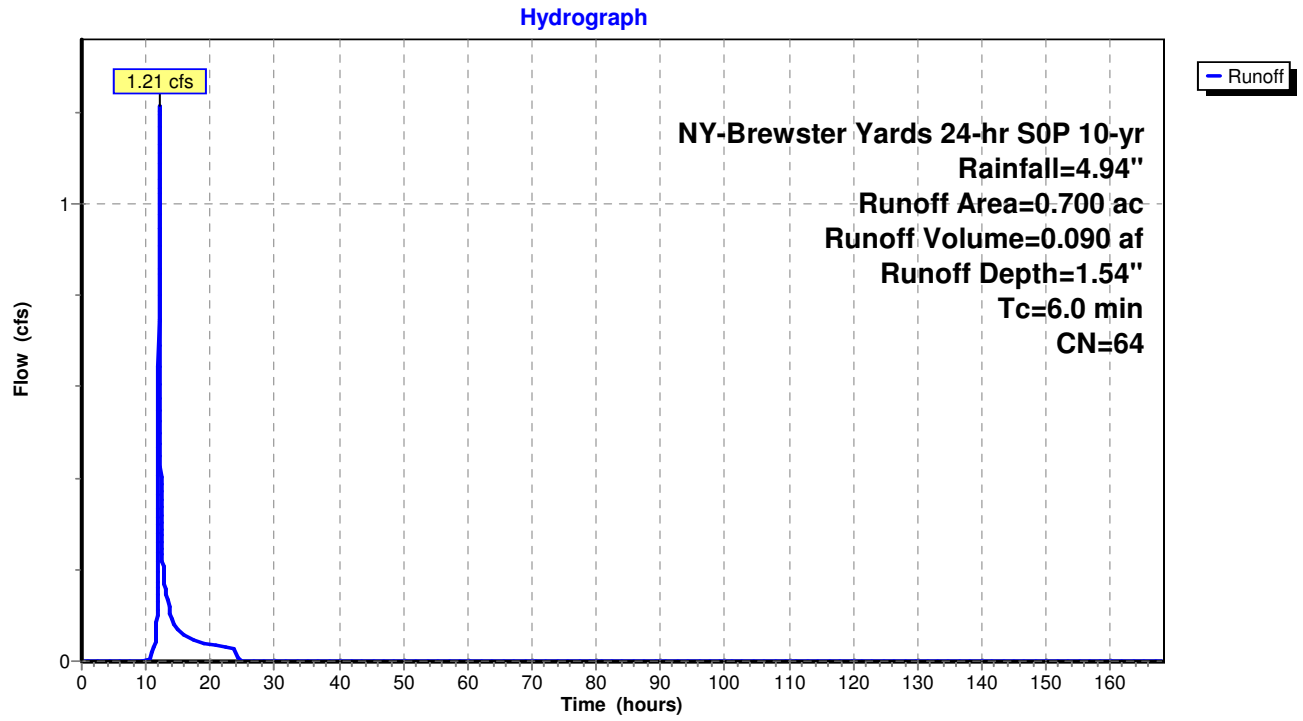
Runoff = 1.21 cfs @ 12.05 hrs, Volume= 0.090 af, Depth= 1.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

Area (ac)	CN	Description
0.600	61	>75% Grass cover, Good, HSG B
0.100	80	>75% Grass cover, Good, HSG D
0.700	64	Weighted Average
0.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.7S: South Lower Pond



Summary for Subcatchment 2.8S: South Untreated

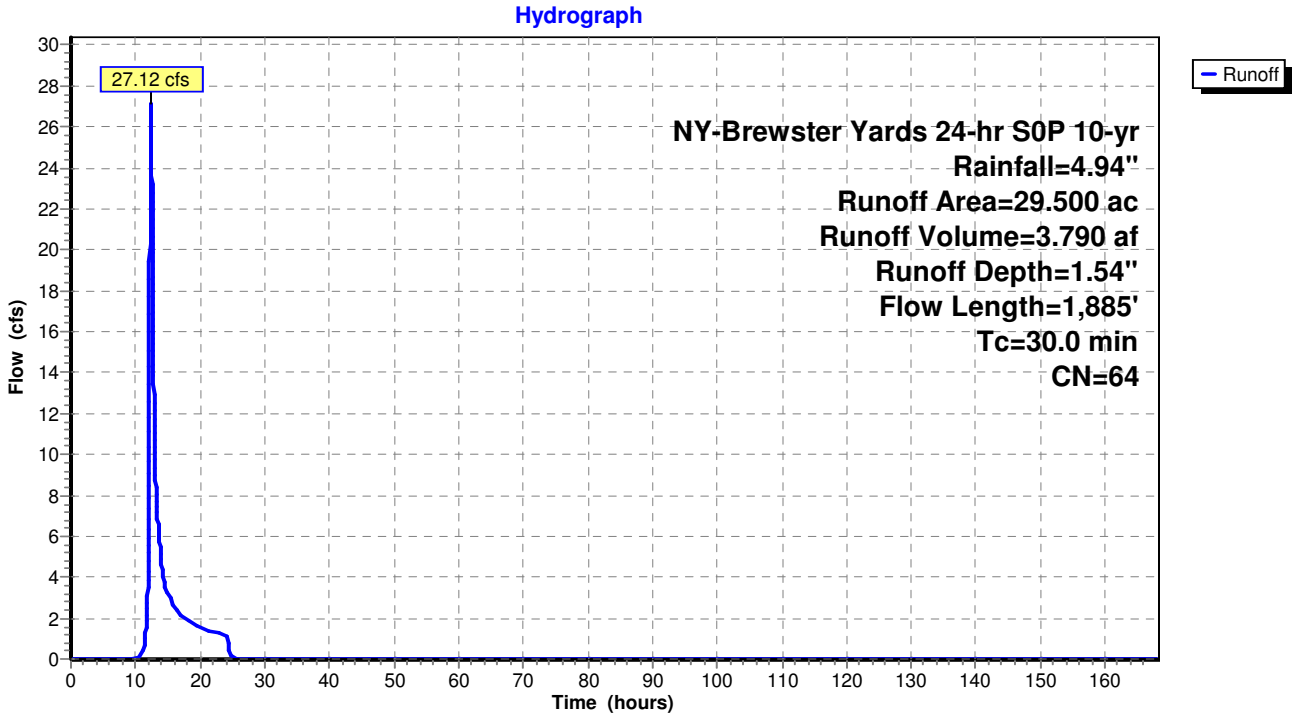
Runoff = 27.12 cfs @ 12.40 hrs, Volume= 3.790 af, Depth= 1.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 10-yr Rainfall=4.94"

Area (ac)	CN	Description
14.800	55	Woods, Good, HSG B
0.100	70	Woods, Good, HSG C
10.300	77	Woods, Good, HSG D
4.100	61	>75% Grass cover, Good, HSG B
0.200	80	>75% Grass cover, Good, HSG D
29.500	64	Weighted Average
29.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.3	100	0.0240	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
7.8	885	0.1430	1.89		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.9	900	0.0500	5.09	71.20	**Channel Flow,** Area= 14.0 sf Perim= 45.0' r= 0.31' n= 0.030 Earth, grassed & winding
30.0	1,885	Total			

Subcatchment 2.8S: South Untreated

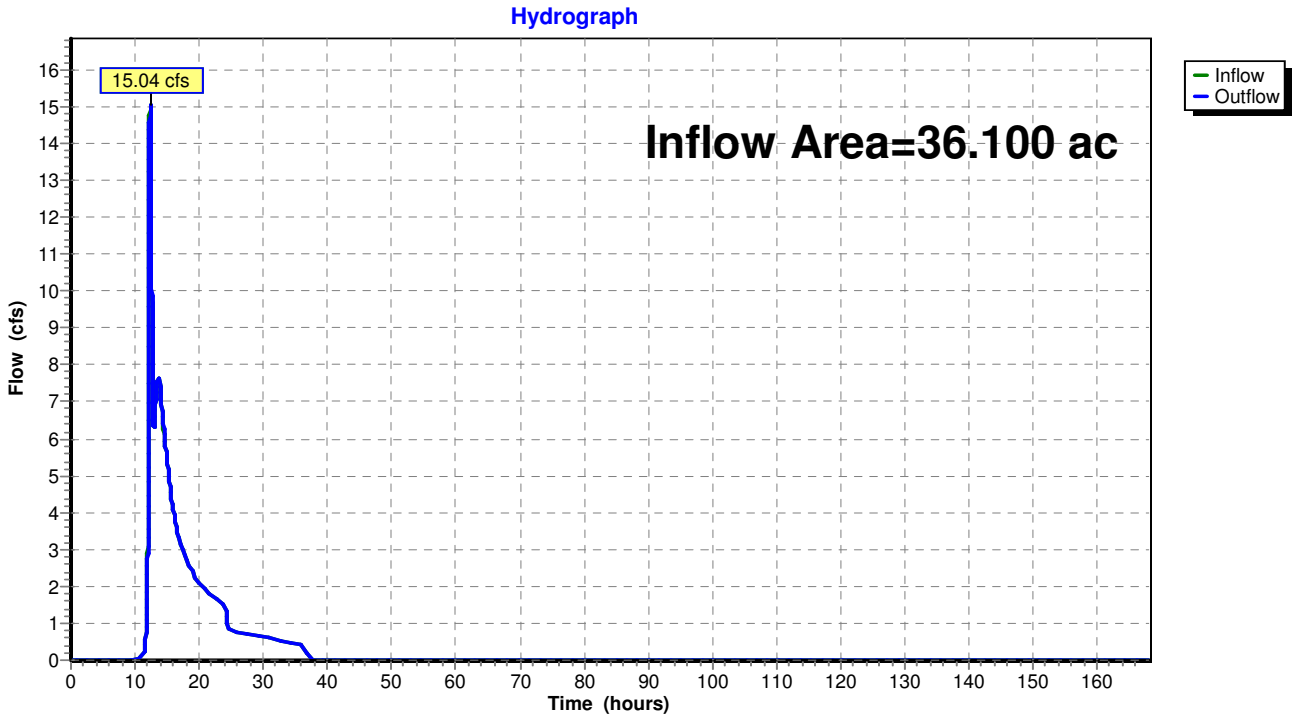


Summary for Reach DL 1:

Inflow Area = 36.100 ac, 8.31% Impervious, Inflow Depth = 1.51" for 10-yr event
Inflow = 15.04 cfs @ 12.35 hrs, Volume= 4.536 af
Outflow = 15.04 cfs @ 12.36 hrs, Volume= 4.536 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach DL 1:

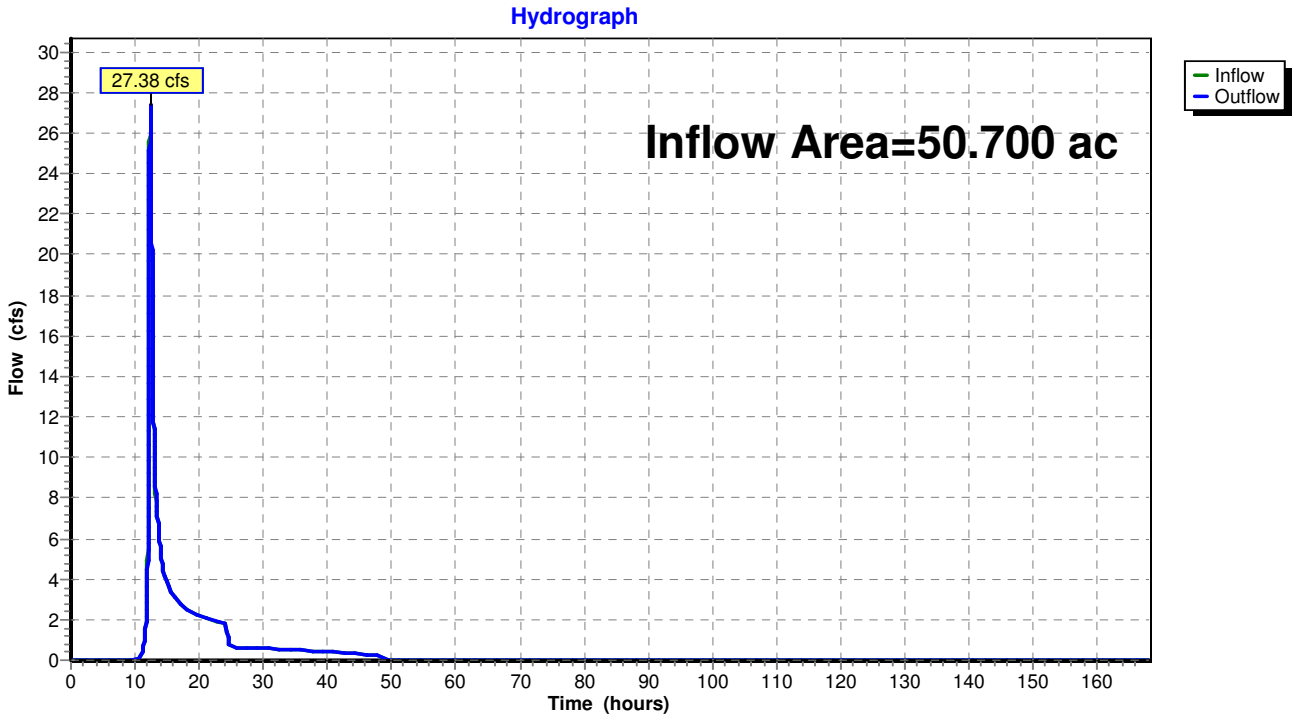


Summary for Reach DL 2:

Inflow Area = 50.700 ac, 15.19% Impervious, Inflow Depth = 1.27" for 10-yr event
Inflow = 27.38 cfs @ 12.40 hrs, Volume= 5.354 af
Outflow = 27.38 cfs @ 12.41 hrs, Volume= 5.354 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach DL 2:



Summary for Pond 1.2 EDB: North Detention Basin, Orifice, & Weir

Inflow Area = 16.900 ac, 17.75% Impervious, Inflow Depth = 3.23" for 10-yr event
Inflow = 59.90 cfs @ 12.07 hrs, Volume= 4.549 af
Outflow = 12.47 cfs @ 12.47 hrs, Volume= 4.549 af, Atten= 79%, Lag= 23.6 min
Primary = 12.47 cfs @ 12.47 hrs, Volume= 4.549 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 667.65' @ 12.47 hrs Surf.Area= 25,818 sf Storage= 92,761 cf
Flood Elev= 669.50' Surf.Area= 34,100 sf Storage= 147,015 cf

Plug-Flow detention time= 1,169.9 min calculated for 4.549 af (100% of inflow)
Center-of-Mass det. time= 1,170.1 min (1,991.9 - 821.8)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	240 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 600 cf Overall x 40.0% Voids
#2	660.00'	164,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		164,340 cf	Total Available Storage

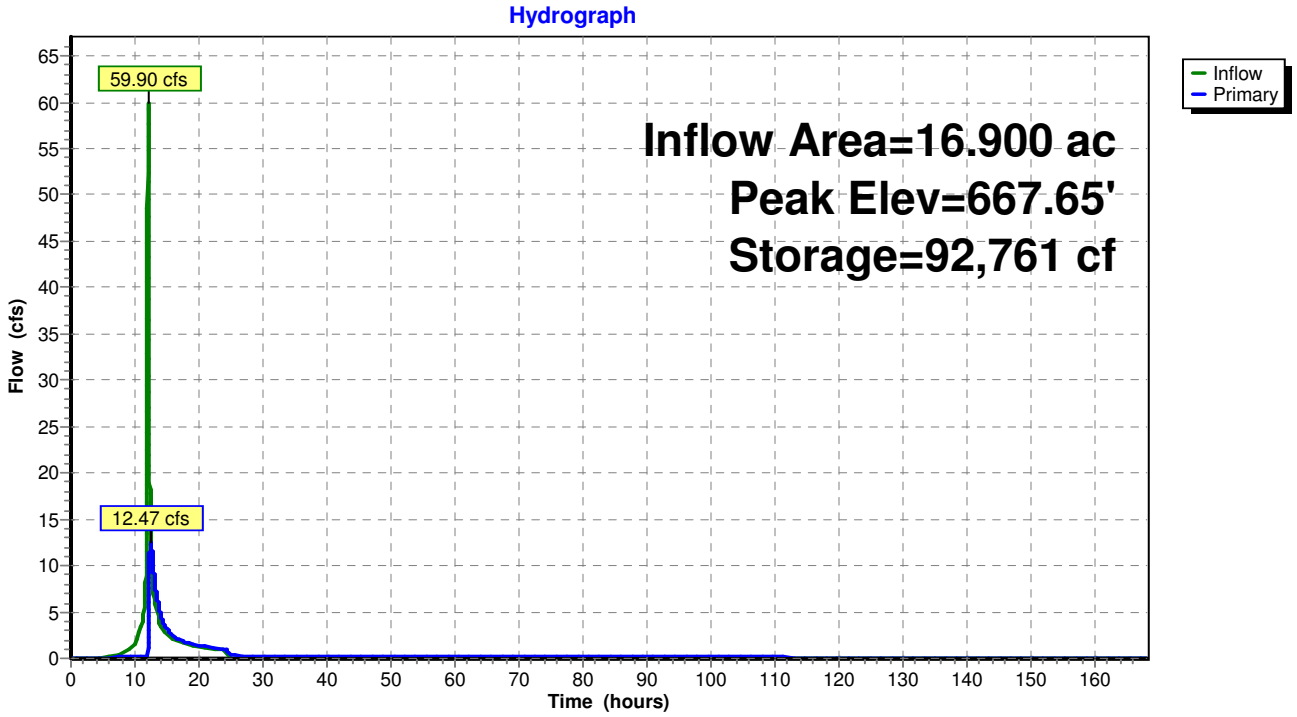
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
659.00	600	0	0
660.00	600	600	600

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
660.00	1,900	0	0
662.00	6,000	7,900	7,900
664.00	11,800	17,800	25,700
666.00	18,800	30,600	56,300
668.00	26,600	45,400	101,700
670.00	35,800	62,400	164,100

Device	Routing	Invert	Outlet Devices
#1	Primary	659.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	666.70'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=12.47 cfs @ 12.47 hrs HW=667.65' TW=660.94' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.27 cfs @ 12.47 fps)
└—**2=Broad-Crested Rectangular Weir** (Weir Controls 12.19 cfs @ 3.22 fps)

Pond 1.2 EDB: North Detention Basin, Orifice, & Weir



Stage-Area-Storage for Pond 1.2 EDB: North Detention Basin, Orifice, & Weir

Elevation (feet)	Storage (cubic-feet)
659.00	0
659.15	36
659.30	72
659.45	108
659.60	144
659.75	180
659.90	216
660.05	338
660.20	661
660.35	1,031
660.50	1,446
660.65	1,908
660.80	2,416
660.95	2,970
661.10	3,570
661.25	4,217
661.40	4,909
661.55	5,648
661.70	6,432
661.85	7,263
662.00	8,140
662.15	9,073
662.30	10,070
662.45	11,134
662.60	12,262
662.75	13,456
662.90	14,714
663.05	16,039
663.20	17,428
663.35	18,883
663.50	20,403
663.65	21,988
663.80	23,638
663.95	25,354
664.10	27,138
664.25	28,999
664.40	30,940
664.55	32,959
664.70	35,058
664.85	37,234
665.00	39,490
665.15	41,824
665.30	44,237
665.45	46,729
665.60	49,300
665.75	51,949
665.90	54,677
666.05	57,485
666.20	60,378
666.35	63,359
666.50	66,428
666.65	69,584
666.80	72,828
666.95	76,160
667.10	79,580
667.25	83,087
667.40	86,682
667.55	90,365
667.70	94,136
667.85	97,994
668.00	101,940
668.15	105,982
668.30	110,127
668.45	114,376
668.60	118,728
668.75	123,184
668.90	127,743
669.05	132,406
669.20	137,172
669.35	142,042
669.50	147,015
669.65	152,092
669.80	157,272
669.95	**162,556**

Summary for Pond 1.3 IB: North Infiltration

Inflow Area = 17.900 ac, 16.76% Impervious, Inflow Depth = 1.53" for 10-yr event
Inflow = 3.07 cfs @ 12.04 hrs, Volume= 2.278 af
Outflow = 0.19 cfs @ 92.84 hrs, Volume= 2.278 af, Atten= 94%, Lag= 4,847.9 min
Discarded = 0.19 cfs @ 92.84 hrs, Volume= 2.278 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 656.13' @ 92.84 hrs Surf.Area= 16,741 sf Storage= 31,504 cf
Flood Elev= 659.00' Surf.Area= 22,300 sf Storage= 87,500 cf

Plug-Flow detention time= 1,938.4 min calculated for 2.278 af (100% of inflow)
Center-of-Mass det. time= 1,938.5 min (4,989.0 - 3,050.5)

Volume	Invert	Avail.Storage	Storage Description
#1	654.00'	110,800 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

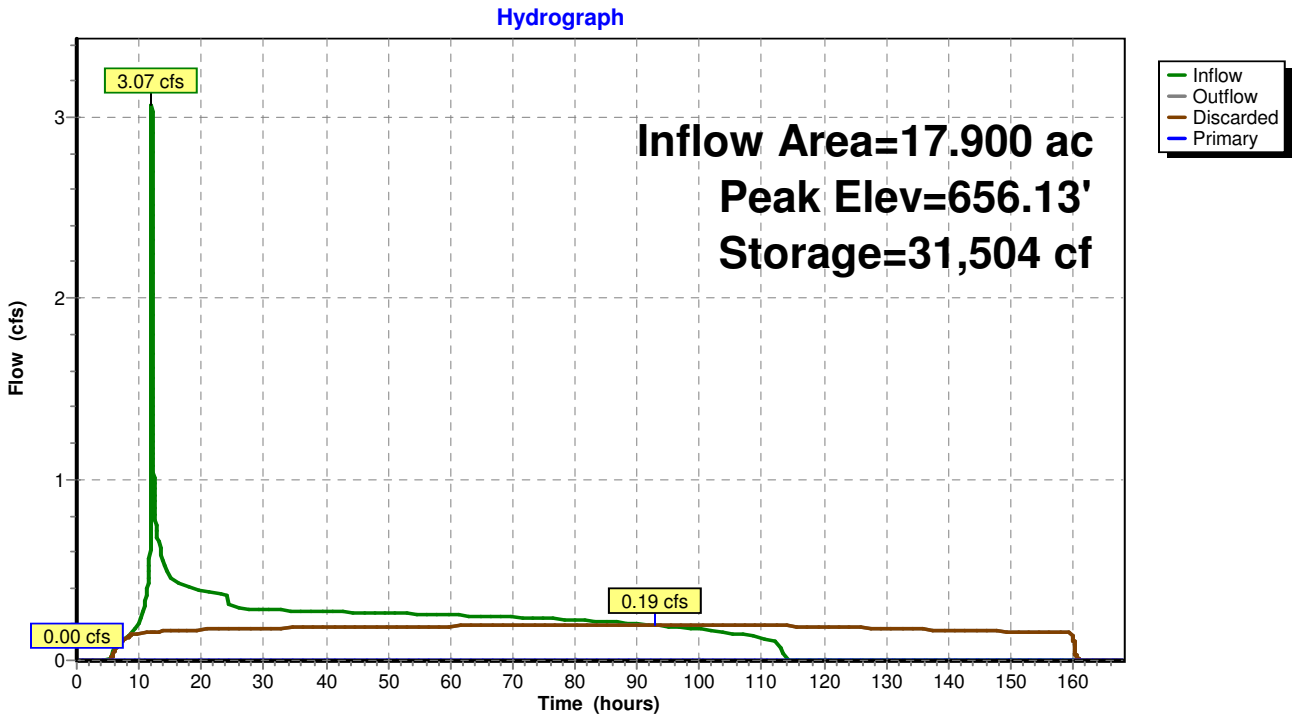
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
654.00	12,900	0	0
656.00	16,500	29,400	29,400
658.00	20,300	36,800	66,200
660.00	24,300	44,600	110,800

Device	Routing	Invert	Outlet Devices
#1	Discarded	654.00'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	658.90'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.19 cfs @ 92.84 hrs HW=656.13' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.19 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=654.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.3 IB: North Infiltration



Stage-Area-Storage for Pond 1.3 IB: North Infiltration

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
654.00	12,900	0
654.10	13,080	1,299
654.20	13,260	2,616
654.30	13,440	3,951
654.40	13,620	5,304
654.50	13,800	6,675
654.60	13,980	8,064
654.70	14,160	9,471
654.80	14,340	10,896
654.90	14,520	12,339
655.00	14,700	13,800
655.10	14,880	15,279
655.20	15,060	16,776
655.30	15,240	18,291
655.40	15,420	19,824
655.50	15,600	21,375
655.60	15,780	22,944
655.70	15,960	24,531
655.80	16,140	26,136
655.90	16,320	27,759
656.00	16,500	29,400
656.10	16,690	31,060
656.20	16,880	32,738
656.30	17,070	34,435
656.40	17,260	36,152
656.50	17,450	37,888
656.60	17,640	39,642
656.70	17,830	41,416
656.80	18,020	43,208
656.90	18,210	45,019
657.00	18,400	46,850
657.10	18,590	48,700
657.20	18,780	50,568
657.30	18,970	52,455
657.40	19,160	54,362
657.50	19,350	56,288
657.60	19,540	58,232
657.70	19,730	60,196
657.80	19,920	62,178
657.90	20,110	64,179
658.00	20,300	66,200
658.10	20,500	68,240
658.20	20,700	70,300
658.30	20,900	72,380
658.40	21,100	74,480
658.50	21,300	76,600
658.60	21,500	78,740
658.70	21,700	80,900
658.80	21,900	83,080
658.90	22,100	85,280
659.00	22,300	87,500
659.10	22,500	89,740
659.20	22,700	92,000
659.30	22,900	94,280
659.40	23,100	96,580
659.50	23,300	98,900
659.60	23,500	101,240
659.70	23,700	103,600
659.80	23,900	105,980
659.90	24,100	108,380
660.00	**24,300**	**110,800**

Summary for Pond 1.4 EDB: North Lower Detention Basin

Inflow Area = 0.600 ac, 0.00% Impervious, Inflow Depth = 51.61" for 10-yr event
Inflow = 12.38 cfs @ 12.47 hrs, Volume= 2.580 af
Outflow = 4.83 cfs @ 13.89 hrs, Volume= 2.580 af, Atten= 61%, Lag= 85.2 min
Primary = 4.83 cfs @ 13.89 hrs, Volume= 2.580 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Starting Elev= 594.00' Surf.Area= 0 sf Storage= 0 cf
Peak Elev= 655.92' @ 13.89 hrs Surf.Area= 12,900 sf Storage= 38,603 cf
Flood Elev= 659.50' Surf.Area= 17,950 sf Storage= 90,758 cf

Plug-Flow detention time= 273.6 min calculated for 2.580 af (100% of inflow)
Center-of-Mass det. time= 273.7 min (1,195.8 - 922.1)

Volume	Invert	Avail.Storage	Storage Description
#1	651.00'	320 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	652.00'	99,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		99,520 cf	Total Available Storage

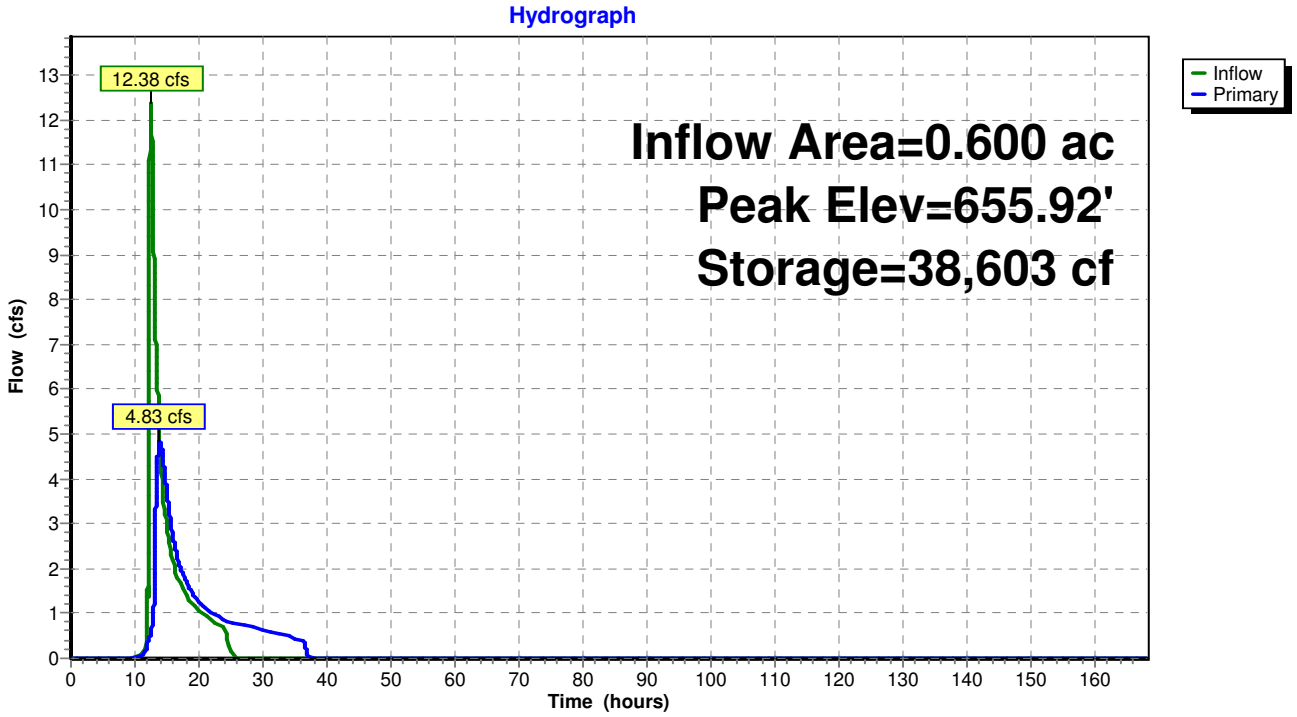
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
651.00	800	0	0
652.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
652.00	7,500	0	0
654.00	9,800	17,300	17,300
656.00	12,200	22,000	39,300
658.00	14,900	27,100	66,400
660.00	17,900	32,800	99,200

Device	Routing	Invert	Outlet Devices
#1	Primary	651.00'	**36.0" Round Culvert** L= 600.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 651.00' / 640.00' S= 0.0183 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	654.80'	**1.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	651.00'	**4.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=4.83 cfs @ 13.89 hrs HW=655.92' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Passes 4.83 cfs of 62.91 cfs potential flow)
  ├**2=Broad-Crested Rectangular Weir** (Weir Controls 3.92 cfs @ 3.51 fps)
  └**3=Orifice/Grate** (Orifice Controls 0.92 cfs @ 10.49 fps)

Pond 1.4 EDB: North Lower Detention Basin



Stage-Area-Storage for Pond 1.4 EDB: North Lower Detention Basin

Elevation (feet)	Storage (cubic-feet)
651.00	0
651.10	32
651.20	64
651.30	96
651.40	128
651.50	160
651.60	192
651.70	224
651.80	256
651.90	288
652.00	320
652.10	1,076
652.20	1,843
652.30	2,622
652.40	3,412
652.50	4,214
652.60	5,027
652.70	5,852
652.80	6,688
652.90	7,536
653.00	8,395
653.10	9,266
653.20	10,148
653.30	11,042
653.40	11,947
653.50	12,864
653.60	13,792
653.70	14,732
653.80	15,683
653.90	16,646
654.00	17,620
654.10	18,606
654.20	19,604
654.30	20,614
654.40	21,636
654.50	22,670
654.60	23,716
654.70	24,774
654.80	25,844
654.90	26,926
655.00	28,020
655.10	29,126
655.20	30,244
655.30	31,374
655.40	32,516
655.50	33,670
655.60	34,836
655.70	36,014
655.80	37,204
655.90	38,406
656.00	39,620
656.10	40,847
656.20	42,087
656.30	43,341
656.40	44,608
656.50	45,889
656.60	47,183
656.70	48,491
656.80	49,812
656.90	51,147
657.00	52,495
657.10	53,857
657.20	55,232
657.30	56,621
657.40	58,023
657.50	59,439
657.60	60,868
657.70	62,311
657.80	63,767
657.90	65,237
658.00	66,720
658.10	68,218
658.20	69,730
658.30	71,257
658.40	72,800
658.50	74,358
658.60	75,930
658.70	77,518
658.80	79,120
658.90	80,737
659.00	82,370
659.10	84,018
659.20	85,680
659.30	87,357
659.40	89,050
659.50	90,758
659.60	92,480
659.70	94,218
659.80	95,970
659.90	97,737
660.00	**99,520**

Summary for Pond 2.2 EDB: Entrance Detention Basin

Inflow Area = 6.000 ac, 45.00% Impervious, Inflow Depth = 3.29" for 10-yr event
Inflow = 19.18 cfs @ 12.12 hrs, Volume= 1.647 af
Outflow = 1.89 cfs @ 13.47 hrs, Volume= 1.647 af, Atten= 90%, Lag= 80.9 min
Primary = 1.89 cfs @ 13.47 hrs, Volume= 1.647 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 671.72' @ 13.47 hrs Surf.Area= 10,159 sf Storage= 36,845 cf
Flood Elev= 673.00' Surf.Area= 12,550 sf Storage= 50,895 cf

Plug-Flow detention time= 512.0 min calculated for 1.647 af (100% of inflow)
Center-of-Mass det. time= 511.8 min (1,333.7 - 821.9)

Volume	Invert	Avail.Storage	Storage Description
#1	663.00'	120 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 300 cf Overall x 40.0% Voids
#2	664.00'	64,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		64,120 cf	Total Available Storage

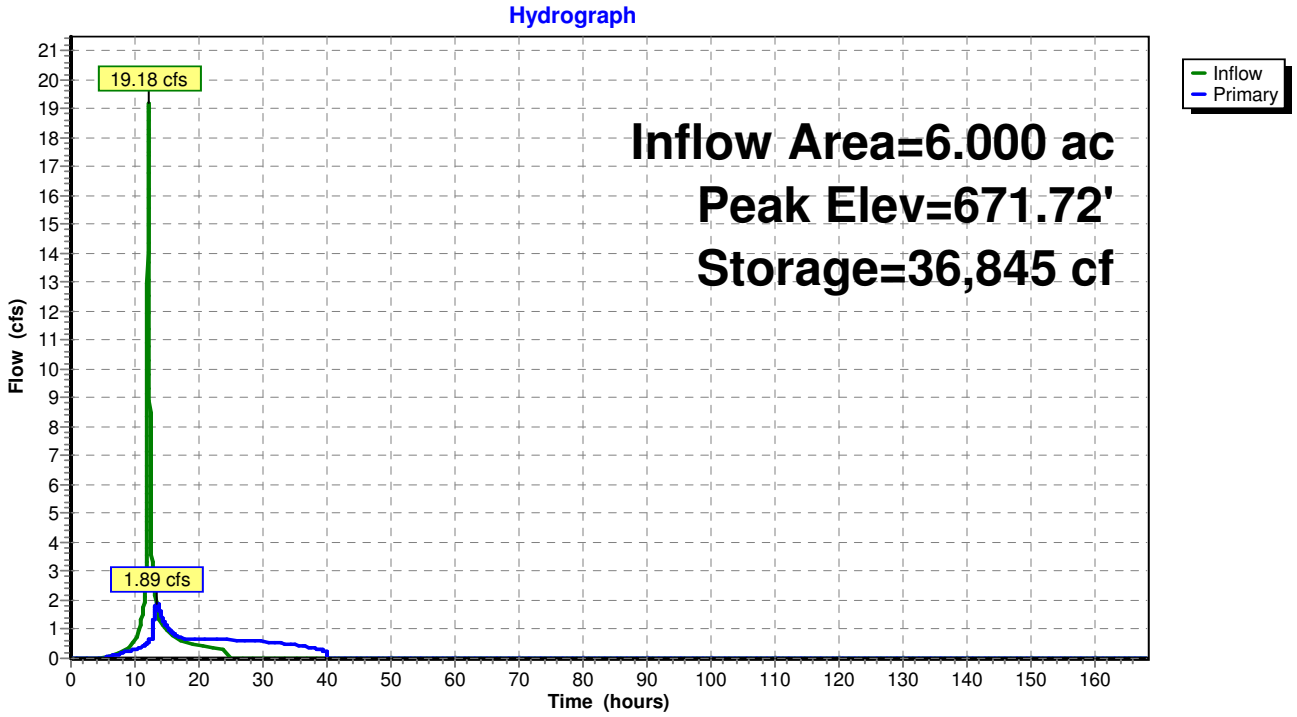
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
663.00	300	0	0
664.00	300	300	300

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
664.00	1,000	0	0
666.00	2,500	3,500	3,500
668.00	4,500	7,000	10,500
670.00	7,100	11,600	22,100
672.00	10,300	17,400	39,500
674.00	14,200	24,500	64,000

Device	Routing	Invert	Outlet Devices
#1	Primary	663.00'	**18.0" Round Culvert** L= 160.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 663.00' / 656.00' S= 0.0437 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	663.00'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	671.50'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.89 cfs @ 13.47 hrs HW=671.72' TW=617.75' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.89 cfs of 24.03 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.69 cfs @ 14.12 fps)
  └─**3=Broad-Crested Rectangular Weir** (Weir Controls 1.20 cfs @ 1.33 fps)

Pond 2.2 EDB: Entrance Detention Basin



Stage-Area-Storage for Pond 2.2 EDB: Entrance Detention Basin

Elevation (feet)	Storage (cubic-feet)
663.00	0
663.15	18
663.30	36
663.45	54
663.60	72
663.75	90
663.90	108
664.05	171
664.20	335
664.35	516
664.50	714
664.65	928
664.80	1,160
664.95	1,408
665.10	1,674
665.25	1,956
665.40	2,255
665.55	2,571
665.70	2,904
665.85	3,253
666.00	3,620
666.15	4,006
666.30	4,415
666.45	4,846
666.60	5,300
666.75	5,776
666.90	6,275
667.05	6,796
667.20	7,340
667.35	7,906
667.50	8,495
667.65	9,106
667.80	9,740
667.95	10,396
668.10	11,077
668.25	11,786
668.40	12,524
668.55	13,292
668.70	14,089
668.85	14,915
669.00	15,770
669.15	16,655
669.30	17,568
669.45	18,512
669.60	19,484
669.75	20,486
669.90	21,516
670.05	22,577
670.20	23,672
670.35	24,803
670.50	25,970
670.65	27,173
670.80	28,412
670.95	29,687
671.10	30,998
671.25	32,345
671.40	33,728
671.55	35,147
671.70	36,602
671.85	38,093
672.00	39,620
672.15	41,187
672.30	42,798
672.45	44,452
672.60	46,151
672.75	47,893
672.90	49,680
673.05	51,510
673.20	53,384
673.35	55,302
673.50	57,264
673.65	59,269
673.80	61,319
673.95	**63,412**

Summary for Pond 2.5 EDB: South Detention Basin

Inflow Area = 13.500 ac, 37.04% Impervious, Inflow Depth = 3.25" for 10-yr event
Inflow = 52.68 cfs @ 12.04 hrs, Volume= 3.659 af
Outflow = 6.48 cfs @ 12.67 hrs, Volume= 3.659 af, Atten= 88%, Lag= 37.6 min
Primary = 6.48 cfs @ 12.67 hrs, Volume= 3.659 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 628.69' @ 12.67 hrs Surf.Area= 16,308 sf Storage= 80,697 cf
Flood Elev= 631.50' Surf.Area= 20,525 sf Storage= 130,014 cf

Plug-Flow detention time= 874.4 min calculated for 3.659 af (100% of inflow)
Center-of-Mass det. time= 874.6 min (1,688.1 - 813.6)

Volume	Invert	Avail.Storage	Storage Description
#1	620.00'	320 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	621.00'	139,750 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		140,070 cf	Total Available Storage

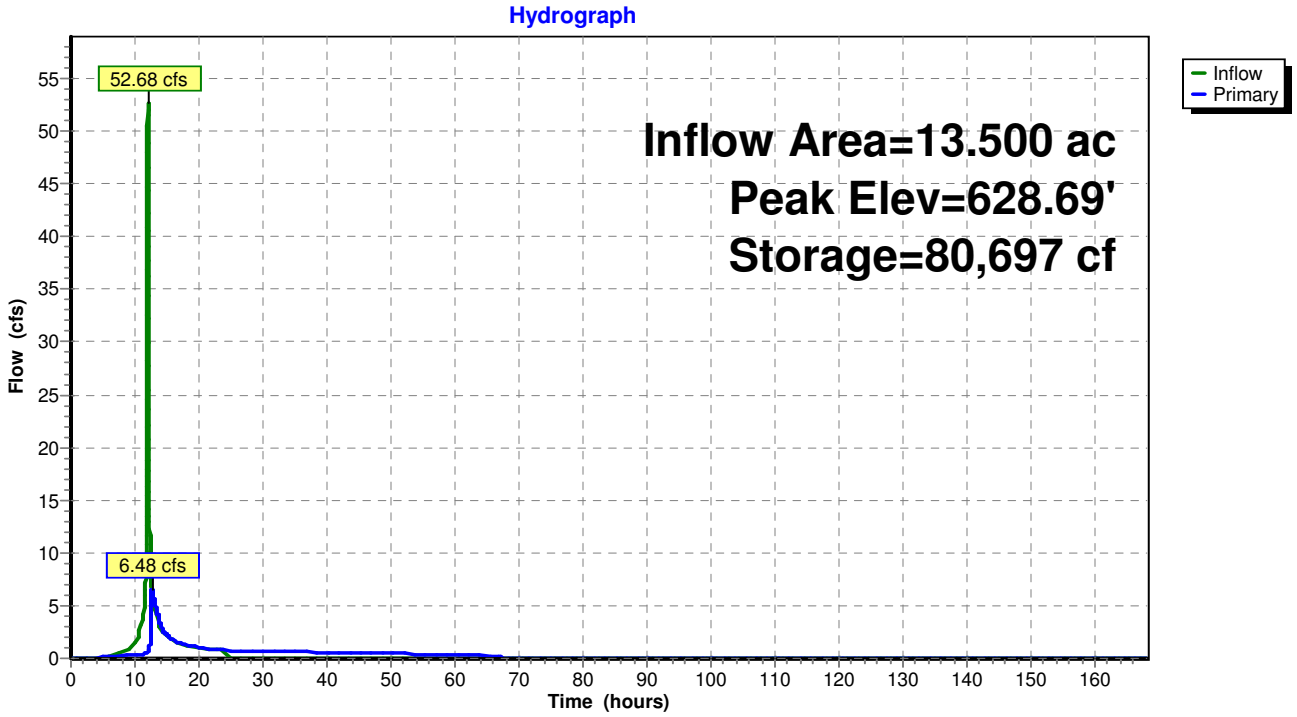
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
620.00	800	0	0
621.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
621.00	5,200	0	0
622.00	7,100	6,150	6,150
624.00	9,300	16,400	22,550
626.00	11,800	21,100	43,650
628.00	14,500	26,300	69,950
630.00	17,400	31,900	101,850
632.00	20,500	37,900	139,750

Device	Routing	Invert	Outlet Devices
#1	Primary	620.00'	**24.0" Round Culvert** L= 450.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 620.00' / 615.50' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	628.30'	**8.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	620.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=6.48 cfs @ 12.67 hrs HW=628.69' TW=617.80' (Dynamic Tailwater)
└─**1=Culvert** (Passes 6.48 cfs of 31.20 cfs potential flow)
  ├─**2=Broad-Crested Rectangular Weir** (Weir Controls 5.79 cfs @ 1.83 fps)
  └─**3=Orifice/Grate** (Orifice Controls 0.69 cfs @ 14.10 fps)

Pond 2.5 EDB: South Detention Basin



Stage-Area-Storage for Pond 2.5 EDB: South Detention Basin

Elevation (feet)	Storage (cubic-feet)
620.00	0
620.15	48
620.30	96
620.45	144
620.60	192
620.75	240
620.90	288
621.05	582
621.20	1,398
621.35	2,256
621.50	3,158
621.65	4,101
621.80	5,088
621.95	6,117
622.10	7,186
622.25	8,279
622.40	9,398
622.55	10,541
622.70	11,710
622.85	12,902
623.00	14,120
623.15	15,362
623.30	16,629
623.45	17,921
623.60	19,238
623.75	20,579
623.90	21,945
624.05	23,337
624.20	24,755
624.35	26,202
624.50	27,676
624.65	29,179
624.80	30,710
624.95	32,269
625.10	33,856
625.25	35,472
625.40	37,115
625.55	38,787
625.70	40,486
625.85	42,214
626.00	43,970
626.15	45,755
626.30	47,571
626.45	49,417
626.60	51,293
626.75	53,200
626.90	55,137
627.05	57,104
627.20	59,102
627.35	61,130
627.50	63,189
627.65	65,278
627.80	67,397
627.95	69,547
628.10	71,727
628.25	73,940
628.40	76,186
628.55	78,464
628.70	80,775
628.85	83,119
629.00	85,495
629.15	87,904
629.30	90,345
629.45	92,819
629.60	95,326
629.75	97,865
629.90	100,437
630.05	103,042
630.20	105,681
630.35	108,355
630.50	111,064
630.65	113,807
630.80	116,586
630.95	119,399
631.10	122,248
631.25	125,131
631.40	128,049
631.55	131,002
631.70	133,990
631.85	137,012
632.00	**140,070**

Summary for Pond 2.6 IB: South Upper Infiltration Basin

Inflow Area = 20.500 ac, 37.56% Impervious, Inflow Depth = 2.31" for 10-yr event
Inflow = 2.56 cfs @ 12.06 hrs, Volume= 3.943 af
Outflow = 2.56 cfs @ 12.07 hrs, Volume= 3.943 af, Atten= 0%, Lag= 0.7 min
Discarded = 2.56 cfs @ 12.07 hrs, Volume= 3.943 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 609.02' @ 12.07 hrs Surf.Area= 6,620 sf Storage= 110 cf
Flood Elev= 617.50' Surf.Area= 18,675 sf Storage= 104,556 cf

Plug-Flow detention time= 0.7 min calculated for 3.943 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (1,797.8 - 1,797.0)

Volume	Invert	Avail.Storage	Storage Description
#1	609.00'	114,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

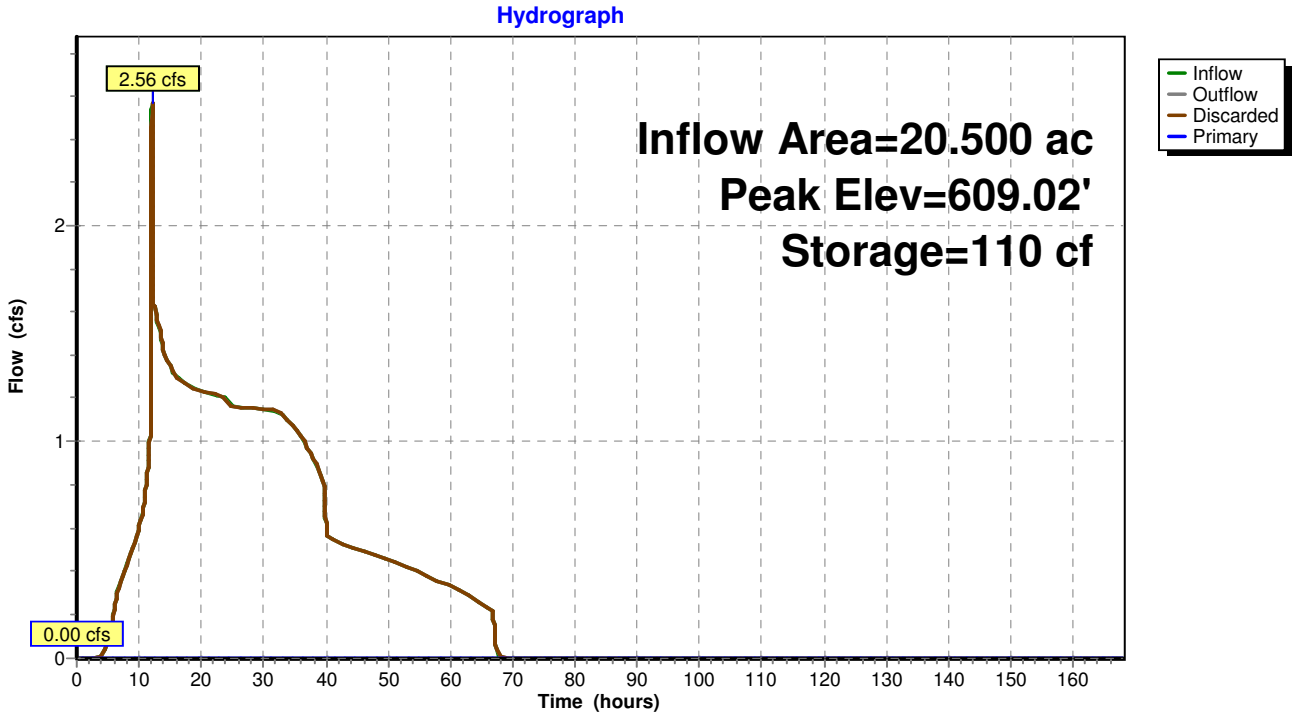
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
609.00	6,600	0	0
610.00	7,800	7,200	7,200
612.00	10,400	18,200	25,400
614.00	13,200	23,600	49,000
616.00	16,200	29,400	78,400
618.00	19,500	35,700	114,100

Device	Routing	Invert	Outlet Devices
#1	Primary	609.00'	**12.0" Round Culvert** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 609.00' / 594.00' S= 0.1875 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	617.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Discarded	609.00'	**20.000 in/hr Exfiltration over Surface area** Phase-In= 0.02'

Discarded OutFlow Max=2.56 cfs @ 12.07 hrs HW=609.02' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 2.56 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=609.00' TW=593.00' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2.6 IB: South Upper Infiltration Basin



Stage-Area-Storage for Pond 2.6 IB: South Upper Infiltration Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
609.00	6,600	0
609.10	6,720	666
609.20	6,840	1,344
609.30	6,960	2,034
609.40	7,080	2,736
609.50	7,200	3,450
609.60	7,320	4,176
609.70	7,440	4,914
609.80	7,560	5,664
609.90	7,680	6,426
610.00	7,800	7,200
610.10	7,930	7,987
610.20	8,060	8,786
610.30	8,190	9,598
610.40	8,320	10,424
610.50	8,450	11,263
610.60	8,580	12,114
610.70	8,710	12,979
610.80	8,840	13,856
610.90	8,970	14,746
611.00	9,100	15,650
611.10	9,230	16,567
611.20	9,360	17,496
611.30	9,490	18,438
611.40	9,620	19,394
611.50	9,750	20,363
611.60	9,880	21,344
611.70	10,010	22,339
611.80	10,140	23,346
611.90	10,270	24,366
612.00	10,400	25,400
612.10	10,540	26,447
612.20	10,680	27,508
612.30	10,820	28,583
612.40	10,960	29,672
612.50	11,100	30,775
612.60	11,240	31,892
612.70	11,380	33,023
612.80	11,520	34,168
612.90	11,660	35,327
613.00	11,800	36,500
613.10	11,940	37,687
613.20	12,080	38,888
613.30	12,220	40,103
613.40	12,360	41,332
613.50	12,500	42,575
613.60	12,640	43,832
613.70	12,780	45,103
613.80	12,920	46,388
613.90	13,060	47,687
614.00	13,200	49,000
614.10	13,350	50,328
614.20	13,500	51,670
614.30	13,650	53,027
614.40	13,800	54,400
614.50	13,950	55,788
614.60	14,100	57,190
614.70	14,250	58,608
614.80	14,400	60,040
614.90	14,550	61,487
615.00	14,700	62,950
615.10	14,850	64,428
615.20	15,000	65,920
615.30	15,150	67,427
615.40	15,300	68,950
615.50	15,450	70,488
615.60	15,600	72,040
615.70	15,750	73,608
615.80	15,900	75,190
615.90	16,050	76,787
616.00	16,200	78,400
616.10	16,365	80,028
616.20	16,530	81,673
616.30	16,695	83,334
616.40	16,860	85,012
616.50	17,025	86,706
616.60	17,190	88,417
616.70	17,355	90,144
616.80	17,520	91,888
616.90	17,685	93,648
617.00	17,850	95,425
617.10	18,015	97,218
617.20	18,180	99,028
617.30	18,345	100,854
617.40	18,510	102,697
617.50	18,675	104,556
617.60	18,840	106,432
617.70	19,005	108,324
617.80	19,170	110,233
617.90	19,335	112,158
618.00	**19,500**	**114,100**

Summary for Pond 2.7 EDB: South Lower Detention Basin

Inflow Area = 21.200 ac, 36.32% Impervious, Inflow Depth = 0.89" for 10-yr event
Inflow = 6.00 cfs @ 12.67 hrs, Volume= 1.564 af
Outflow = 0.66 cfs @ 18.95 hrs, Volume= 1.564 af, Atten= 89%, Lag= 376.8 min
Primary = 0.66 cfs @ 18.95 hrs, Volume= 1.564 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 600.85' @ 18.95 hrs Surf.Area= 10,372 sf Storage= 42,601 cf
Flood Elev= 605.50' Surf.Area= 16,125 sf Storage= 100,089 cf

Plug-Flow detention time= 753.2 min calculated for 1.564 af (100% of inflow)
Center-of-Mass det. time= 753.3 min (1,692.9 - 939.6)

Volume	Invert	Avail.Storage	Storage Description
#1	593.00'	320 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	594.00'	107,600 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		107,920 cf	Total Available Storage

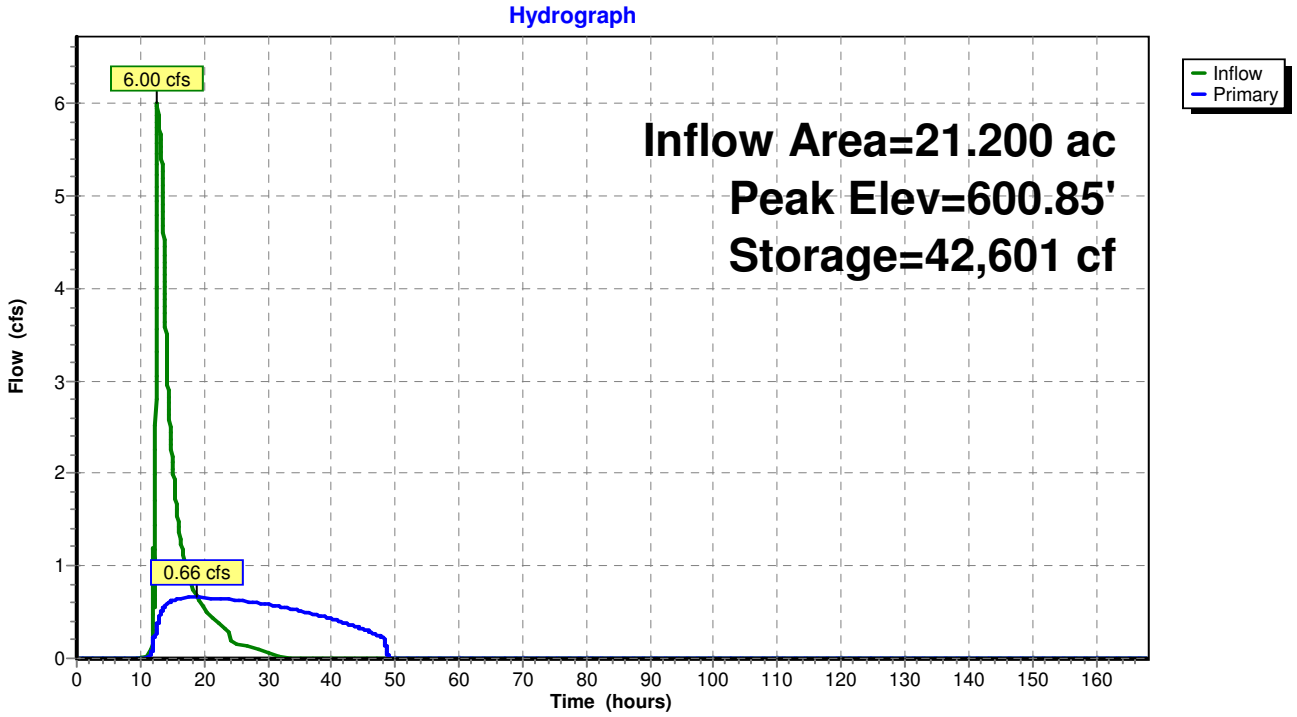
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
593.00	800	0	0
594.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
594.00	3,200	0	0
596.00	4,800	8,000	8,000
598.00	6,600	11,400	19,400
600.00	8,600	15,200	34,600
602.00	10,900	19,500	54,100
604.00	13,300	24,200	78,300
606.00	16,000	29,300	107,600

Device	Routing	Invert	Outlet Devices
#1	Primary	593.00'	**36.0" Round Culvert** L= 85.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 593.00' / 590.00' S= 0.0353 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	604.20'	**8.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	593.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.66 cfs @ 18.95 hrs HW=600.85' TW=0.00' (Dynamic Tailwater)
↑└─**1=Culvert** (Passes 0.66 cfs of 85.73 cfs potential flow)
↑ ├─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
└─**3=Orifice/Grate** (Orifice Controls 0.66 cfs @ 13.38 fps)

Pond 2.7 EDB: South Lower Detention Basin



Stage-Area-Storage for Pond 2.7 EDB: South Lower Detention Basin

Elevation (feet)	Storage (cubic-feet)
593.00	0
593.15	48
593.30	96
593.45	144
593.60	192
593.75	240
593.90	288
594.05	481
594.20	976
594.35	1,489
594.50	2,020
594.65	2,569
594.80	3,136
594.95	3,721
595.10	4,324
595.25	4,945
595.40	5,584
595.55	6,241
595.70	6,916
595.85	7,609
596.00	8,320
596.15	9,050
596.30	9,800
596.45	10,571
596.60	11,362
596.75	12,173
596.90	13,004
597.05	13,856
597.20	14,728
597.35	15,620
597.50	16,533
597.65	17,465
597.80	18,418
597.95	19,391
598.10	20,385
598.25	21,401
598.40	22,440
598.55	23,501
598.70	24,585
598.85	25,691
599.00	26,820
599.15	27,971
599.30	29,145
599.45	30,341
599.60	31,560
599.75	32,801
599.90	34,065
600.05	35,351
600.20	36,663
600.35	38,000
600.50	39,364
600.65	40,753
600.80	42,168
600.95	43,609
601.10	45,076
601.25	46,568
601.40	48,087
601.55	49,631
601.70	51,202
601.85	52,798
602.00	54,420
602.15	56,068
602.30	57,744
602.45	59,447
602.60	61,176
602.75	62,933
602.90	64,716
603.05	66,526
603.20	68,364
603.35	70,229
603.50	72,120
603.65	74,038
603.80	75,984
603.95	77,957
604.10	79,957
604.25	81,987
604.40	84,048
604.55	86,139
604.70	88,261
604.85	90,413
605.00	92,595
605.15	94,808
605.30	97,051
605.45	99,324
605.60	101,628
605.75	103,962
605.90	**106,327**

Summary for Pond FS 1: North Detention Flow Split

Inflow Area = 16.900 ac, 17.75% Impervious, Inflow Depth = 3.23" for 10-yr event
Inflow = 12.47 cfs @ 12.47 hrs, Volume= 4.549 af
Outflow = 12.47 cfs @ 12.48 hrs, Volume= 4.549 af, Atten= 0%, Lag= 0.6 min
Primary = 0.40 cfs @ 12.48 hrs, Volume= 2.085 af
Secondary = 12.07 cfs @ 12.48 hrs, Volume= 2.464 af

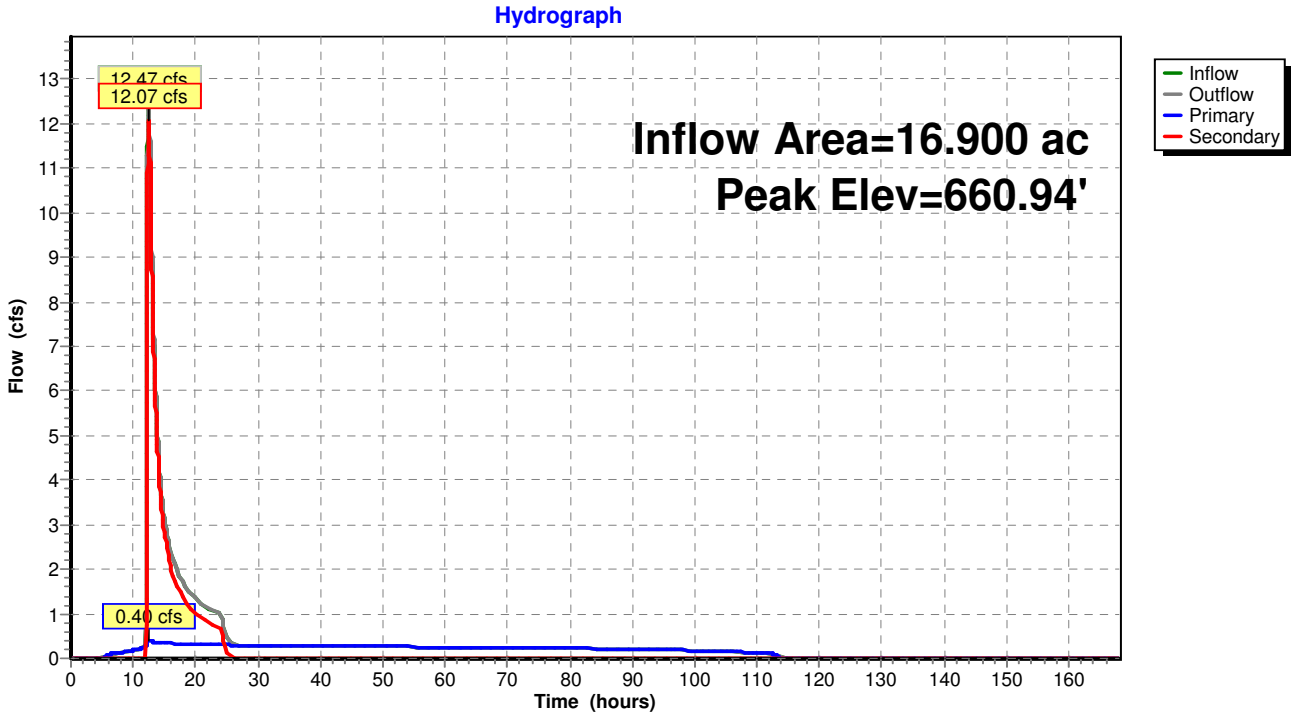
Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 660.94' @ 12.48 hrs
Flood Elev= 669.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	658.00'	**6.0" Round Culvert** L= 150.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 658.00' / 656.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	658.00'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Secondary	659.60'	**36.0" Round Culvert** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 659.60' / 656.00' S= 0.0450 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=0.40 cfs @ 12.48 hrs HW=660.94' TW=654.37' (Dynamic Tailwater)
↑└**1=Culvert** (Passes 0.40 cfs of 0.91 cfs potential flow)
↑└**2=Orifice/Grate** (Orifice Controls 0.40 cfs @ 8.08 fps)

Secondary OutFlow Max=12.07 cfs @ 12.48 hrs HW=660.94' TW=653.28' (Dynamic Tailwater)
↑└**3=Culvert** (Inlet Controls 12.07 cfs @ 3.94 fps)

Pond FS 1: North Detention Flow Split



Stage-Area-Storage for Pond FS 1: North Detention Flow Split

Elevation (feet)	Storage (cubic-feet)
658.00	**0**
658.15	0
658.30	0
658.45	0
658.60	0
658.75	0
658.90	0
659.05	0
659.20	0
659.35	0
659.50	0
659.65	0
659.80	0
659.95	0
660.10	0
660.25	0
660.40	0
660.55	0
660.70	0
660.85	0
661.00	0
661.15	0
661.30	0
661.45	0
661.60	0
661.75	0
661.90	0
662.05	0
662.20	0
662.35	0
662.50	0
662.65	0
662.80	0
662.95	0
663.10	0
663.25	0
663.40	0
663.55	0
663.70	0
663.85	0
664.00	0
664.15	0
664.30	0
664.45	0
664.60	0
664.75	0
664.90	0
665.05	0
665.20	0
665.35	0
665.50	0
665.65	0
665.80	0
665.95	0
666.10	0
666.25	0
666.40	0
666.55	0
666.70	0
666.85	0
667.00	0
667.15	0
667.30	0
667.45	0
667.60	0
667.75	0
667.90	0
668.05	0
668.20	0
668.35	0
668.50	0
668.65	0
668.80	0
668.95	0

Summary for Pond FS 2:

Inflow Area = 19.500 ac, 39.49% Impervious, Inflow Depth = 3.26" for 10-yr event
Inflow = 7.17 cfs @ 12.67 hrs, Volume= 5.305 af
Outflow = 7.17 cfs @ 12.68 hrs, Volume= 5.305 af, Atten= 0%, Lag= 0.6 min
Primary = 1.36 cfs @ 12.68 hrs, Volume= 3.832 af
Secondary = 5.81 cfs @ 12.68 hrs, Volume= 1.474 af

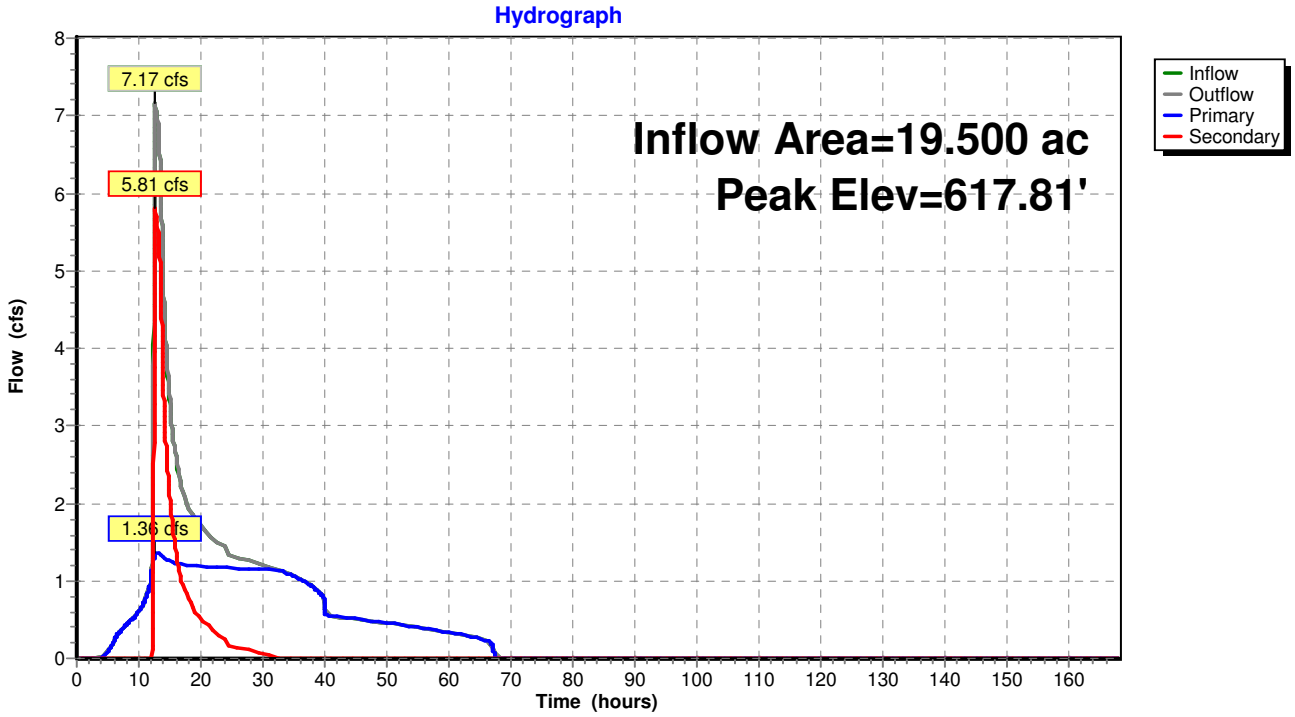
Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 617.81' @ 12.68 hrs
Flood Elev= 629.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	615.50'	**6.0" Round Culvert** L= 120.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 615.50' / 609.00' S= 0.0542 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 3	617.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	615.50'	**30.0" Round Culvert** L= 180.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 615.50' / 610.80' S= 0.0261 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=1.36 cfs @ 12.68 hrs HW=617.81' TW=609.01' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 1.36 cfs @ 6.90 fps)

Secondary OutFlow Max=5.81 cfs @ 12.68 hrs HW=617.81' TW=595.48' (Dynamic Tailwater)
└**3=Culvert** (Passes 5.81 cfs of 24.46 cfs potential flow)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 5.81 cfs @ 2.40 fps)

Pond FS 2:


Hydrograph
Inflow Area=19.500 ac
Peak Elev=617.81'
7.17 cfs
5.81 cfs
1.36 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)
0
1
2
3
4
5
6
7
8
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160

Stage-Area-Storage for Pond FS 2:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
615.50	**0**	623.30	0
615.65	0	623.45	0
615.80	0	623.60	0
615.95	0	623.75	0
616.10	0	623.90	0
616.25	0	624.05	0
616.40	0	624.20	0
616.55	0	624.35	0
616.70	0	624.50	0
616.85	0	624.65	0
617.00	0	624.80	0
617.15	0	624.95	0
617.30	0	625.10	0
617.45	0	625.25	0
617.60	0	625.40	0
617.75	0	625.55	0
617.90	0	625.70	0
618.05	0	625.85	0
618.20	0	626.00	0
618.35	0	626.15	0
618.50	0	626.30	0
618.65	0	626.45	0
618.80	0	626.60	0
618.95	0	626.75	0
619.10	0	626.90	0
619.25	0	627.05	0
619.40	0	627.20	0
619.55	0	627.35	0
619.70	0	627.50	0
619.85	0	627.65	0
620.00	0	627.80	0
620.15	0	627.95	0
620.30	0	628.10	0
620.45	0	628.25	0
620.60	0	628.40	0
620.75	0	628.55	0
620.90	0	628.70	0
621.05	0	628.85	0
621.20	0	629.00	0
621.35	0	629.15	0
621.50	0	629.30	0
621.65	0	629.45	0
621.80	0		
621.95	0		
622.10	0		
622.25	0		
622.40	0		
622.55	0		
622.70	0		
622.85	0		
623.00	0		
623.15	0		

Summary for Subcatchment 1.1S: North Sports & Parking (Piped)

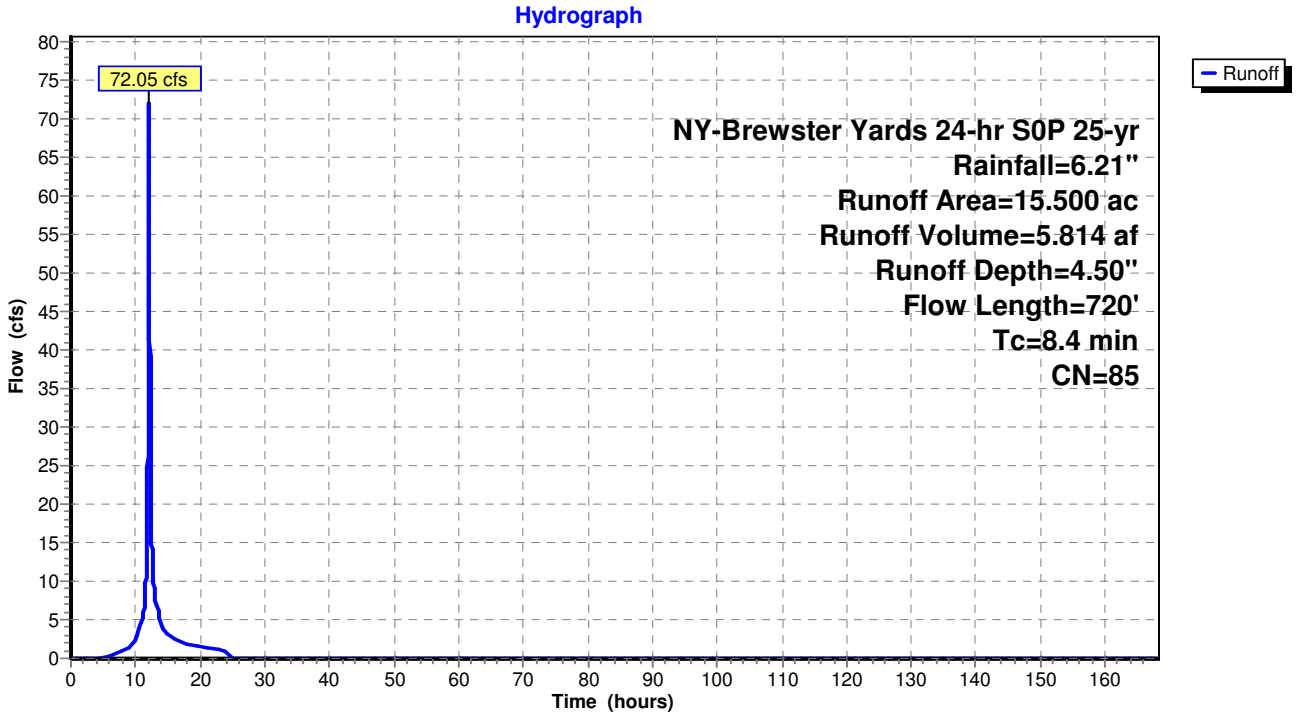
Runoff = 72.05 cfs @ 12.07 hrs, Volume= 5.814 af, Depth= 4.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

	Area (ac)	CN	Description
*	9.900	86	Field Turf
	1.400	61	>75% Grass cover, Good, HSG B
	1.200	74	>75% Grass cover, Good, HSG C
*	3.000	98	Impervious
	15.500	85	Weighted Average
	12.500		80.65% Pervious Area
	3.000		19.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.0600	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"
0.8	160	0.0438	3.14		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.1	190	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	270	0.0200	10.18	31.99	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
8.4	720	Total			

Subcatchment 1.1S: North Sports & Parking (Piped)



Summary for Subcatchment 1.2S: North Detention

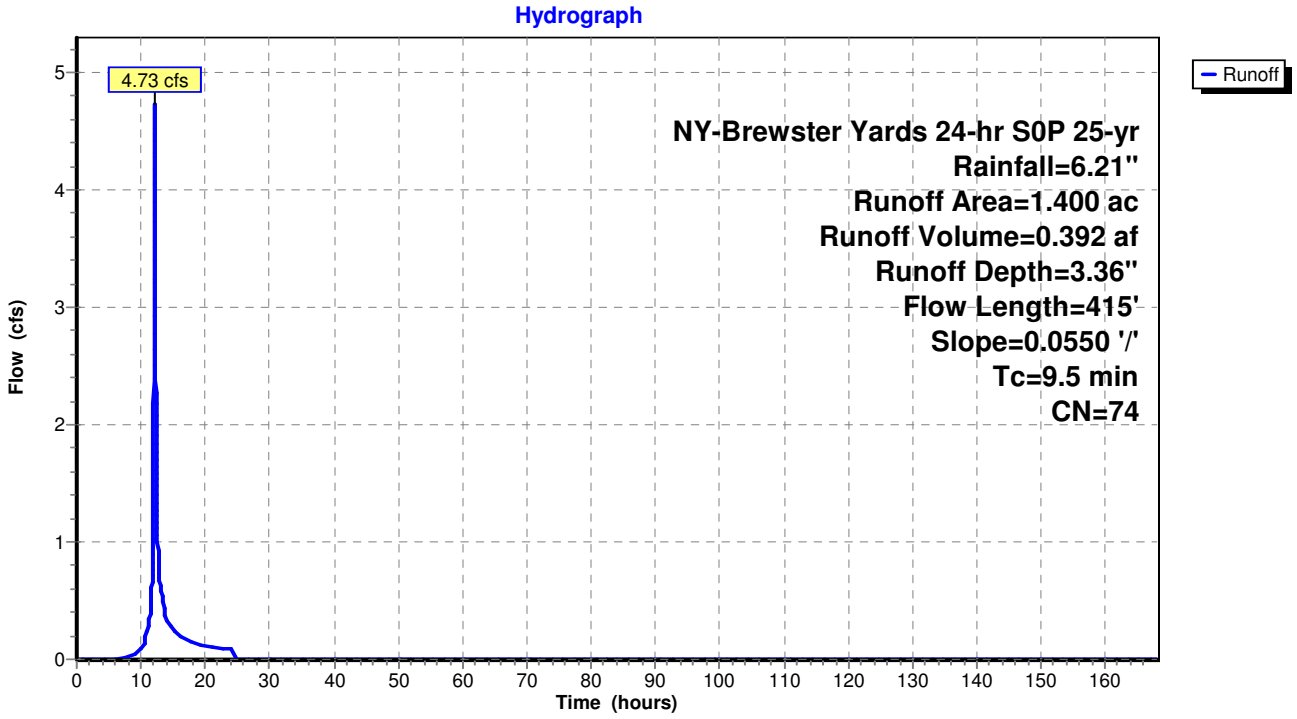
Runoff = 4.73 cfs @ 12.09 hrs, Volume= 0.392 af, Depth= 3.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

Area (ac)	CN	Description
1.400	74	>75% Grass cover, Good, HSG C
1.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	100	0.0550	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"
3.2	315	0.0550	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.5	415	Total			

Subcatchment 1.2S: North Detention



Summary for Subcatchment 1.3S: North Infiltration

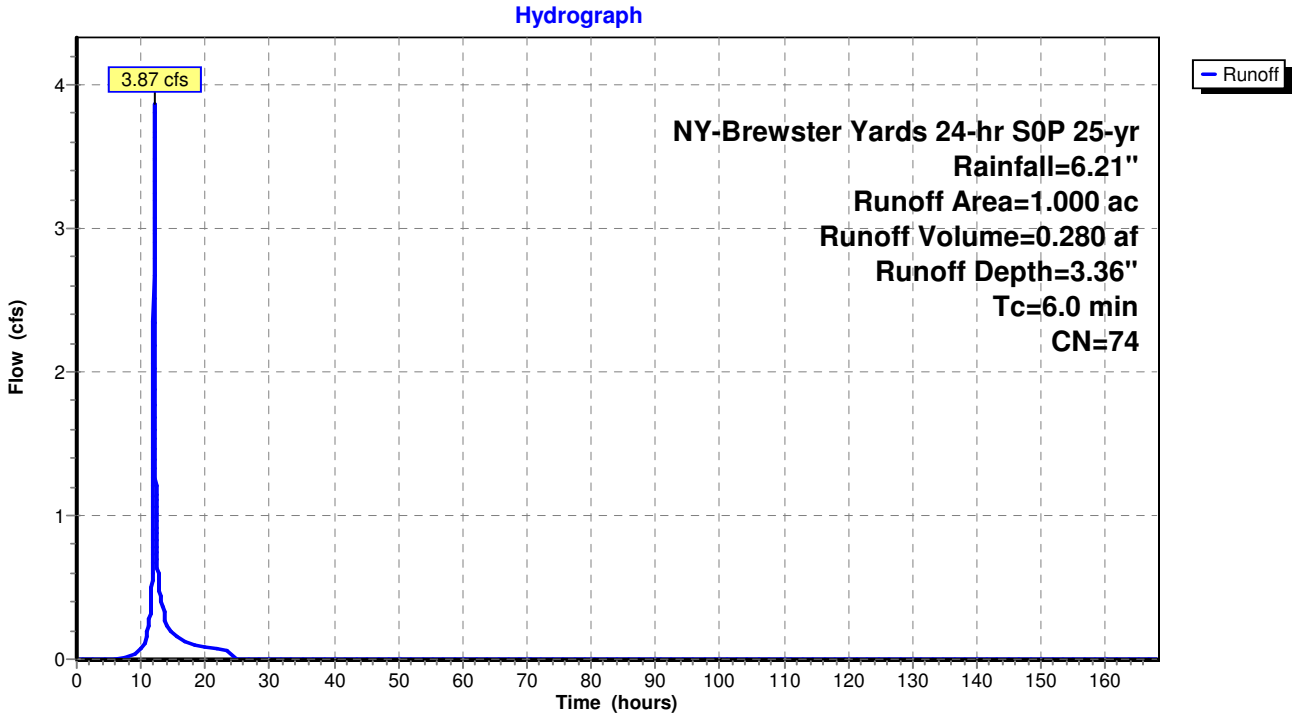
Runoff = 3.87 cfs @ 12.04 hrs, Volume= 0.280 af, Depth= 3.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

Area (ac)	CN	Description
1.000	74	>75% Grass cover, Good, HSG C
1.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.3S: North Infiltration



Summary for Subcatchment 1.4S: North Lower Detention

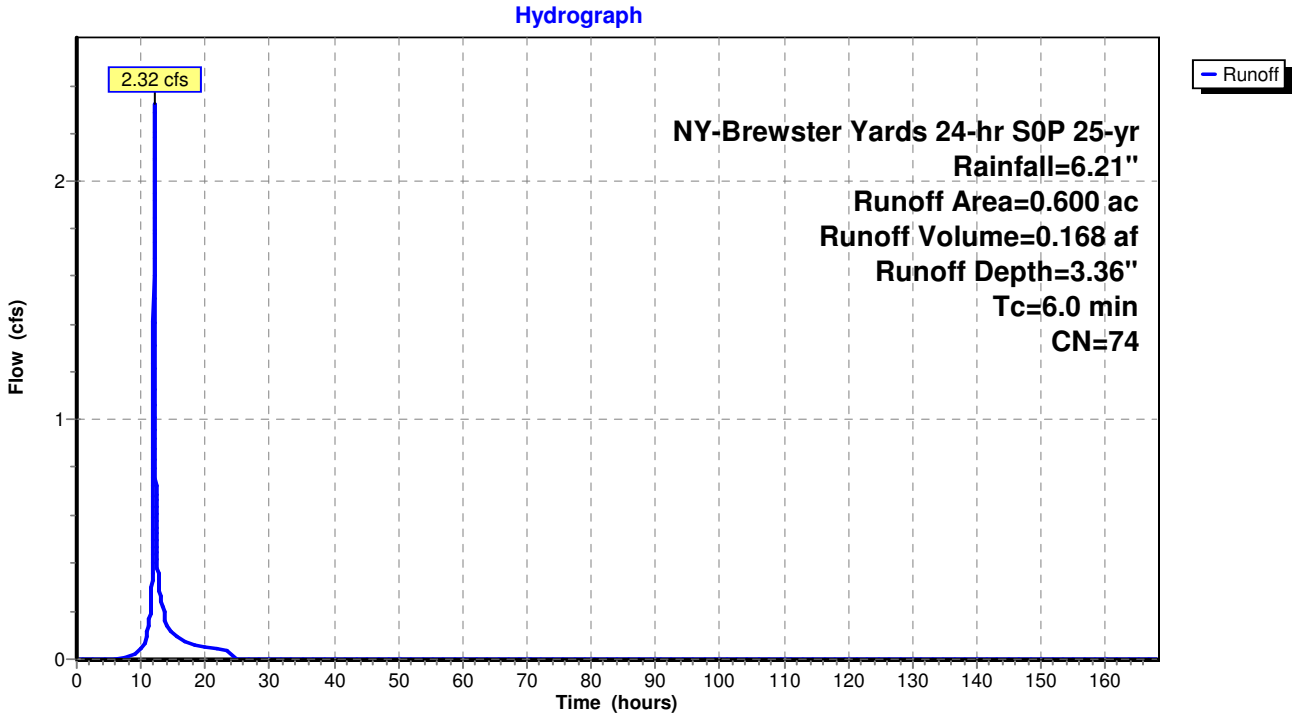
Runoff = 2.32 cfs @ 12.04 hrs, Volume= 0.168 af, Depth= 3.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

Area (ac)	CN	Description
0.600	74	>75% Grass cover, Good, HSG C
0.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.4S: North Lower Detention



Summary for Subcatchment 1.5S: North Untreated

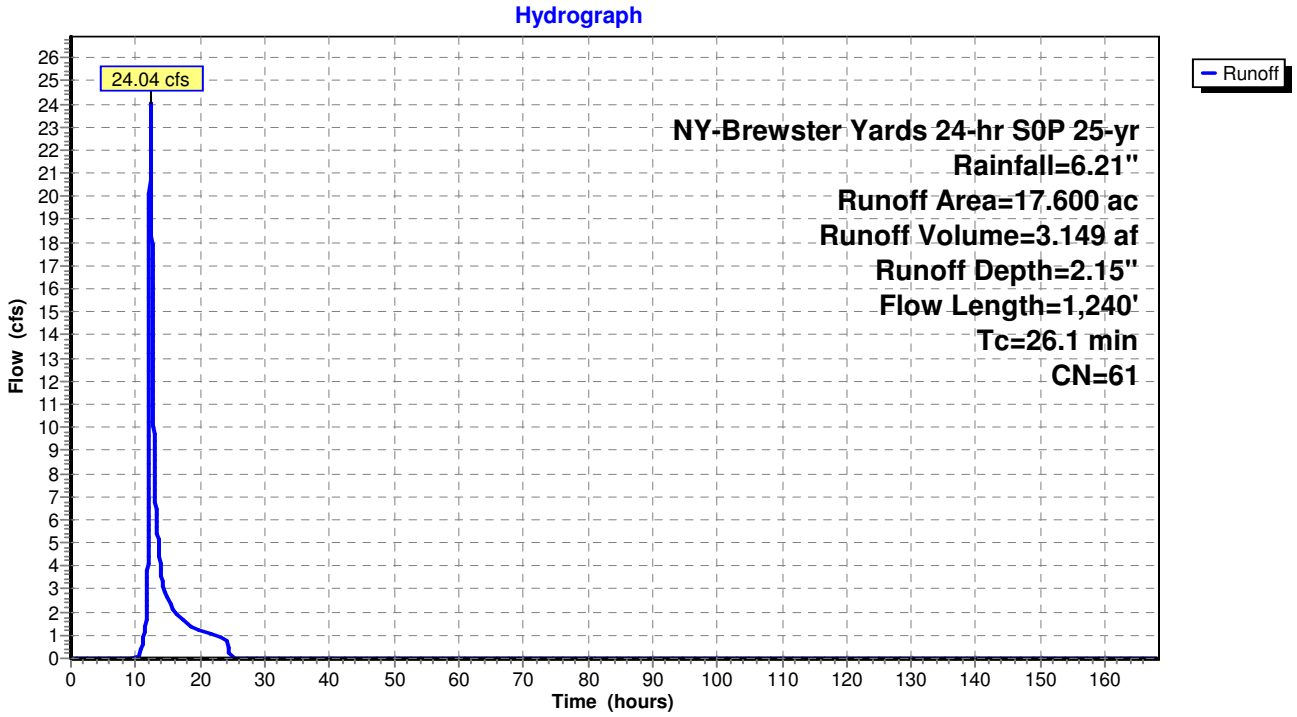
Runoff = 24.04 cfs @ 12.33 hrs, Volume= 3.149 af, Depth= 2.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

Area (ac)	CN	Description
10.300	55	Woods, Good, HSG B
5.800	70	Woods, Good, HSG C
0.200	77	Woods, Good, HSG D
0.300	61	>75% Grass cover, Good, HSG B
1.000	74	>75% Grass cover, Good, HSG C
17.600	61	Weighted Average
17.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0300	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
0.5	60	0.1330	1.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.2	200	0.2900	2.69		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	150	0.0930	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	160	0.2875	2.68		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.4	350	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	220	0.1100	4.39	21.97	**Channel Flow,** Area= 5.0 sf Perim= 8.3' r= 0.60' n= 0.080 Earth, long dense weeds
26.1	1,240	Total			

Subcatchment 1.5S: North Untreated



Summary for Subcatchment 2.1S: Building & Fields (Piped)

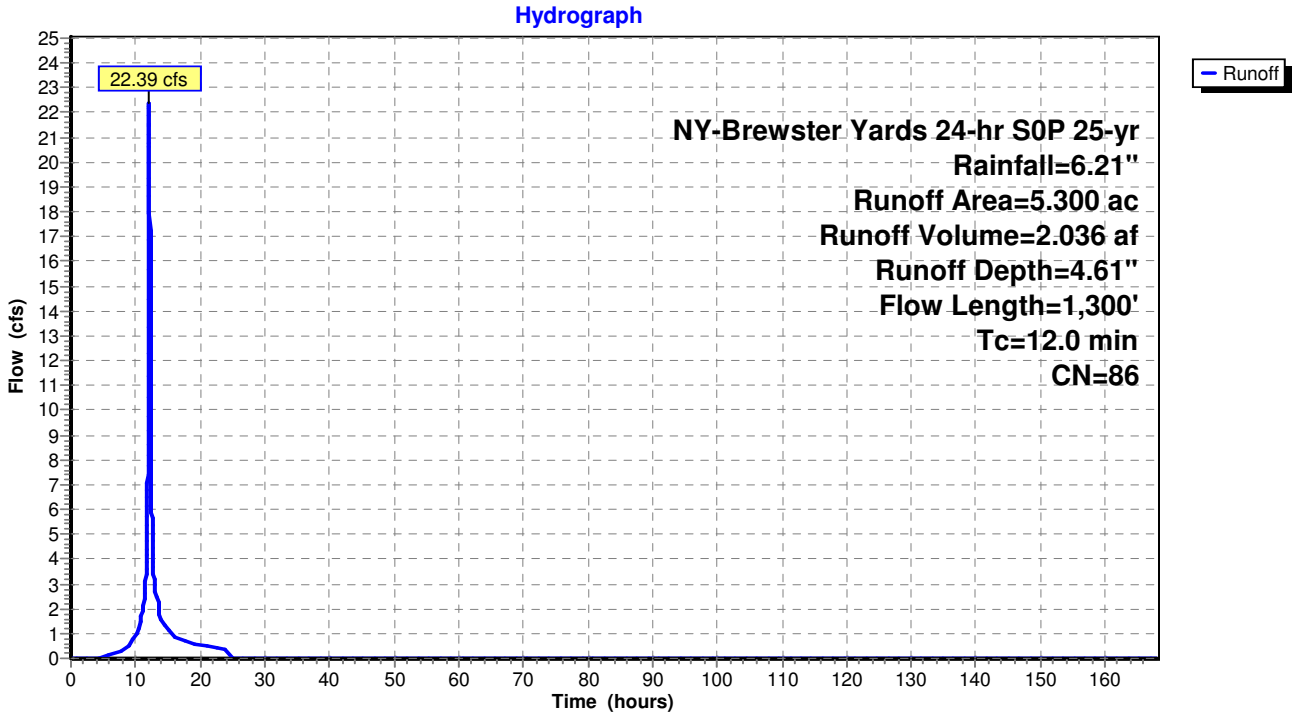
Runoff = 22.39 cfs @ 12.12 hrs, Volume= 2.036 af, Depth= 4.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

	Area (ac)	CN	Description
*	2.700	98	Impervious
*	1.400	86	Field Turf
	1.200	61	>75% Grass cover, Good, HSG B
	5.300	86	Weighted Average
	2.600		49.06% Pervious Area
	2.700		50.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0300	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"
1.2	150	0.0200	2.12		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	250	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.9	800	0.0412	14.62	45.92	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
12.0	1,300	Total			

Subcatchment 2.1S: Building & Fields (Piped)



Summary for Subcatchment 2.2S: Entrance Infiltration Basin

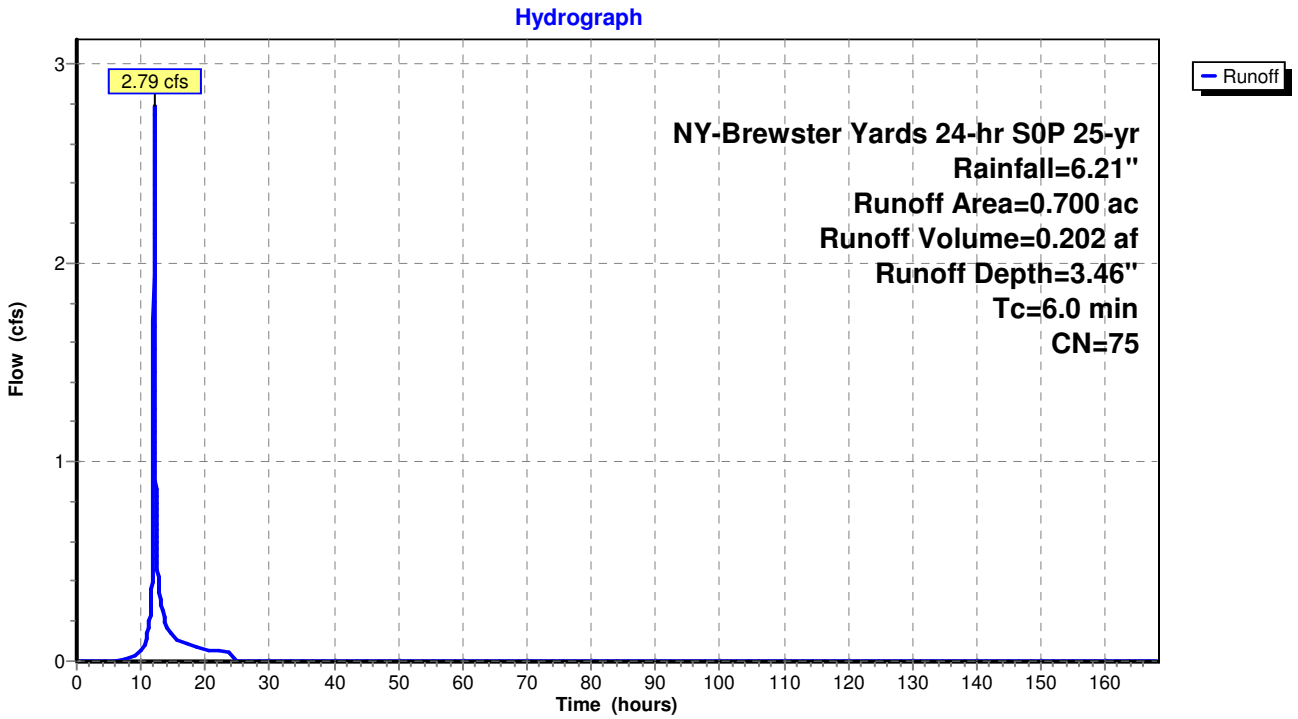
Runoff = 2.79 cfs @ 12.04 hrs, Volume= 0.202 af, Depth= 3.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

Area (ac)	CN	Description
0.200	61	>75% Grass cover, Good, HSG B
0.500	80	>75% Grass cover, Good, HSG D
0.700	75	Weighted Average
0.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.2S: Entrance Infiltration Basin



Summary for Subcatchment 2.3S: Fields & Parking (Piped)

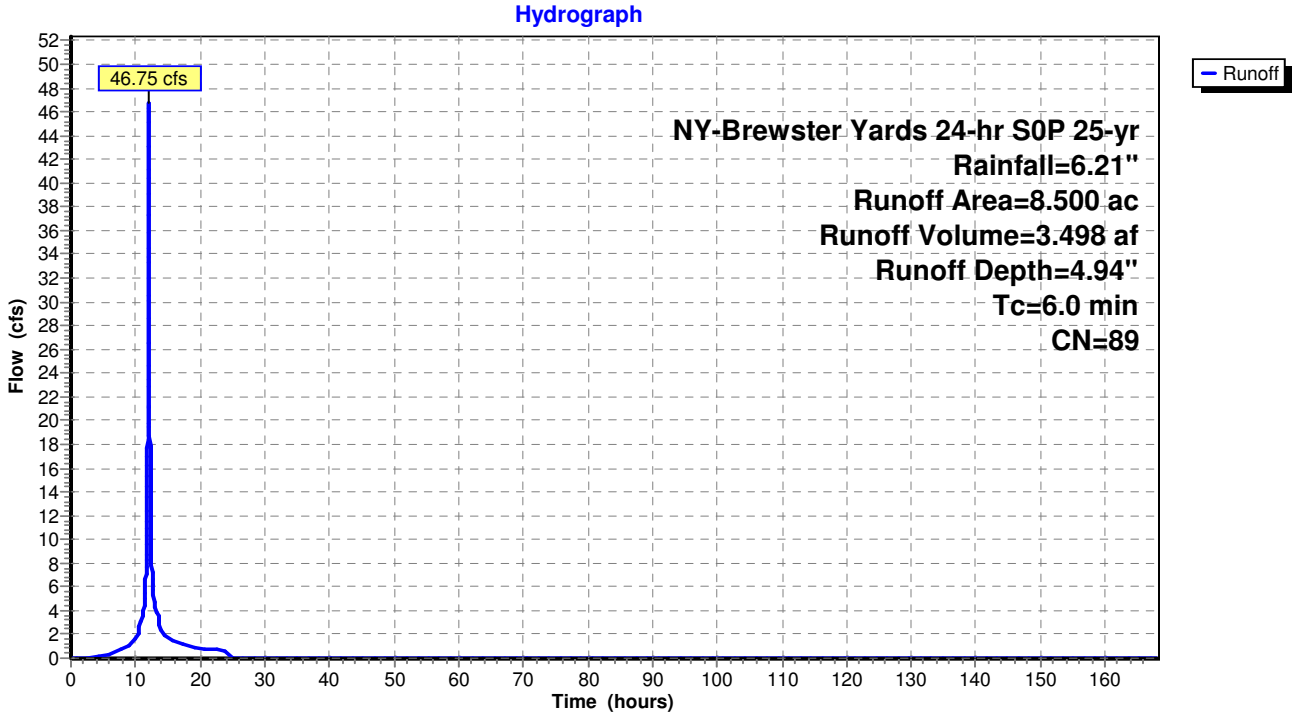
Runoff = 46.75 cfs @ 12.04 hrs, Volume= 3.498 af, Depth= 4.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

	Area (ac)	CN	Description
*	4.700	98	Impervious
*	2.400	86	Filed Turf
	1.400	61	>75% Grass cover, Good, HSG B
	8.500	89	Weighted Average
	3.800		44.71% Pervious Area
	4.700		55.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.3S: Fields & Parking (Piped)



Summary for Subcatchment 2.4S: South Showcase Field (Piped)

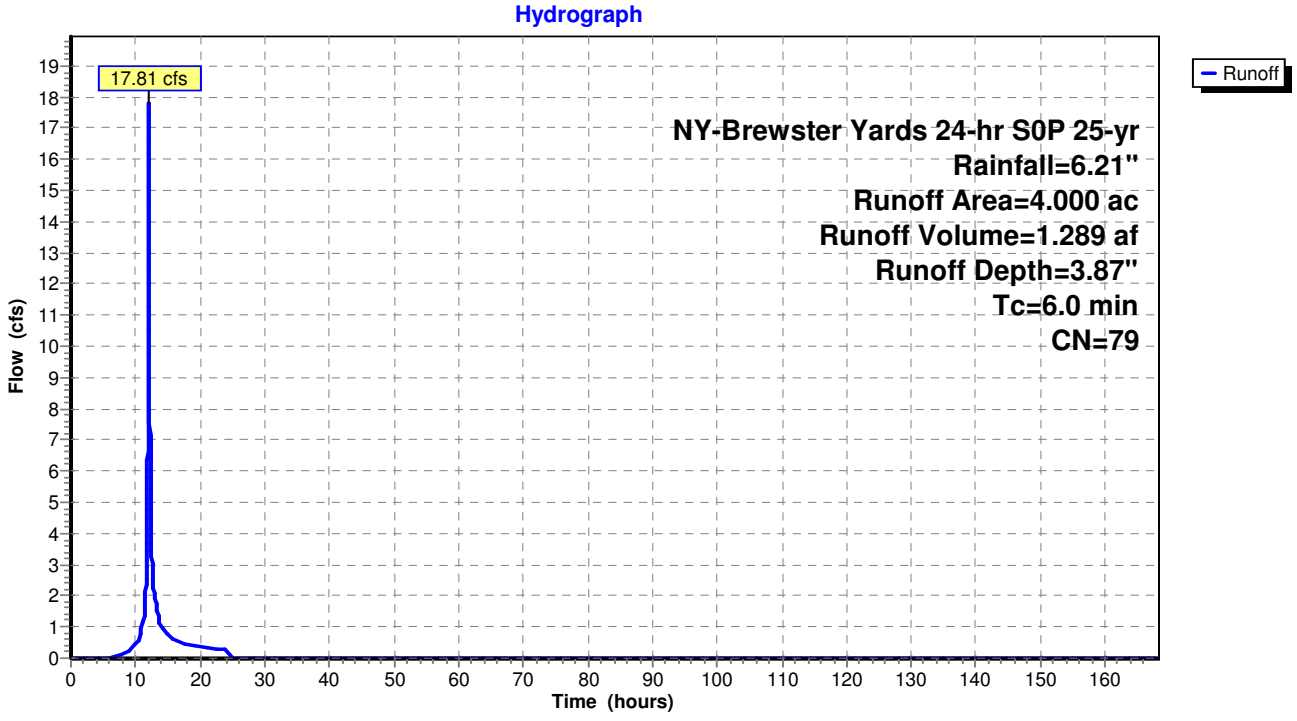
Runoff = 17.81 cfs @ 12.04 hrs, Volume= 1.289 af, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

	Area (ac)	CN	Description
*	0.300	98	Impervious
*	2.500	86	Filed Turf
	1.200	61	>75% Grass cover, Good, HSG B
	4.000	79	Weighted Average
	3.700		92.50% Pervious Area
	0.300		7.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.4S: South Showcase Field (Piped)



Summary for Subcatchment 2.5S: South Detention Basin

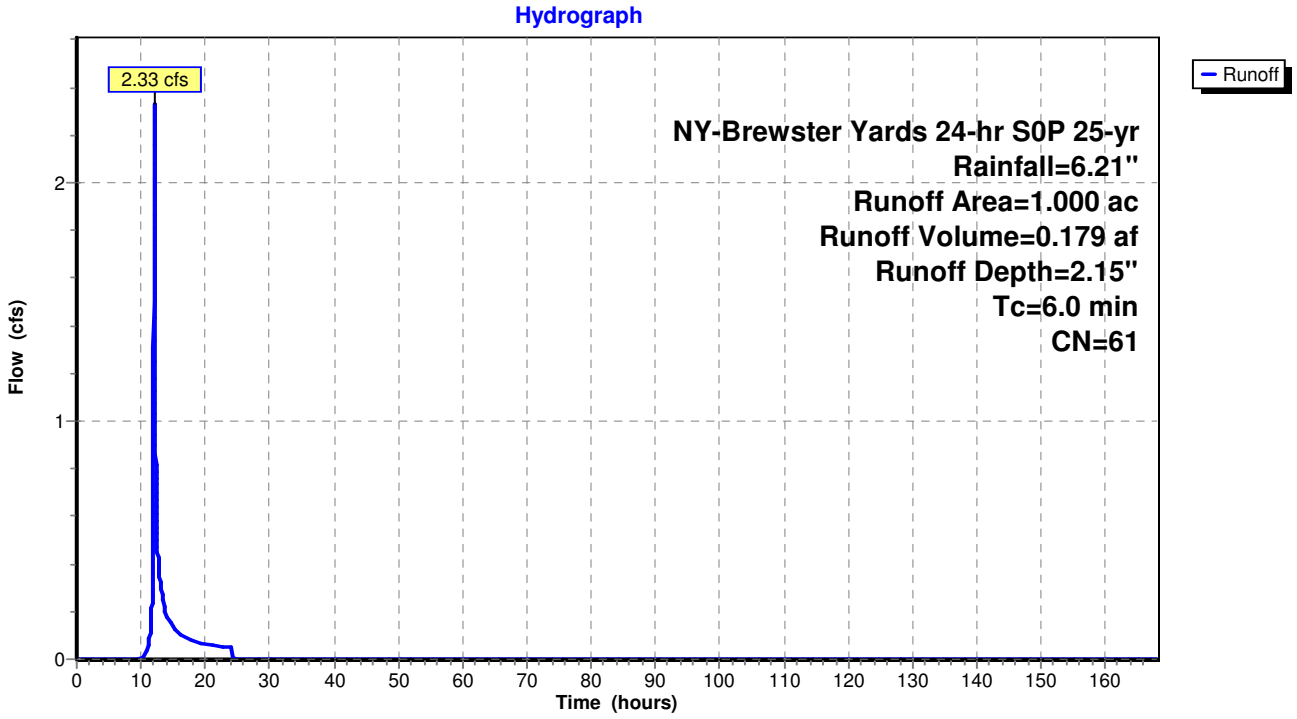
Runoff = 2.33 cfs @ 12.05 hrs, Volume= 0.179 af, Depth= 2.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

Area (ac)	CN	Description
1.000	61	>75% Grass cover, Good, HSG B
1.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.5S: South Detention Basin



Summary for Subcatchment 2.6S: South Upper Pond

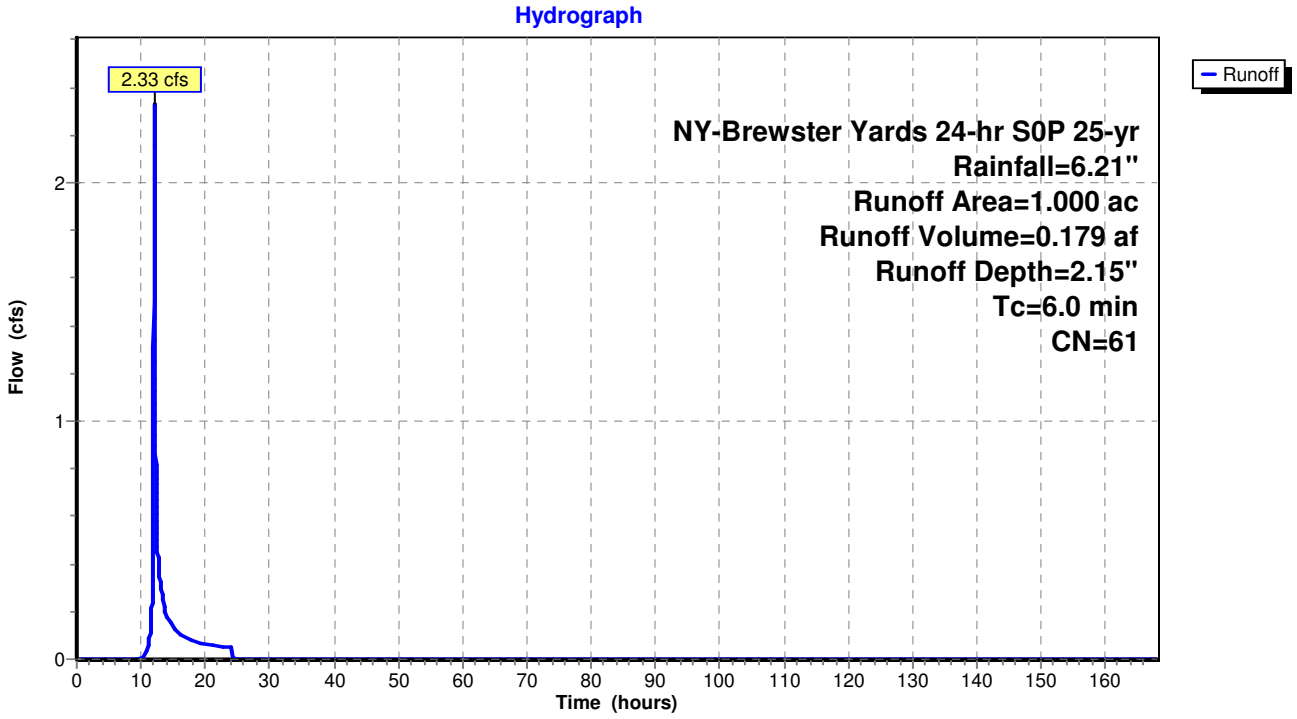
Runoff = 2.33 cfs @ 12.05 hrs, Volume= 0.179 af, Depth= 2.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

Area (ac)	CN	Description
1.000	61	>75% Grass cover, Good, HSG B
1.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.6S: South Upper Pond



Summary for Subcatchment 2.7S: South Lower Pond

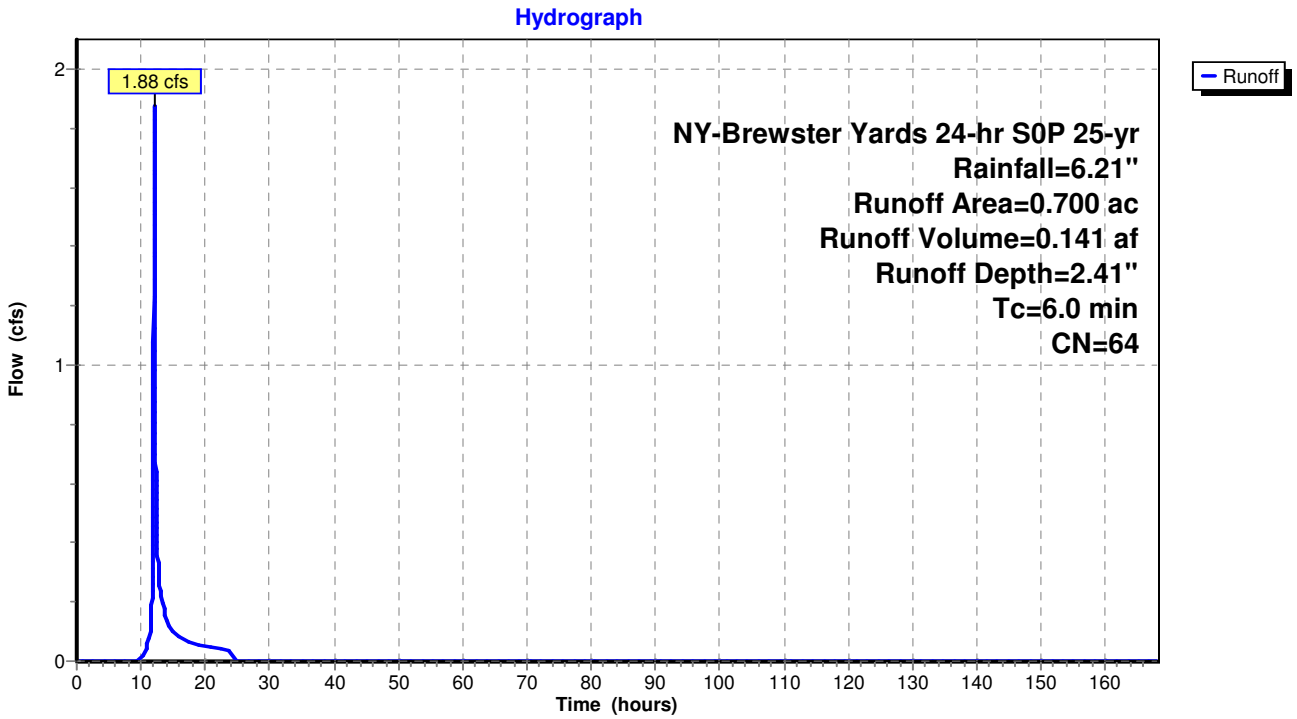
Runoff = 1.88 cfs @ 12.05 hrs, Volume= 0.141 af, Depth= 2.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

Area (ac)	CN	Description
0.600	61	>75% Grass cover, Good, HSG B
0.100	80	>75% Grass cover, Good, HSG D
0.700	64	Weighted Average
0.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.7S: South Lower Pond



Summary for Subcatchment 2.8S: South Untreated

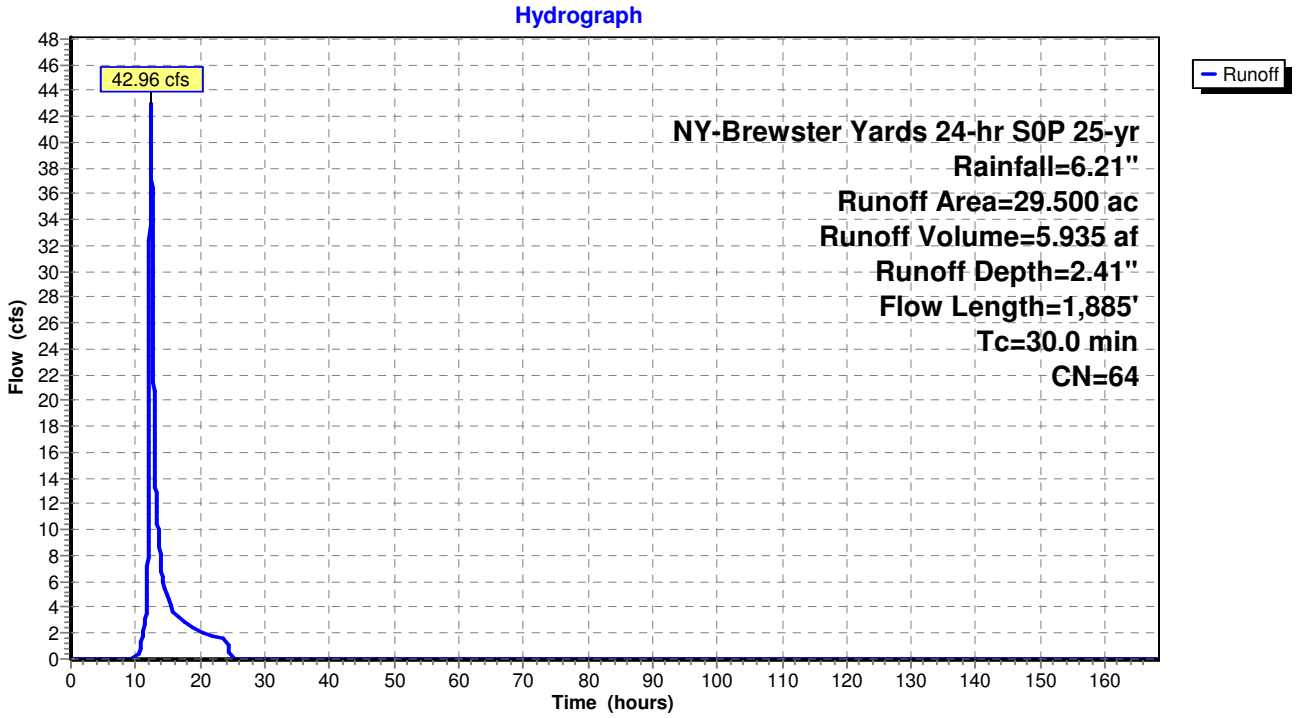
Runoff = 42.96 cfs @ 12.37 hrs, Volume= 5.935 af, Depth= 2.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 25-yr Rainfall=6.21"

Area (ac)	CN	Description
14.800	55	Woods, Good, HSG B
0.100	70	Woods, Good, HSG C
10.300	77	Woods, Good, HSG D
4.100	61	>75% Grass cover, Good, HSG B
0.200	80	>75% Grass cover, Good, HSG D
29.500	64	Weighted Average
29.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.3	100	0.0240	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
7.8	885	0.1430	1.89		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.9	900	0.0500	5.09	71.20	**Channel Flow,** Area= 14.0 sf Perim= 45.0' r= 0.31' n= 0.030 Earth, grassed & winding
30.0	1,885	Total			

Subcatchment 2.8S: South Untreated

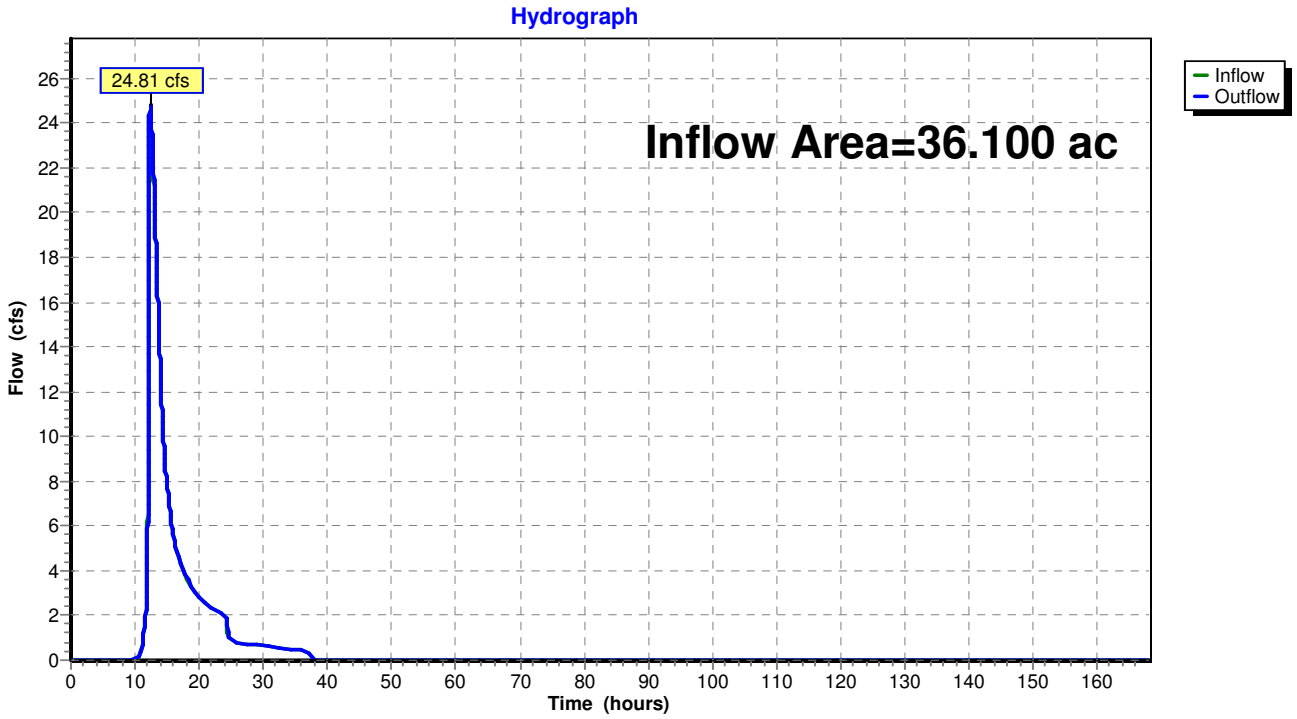


Summary for Reach DL 1:

Inflow Area = 36.100 ac, 8.31% Impervious, Inflow Depth = 2.46" for 25-yr event
Inflow = 24.81 cfs @ 12.33 hrs, Volume= 7.404 af
Outflow = 24.81 cfs @ 12.34 hrs, Volume= 7.404 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach DL 1:

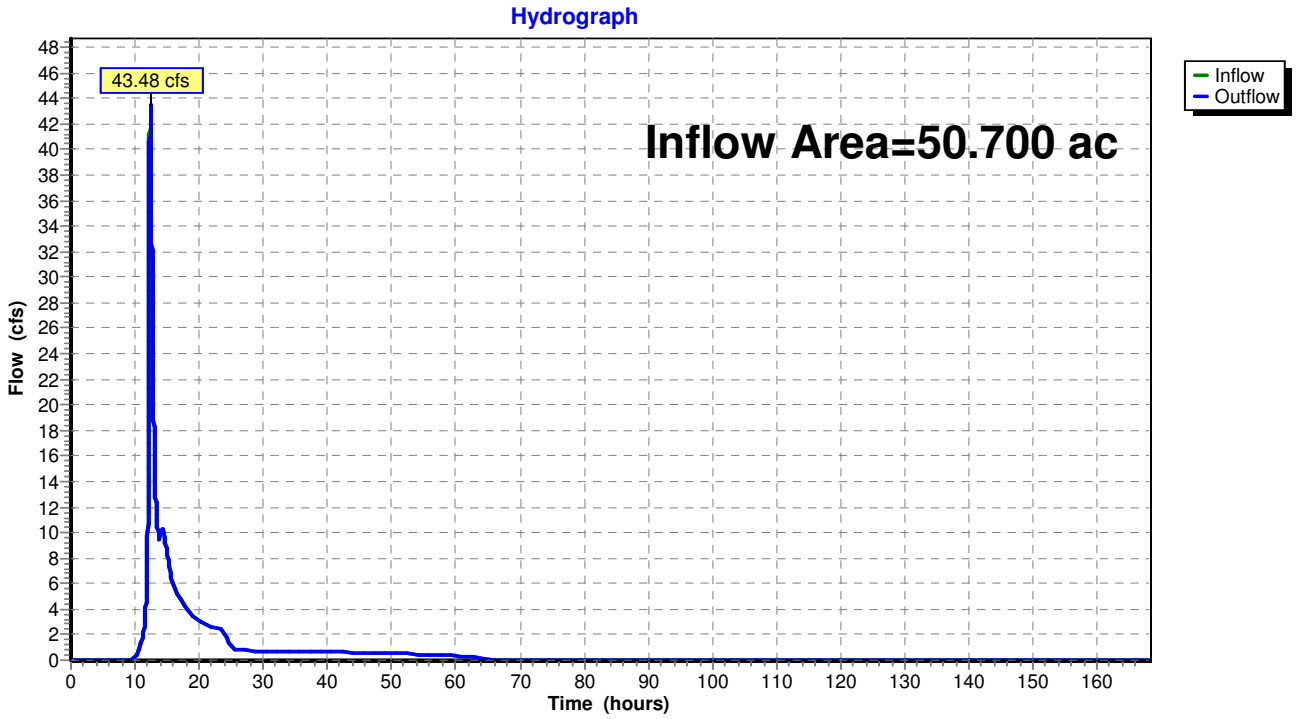


Summary for Reach DL 2:

Inflow Area = 50.700 ac, 15.19% Impervious, Inflow Depth = 2.20" for 25-yr event
Inflow = 43.48 cfs @ 12.37 hrs, Volume= 9.286 af
Outflow = 43.48 cfs @ 12.38 hrs, Volume= 9.286 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach DL 2:



Summary for Pond 1.2 EDB: North Detention Basin, Orifice, & Weir

Inflow Area = 16.900 ac, 17.75% Impervious, Inflow Depth = 4.41" for 25-yr event
Inflow = 76.68 cfs @ 12.07 hrs, Volume= 6.206 af
Outflow = 29.90 cfs @ 12.30 hrs, Volume= 6.206 af, Atten= 61%, Lag= 13.8 min
Primary = 29.90 cfs @ 12.30 hrs, Volume= 6.206 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 668.41' @ 12.30 hrs Surf.Area= 29,074 sf Storage= 113,160 cf
Flood Elev= 669.50' Surf.Area= 34,100 sf Storage= 147,015 cf

Plug-Flow detention time= 876.0 min calculated for 6.206 af (100% of inflow)
Center-of-Mass det. time= 875.9 min (1,686.6 - 810.6)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	240 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 600 cf Overall x 40.0% Voids
#2	660.00'	164,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		164,340 cf	Total Available Storage

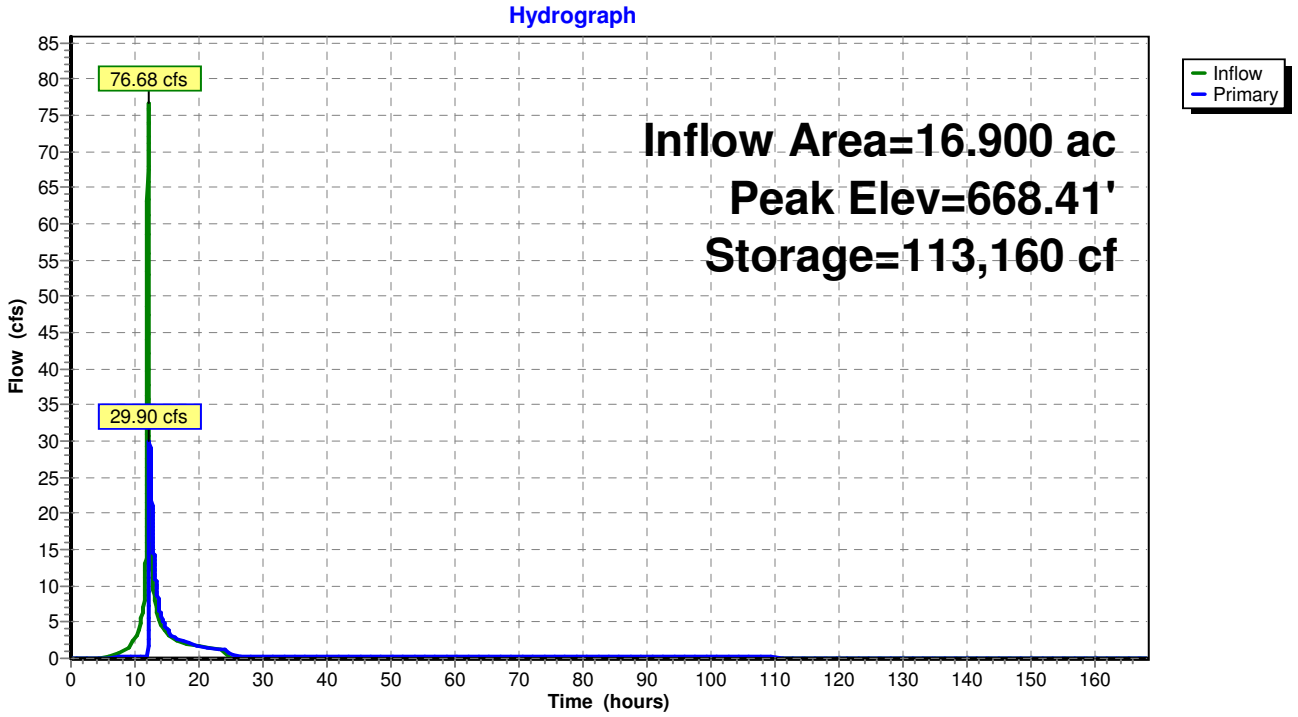
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
659.00	600	0	0
660.00	600	600	600

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
660.00	1,900	0	0
662.00	6,000	7,900	7,900
664.00	11,800	17,800	25,700
666.00	18,800	30,600	56,300
668.00	26,600	45,400	101,700
670.00	35,800	62,400	164,100

Device	Routing	Invert	Outlet Devices
#1	Primary	659.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	666.70'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=29.89 cfs @ 12.30 hrs HW=668.41' TW=661.87' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.27 cfs @ 12.31 fps)
└—**2=Broad-Crested Rectangular Weir** (Weir Controls 29.63 cfs @ 4.34 fps)

Pond 1.2 EDB: North Detention Basin, Orifice, & Weir



Stage-Area-Storage for Pond 1.2 EDB: North Detention Basin, Orifice, & Weir

Elevation (feet)	Storage (cubic-feet)
659.00	0
659.15	36
659.30	72
659.45	108
659.60	144
659.75	180
659.90	216
660.05	338
660.20	661
660.35	1,031
660.50	1,446
660.65	1,908
660.80	2,416
660.95	2,970
661.10	3,570
661.25	4,217
661.40	4,909
661.55	5,648
661.70	6,432
661.85	7,263
662.00	8,140
662.15	9,073
662.30	10,070
662.45	11,134
662.60	12,262
662.75	13,456
662.90	14,714
663.05	16,039
663.20	17,428
663.35	18,883
663.50	20,403
663.65	21,988
663.80	23,638
663.95	25,354
664.10	27,138
664.25	28,999
664.40	30,940
664.55	32,959
664.70	35,058
664.85	37,234
665.00	39,490
665.15	41,824
665.30	44,237
665.45	46,729
665.60	49,300
665.75	51,949
665.90	54,677
666.05	57,485
666.20	60,378
666.35	63,359
666.50	66,428
666.65	69,584
666.80	72,828
666.95	76,160
667.10	79,580
667.25	83,087
667.40	86,682
667.55	90,365
667.70	94,136
667.85	97,994
668.00	101,940
668.15	105,982
668.30	110,127
668.45	114,376
668.60	118,728
668.75	123,184
668.90	127,743
669.05	132,406
669.20	137,172
669.35	142,042
669.50	147,015
669.65	152,092
669.80	157,272
669.95	**162,556**

Summary for Pond 1.3 IB: North Infiltration

Inflow Area = 17.900 ac, 16.76% Impervious, Inflow Depth = 1.61" for 25-yr event
Inflow = 4.20 cfs @ 12.04 hrs, Volume= 2.399 af
Outflow = 0.20 cfs @ 91.43 hrs, Volume= 2.399 af, Atten= 95%, Lag= 4,763.1 min
Discarded = 0.20 cfs @ 91.43 hrs, Volume= 2.399 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 656.32' @ 91.43 hrs Surf.Area= 17,103 sf Storage= 34,731 cf
Flood Elev= 659.00' Surf.Area= 22,300 sf Storage= 87,500 cf

Plug-Flow detention time= 2,128.6 min calculated for 2.399 af (100% of inflow)
Center-of-Mass det. time= 2,128.6 min (5,072.5 - 2,943.8)

Volume	Invert	Avail.Storage	Storage Description
#1	654.00'	110,800 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

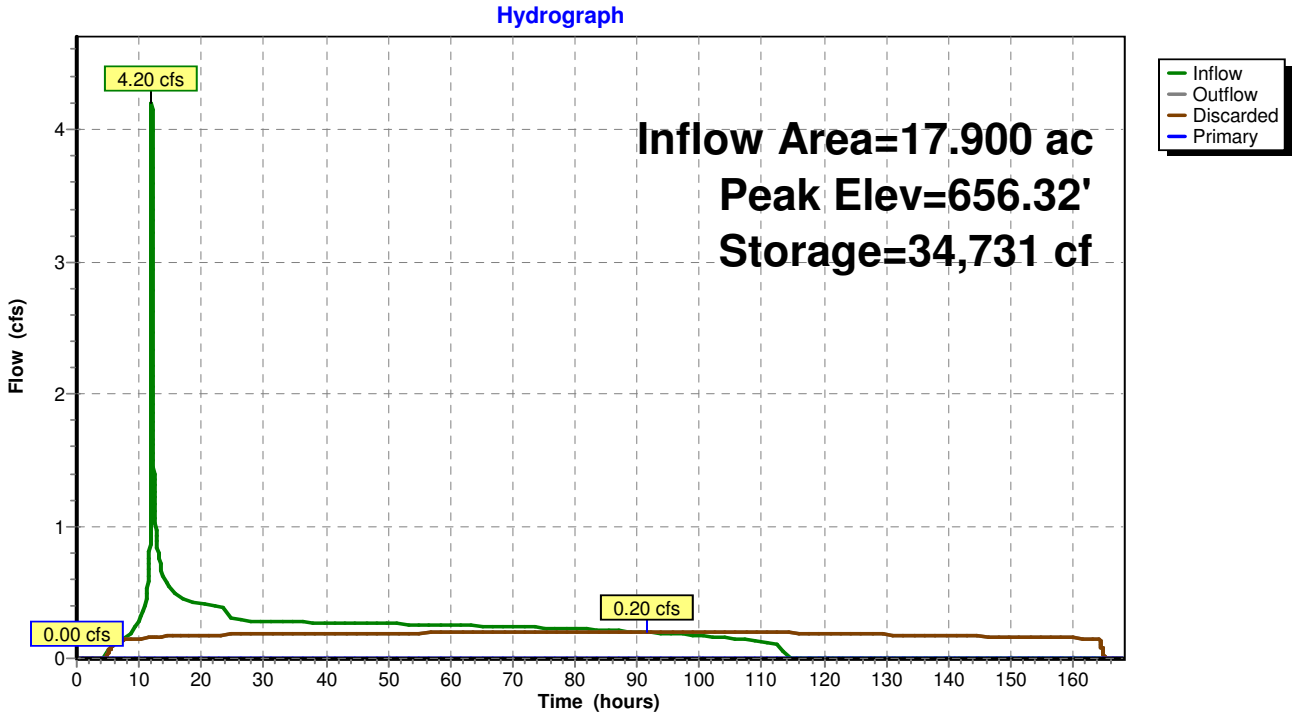
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
654.00	12,900	0	0
656.00	16,500	29,400	29,400
658.00	20,300	36,800	66,200
660.00	24,300	44,600	110,800

Device	Routing	Invert	Outlet Devices
#1	Discarded	654.00'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	658.90'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.20 cfs @ 91.43 hrs HW=656.32' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.20 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=654.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.3 IB: North Infiltration



Stage-Area-Storage for Pond 1.3 IB: North Infiltration

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
654.00	12,900	0
654.10	13,080	1,299
654.20	13,260	2,616
654.30	13,440	3,951
654.40	13,620	5,304
654.50	13,800	6,675
654.60	13,980	8,064
654.70	14,160	9,471
654.80	14,340	10,896
654.90	14,520	12,339
655.00	14,700	13,800
655.10	14,880	15,279
655.20	15,060	16,776
655.30	15,240	18,291
655.40	15,420	19,824
655.50	15,600	21,375
655.60	15,780	22,944
655.70	15,960	24,531
655.80	16,140	26,136
655.90	16,320	27,759
656.00	16,500	29,400
656.10	16,690	31,060
656.20	16,880	32,738
656.30	17,070	34,435
656.40	17,260	36,152
656.50	17,450	37,888
656.60	17,640	39,642
656.70	17,830	41,416
656.80	18,020	43,208
656.90	18,210	45,019
657.00	18,400	46,850
657.10	18,590	48,700
657.20	18,780	50,568
657.30	18,970	52,455
657.40	19,160	54,362
657.50	19,350	56,288
657.60	19,540	58,232
657.70	19,730	60,196
657.80	19,920	62,178
657.90	20,110	64,179
658.00	20,300	66,200
658.10	20,500	68,240
658.20	20,700	70,300
658.30	20,900	72,380
658.40	21,100	74,480
658.50	21,300	76,600
658.60	21,500	78,740
658.70	21,700	80,900
658.80	21,900	83,080
658.90	22,100	85,280
659.00	22,300	87,500
659.10	22,500	89,740
659.20	22,700	92,000
659.30	22,900	94,280
659.40	23,100	96,580
659.50	23,300	98,900
659.60	23,500	101,240
659.70	23,700	103,600
659.80	23,900	105,980
659.90	24,100	108,380
660.00	**24,300**	**110,800**

Summary for Pond 1.4 EDB: North Lower Detention Basin

Inflow Area = 0.600 ac, 0.00% Impervious, Inflow Depth = 85.10" for 25-yr event
Inflow = 30.11 cfs @ 12.31 hrs, Volume= 4.255 af
Outflow = 13.10 cfs @ 13.06 hrs, Volume= 4.255 af, Atten= 56%, Lag= 45.0 min
Primary = 13.10 cfs @ 13.06 hrs, Volume= 4.255 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Starting Elev= 594.00' Surf.Area= 0 sf Storage= 0 cf
Peak Elev= 657.16' @ 13.06 hrs Surf.Area= 14,572 sf Storage= 54,742 cf
Flood Elev= 659.50' Surf.Area= 17,950 sf Storage= 90,758 cf

Plug-Flow detention time= 189.0 min calculated for 4.255 af (100% of inflow)
Center-of-Mass det. time= 189.1 min (1,078.1 - 889.0)

Volume	Invert	Avail.Storage	Storage Description
#1	651.00'	320 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	652.00'	99,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		99,520 cf	Total Available Storage

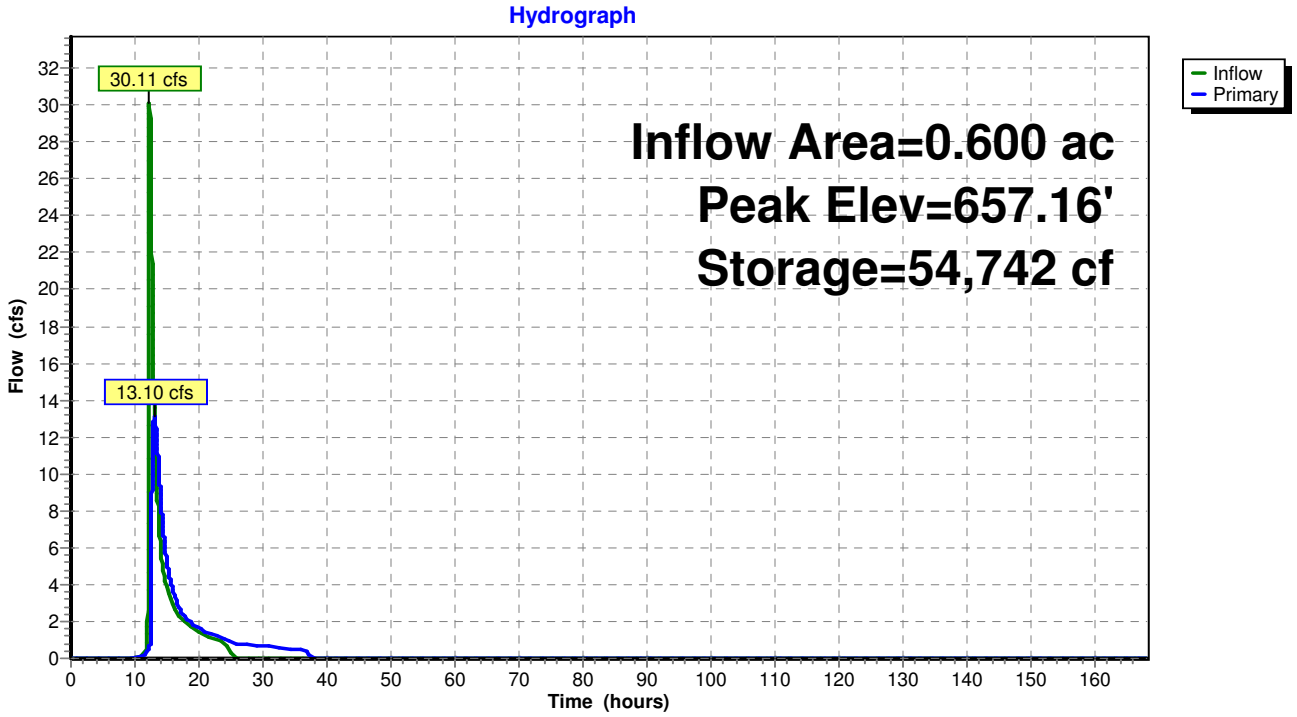
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
651.00	800	0	0
652.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
652.00	7,500	0	0
654.00	9,800	17,300	17,300
656.00	12,200	22,000	39,300
658.00	14,900	27,100	66,400
660.00	17,900	32,800	99,200

Device	Routing	Invert	Outlet Devices
#1	Primary	651.00'	**36.0" Round Culvert** L= 600.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 651.00' / 640.00' S= 0.0183 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	654.80'	**1.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	651.00'	**4.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=13.10 cfs @ 13.06 hrs HW=657.16' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 13.10 cfs of 73.51 cfs potential flow)
  ├─**2=Broad-Crested Rectangular Weir** (Weir Controls 12.07 cfs @ 5.11 fps)
  └─**3=Orifice/Grate** (Orifice Controls 1.03 cfs @ 11.79 fps)

Pond 1.4 EDB: North Lower Detention Basin



Stage-Area-Storage for Pond 1.4 EDB: North Lower Detention Basin

Elevation (feet)	Storage (cubic-feet)
651.00	0
651.10	32
651.20	64
651.30	96
651.40	128
651.50	160
651.60	192
651.70	224
651.80	256
651.90	288
652.00	320
652.10	1,076
652.20	1,843
652.30	2,622
652.40	3,412
652.50	4,214
652.60	5,027
652.70	5,852
652.80	6,688
652.90	7,536
653.00	8,395
653.10	9,266
653.20	10,148
653.30	11,042
653.40	11,947
653.50	12,864
653.60	13,792
653.70	14,732
653.80	15,683
653.90	16,646
654.00	17,620
654.10	18,606
654.20	19,604
654.30	20,614
654.40	21,636
654.50	22,670
654.60	23,716
654.70	24,774
654.80	25,844
654.90	26,926
655.00	28,020
655.10	29,126
655.20	30,244
655.30	31,374
655.40	32,516
655.50	33,670
655.60	34,836
655.70	36,014
655.80	37,204
655.90	38,406
656.00	39,620
656.10	40,847
656.20	42,087
656.30	43,341
656.40	44,608
656.50	45,889
656.60	47,183
656.70	48,491
656.80	49,812
656.90	51,147
657.00	52,495
657.10	53,857
657.20	55,232
657.30	56,621
657.40	58,023
657.50	59,439
657.60	60,868
657.70	62,311
657.80	63,767
657.90	65,237
658.00	66,720
658.10	68,218
658.20	69,730
658.30	71,257
658.40	72,800
658.50	74,358
658.60	75,930
658.70	77,518
658.80	79,120
658.90	80,737
659.00	82,370
659.10	84,018
659.20	85,680
659.30	87,357
659.40	89,050
659.50	90,758
659.60	92,480
659.70	94,218
659.80	95,970
659.90	97,737
660.00	**99,520**

Summary for Pond 2.2 EDB: Entrance Detention Basin

Inflow Area = 6.000 ac, 45.00% Impervious, Inflow Depth = 4.48" for 25-yr event
Inflow = 24.53 cfs @ 12.12 hrs, Volume= 2.238 af
Outflow = 7.28 cfs @ 12.48 hrs, Volume= 2.238 af, Atten= 70%, Lag= 21.4 min
Primary = 7.28 cfs @ 12.48 hrs, Volume= 2.238 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 672.15' @ 12.48 hrs Surf.Area= 10,893 sf Storage= 41,188 cf
Flood Elev= 673.00' Surf.Area= 12,550 sf Storage= 50,895 cf

Plug-Flow detention time= 414.5 min calculated for 2.238 af (100% of inflow)
Center-of-Mass det. time= 414.5 min (1,225.5 - 811.0)

Volume	Invert	Avail.Storage	Storage Description
#1	663.00'	120 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 300 cf Overall x 40.0% Voids
#2	664.00'	64,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		64,120 cf	Total Available Storage

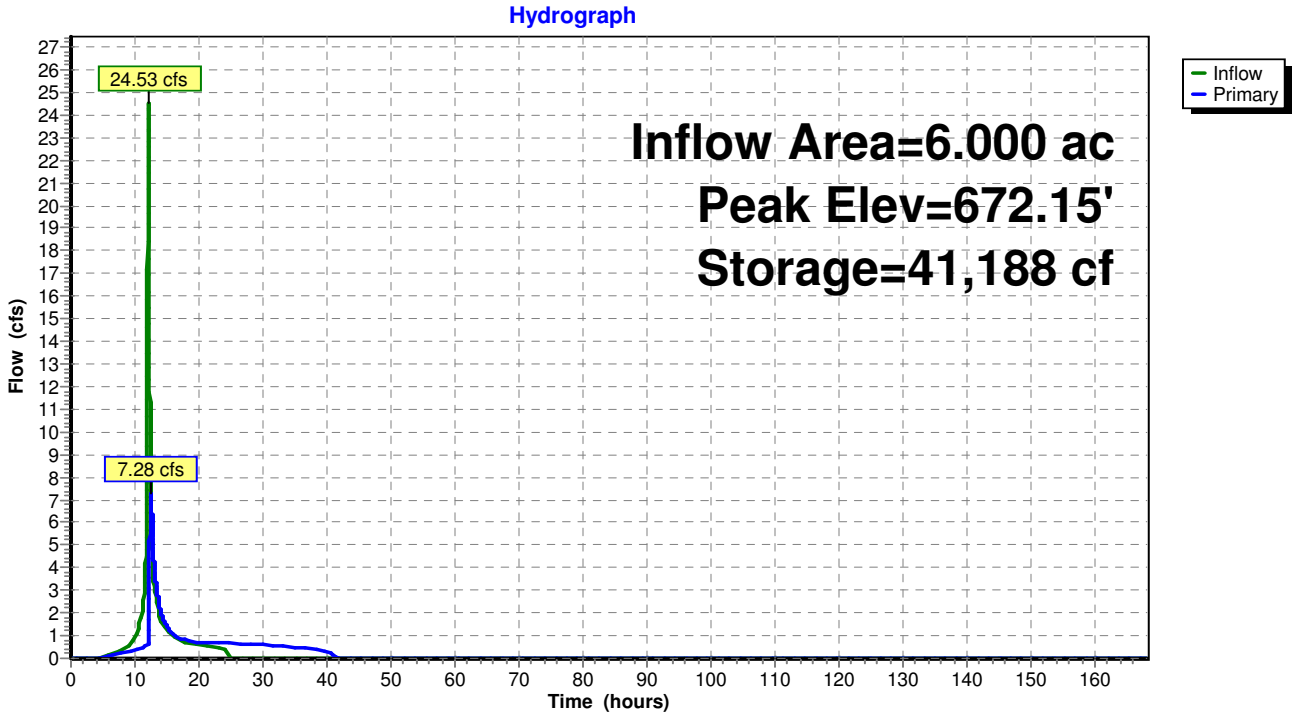
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
663.00	300	0	0
664.00	300	300	300

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
664.00	1,000	0	0
666.00	2,500	3,500	3,500
668.00	4,500	7,000	10,500
670.00	7,100	11,600	22,100
672.00	10,300	17,400	39,500
674.00	14,200	24,500	64,000

Device	Routing	Invert	Outlet Devices
#1	Primary	663.00'	**18.0" Round Culvert** L= 160.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 663.00' / 656.00' S= 0.0437 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	663.00'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	671.50'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=7.28 cfs @ 12.48 hrs HW=672.15' TW=618.63' (Dynamic Tailwater)
- **1=Culvert** (Passes 7.28 cfs of 24.66 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.71 cfs @ 14.46 fps)
  - **3=Broad-Crested Rectangular Weir** (Weir Controls 6.57 cfs @ 2.53 fps)

Pond 2.2 EDB: Entrance Detention Basin



Stage-Area-Storage for Pond 2.2 EDB: Entrance Detention Basin

Elevation (feet)	Storage (cubic-feet)
663.00	0
663.15	18
663.30	36
663.45	54
663.60	72
663.75	90
663.90	108
664.05	171
664.20	335
664.35	516
664.50	714
664.65	928
664.80	1,160
664.95	1,408
665.10	1,674
665.25	1,956
665.40	2,255
665.55	2,571
665.70	2,904
665.85	3,253
666.00	3,620
666.15	4,006
666.30	4,415
666.45	4,846
666.60	5,300
666.75	5,776
666.90	6,275
667.05	6,796
667.20	7,340
667.35	7,906
667.50	8,495
667.65	9,106
667.80	9,740
667.95	10,396
668.10	11,077
668.25	11,786
668.40	12,524
668.55	13,292
668.70	14,089
668.85	14,915
669.00	15,770
669.15	16,655
669.30	17,568
669.45	18,512
669.60	19,484
669.75	20,486
669.90	21,516
670.05	22,577
670.20	23,672
670.35	24,803
670.50	25,970
670.65	27,173
670.80	28,412
670.95	29,687
671.10	30,998
671.25	32,345
671.40	33,728
671.55	35,147
671.70	36,602
671.85	38,093
672.00	39,620
672.15	41,187
672.30	42,798
672.45	44,452
672.60	46,151
672.75	47,893
672.90	49,680
673.05	51,510
673.20	53,384
673.35	55,302
673.50	57,264
673.65	59,269
673.80	61,319
673.95	**63,412**

Summary for Pond 2.5 EDB: South Detention Basin

Inflow Area = 13.500 ac, 37.04% Impervious, Inflow Depth = 4.41" for 25-yr event
Inflow = 66.87 cfs @ 12.04 hrs, Volume= 4.967 af
Outflow = 27.11 cfs @ 12.23 hrs, Volume= 4.967 af, Atten= 59%, Lag= 11.2 min
Primary = 27.11 cfs @ 12.23 hrs, Volume= 4.967 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 629.30' @ 12.23 hrs Surf.Area= 17,179 sf Storage= 90,278 cf
Flood Elev= 631.50' Surf.Area= 20,525 sf Storage= 130,014 cf

Plug-Flow detention time= 659.2 min calculated for 4.967 af (100% of inflow)
Center-of-Mass det. time= 659.0 min (1,462.5 - 803.5)

Volume	Invert	Avail.Storage	Storage Description
#1	620.00'	320 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	621.00'	139,750 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		140,070 cf	Total Available Storage

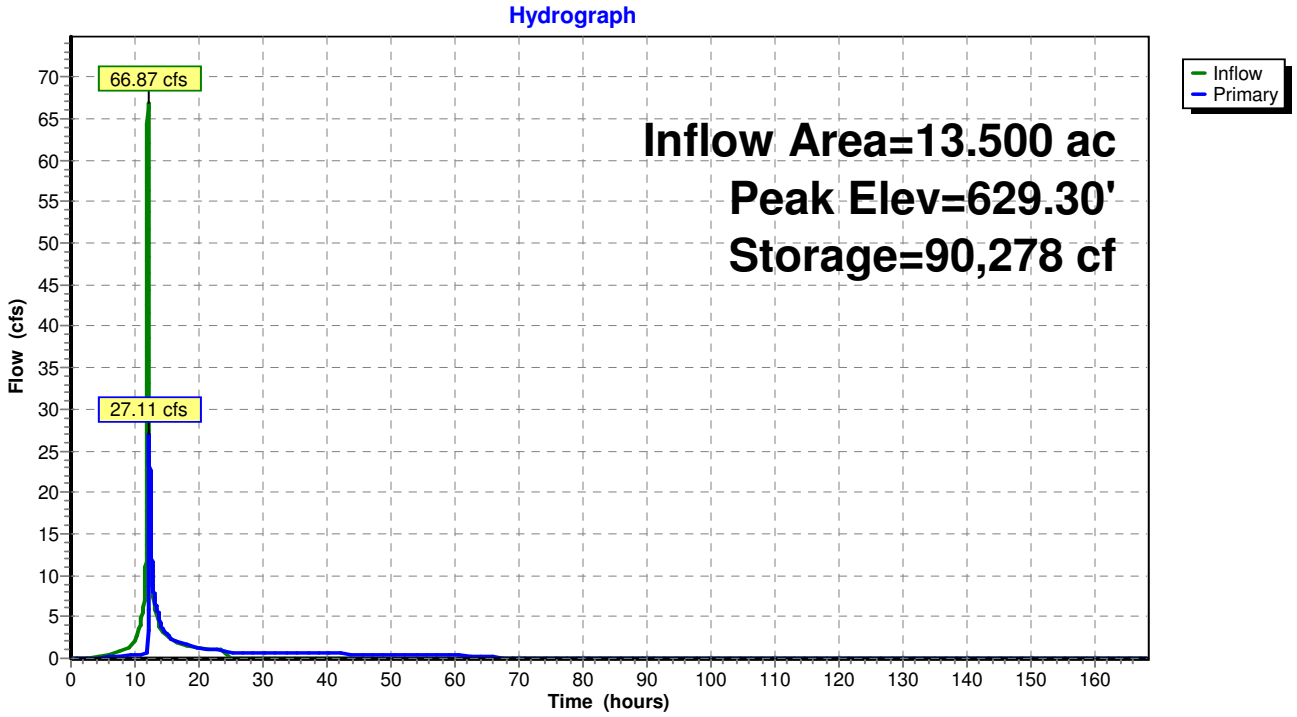
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
620.00	800	0	0
621.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
621.00	5,200	0	0
622.00	7,100	6,150	6,150
624.00	9,300	16,400	22,550
626.00	11,800	21,100	43,650
628.00	14,500	26,300	69,950
630.00	17,400	31,900	101,850
632.00	20,500	37,900	139,750

Device	Routing	Invert	Outlet Devices
#1	Primary	620.00'	**24.0" Round Culvert** L= 450.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 620.00' / 615.50' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	628.30'	**8.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	620.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=27.10 cfs @ 12.23 hrs HW=629.30' TW=618.78' (Dynamic Tailwater)
└─**1=Culvert** (Passes 27.10 cfs of 30.67 cfs potential flow)
  ├─**2=Broad-Crested Rectangular Weir** (Weir Controls 26.38 cfs @ 3.31 fps)
  └─**3=Orifice/Grate** (Orifice Controls 0.72 cfs @ 14.58 fps)

Pond 2.5 EDB: South Detention Basin



Stage-Area-Storage for Pond 2.5 EDB: South Detention Basin

Elevation (feet)	Storage (cubic-feet)
620.00	0
620.15	48
620.30	96
620.45	144
620.60	192
620.75	240
620.90	288
621.05	582
621.20	1,398
621.35	2,256
621.50	3,158
621.65	4,101
621.80	5,088
621.95	6,117
622.10	7,186
622.25	8,279
622.40	9,398
622.55	10,541
622.70	11,710
622.85	12,902
623.00	14,120
623.15	15,362
623.30	16,629
623.45	17,921
623.60	19,238
623.75	20,579
623.90	21,945
624.05	23,337
624.20	24,755
624.35	26,202
624.50	27,676
624.65	29,179
624.80	30,710
624.95	32,269
625.10	33,856
625.25	35,472
625.40	37,115
625.55	38,787
625.70	40,486
625.85	42,214
626.00	43,970
626.15	45,755
626.30	47,571
626.45	49,417
626.60	51,293
626.75	53,200
626.90	55,137
627.05	57,104
627.20	59,102
627.35	61,130
627.50	63,189
627.65	65,278
627.80	67,397
627.95	69,547
628.10	71,727
628.25	73,940
628.40	76,186
628.55	78,464
628.70	80,775
628.85	83,119
629.00	85,495
629.15	87,904
629.30	90,345
629.45	92,819
629.60	95,326
629.75	97,865
629.90	100,437
630.05	103,042
630.20	105,681
630.35	108,355
630.50	111,064
630.65	113,807
630.80	116,586
630.95	119,399
631.10	122,248
631.25	125,131
631.40	128,049
631.55	131,002
631.70	133,990
631.85	137,012
632.00	**140,070**

Summary for Pond 2.6 IB: South Upper Infiltration Basin

Inflow Area = 20.500 ac, 37.56% Impervious, Inflow Depth = 2.44" for 25-yr event
Inflow = 3.49 cfs @ 12.05 hrs, Volume= 4.173 af
Outflow = 3.08 cfs @ 12.16 hrs, Volume= 4.173 af, Atten= 12%, Lag= 6.9 min
Discarded = 3.08 cfs @ 12.16 hrs, Volume= 4.173 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 609.04' @ 12.16 hrs Surf.Area= 6,648 sf Storage= 266 cf
Flood Elev= 617.50' Surf.Area= 18,675 sf Storage= 104,556 cf

Plug-Flow detention time= 0.7 min calculated for 4.173 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (1,760.7 - 1,760.0)

Volume	Invert	Avail.Storage	Storage Description
#1	609.00'	114,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

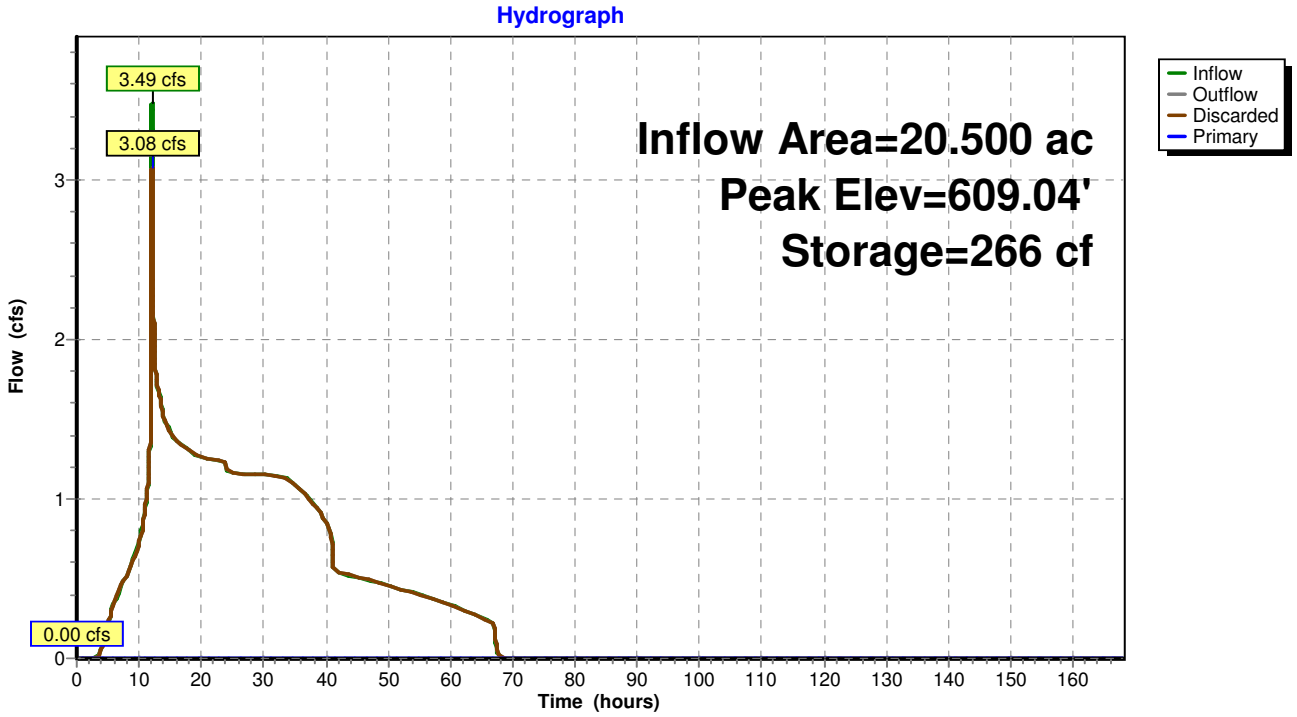
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
609.00	6,600	0	0
610.00	7,800	7,200	7,200
612.00	10,400	18,200	25,400
614.00	13,200	23,600	49,000
616.00	16,200	29,400	78,400
618.00	19,500	35,700	114,100

Device	Routing	Invert	Outlet Devices
#1	Primary	609.00'	**12.0" Round Culvert** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 609.00' / 594.00' S= 0.1875 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	617.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Discarded	609.00'	**20.000 in/hr Exfiltration over Surface area** Phase-In= 0.02'

Discarded OutFlow Max=3.08 cfs @ 12.16 hrs HW=609.04' (Free Discharge)
└**3=Exfiltration** (Exfiltration Controls 3.08 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=609.00' TW=593.00' (Dynamic Tailwater)
└**1=Culvert** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2.6 IB: South Upper Infiltration Basin



Stage-Area-Storage for Pond 2.6 IB: South Upper Infiltration Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
609.00	6,600	0
609.10	6,720	666
609.20	6,840	1,344
609.30	6,960	2,034
609.40	7,080	2,736
609.50	7,200	3,450
609.60	7,320	4,176
609.70	7,440	4,914
609.80	7,560	5,664
609.90	7,680	6,426
610.00	7,800	7,200
610.10	7,930	7,987
610.20	8,060	8,786
610.30	8,190	9,598
610.40	8,320	10,424
610.50	8,450	11,263
610.60	8,580	12,114
610.70	8,710	12,979
610.80	8,840	13,856
610.90	8,970	14,746
611.00	9,100	15,650
611.10	9,230	16,567
611.20	9,360	17,496
611.30	9,490	18,438
611.40	9,620	19,394
611.50	9,750	20,363
611.60	9,880	21,344
611.70	10,010	22,339
611.80	10,140	23,346
611.90	10,270	24,366
612.00	10,400	25,400
612.10	10,540	26,447
612.20	10,680	27,508
612.30	10,820	28,583
612.40	10,960	29,672
612.50	11,100	30,775
612.60	11,240	31,892
612.70	11,380	33,023
612.80	11,520	34,168
612.90	11,660	35,327
613.00	11,800	36,500
613.10	11,940	37,687
613.20	12,080	38,888
613.30	12,220	40,103
613.40	12,360	41,332
613.50	12,500	42,575
613.60	12,640	43,832
613.70	12,780	45,103
613.80	12,920	46,388
613.90	13,060	47,687
614.00	13,200	49,000
614.10	13,350	50,328
614.20	13,500	51,670
614.30	13,650	53,027
614.40	13,800	54,400
614.50	13,950	55,788
614.60	14,100	57,190
614.70	14,250	58,608
614.80	14,400	60,040
614.90	14,550	61,487
615.00	14,700	62,950
615.10	14,850	64,428
615.20	15,000	65,920
615.30	15,150	67,427
615.40	15,300	68,950
615.50	15,450	70,488
615.60	15,600	72,040
615.70	15,750	73,608
615.80	15,900	75,190
615.90	16,050	76,787
616.00	16,200	78,400
616.10	16,365	80,028
616.20	16,530	81,673
616.30	16,695	83,334
616.40	16,860	85,012
616.50	17,025	86,706
616.60	17,190	88,417
616.70	17,355	90,144
616.80	17,520	91,888
616.90	17,685	93,648
617.00	17,850	95,425
617.10	18,015	97,218
617.20	18,180	99,028
617.30	18,345	100,854
617.40	18,510	102,697
617.50	18,675	104,556
617.60	18,840	106,432
617.70	19,005	108,324
617.80	19,170	110,233
617.90	19,335	112,158
618.00	**19,500**	**114,100**

Summary for Pond 2.7 EDB: South Lower Detention Basin

Inflow Area = 21.200 ac, 36.32% Impervious, Inflow Depth = 1.90" for 25-yr event
Inflow = 28.06 cfs @ 12.29 hrs, Volume= 3.351 af
Outflow = 4.25 cfs @ 14.29 hrs, Volume= 3.351 af, Atten= 85%, Lag= 120.2 min
Primary = 4.25 cfs @ 14.29 hrs, Volume= 3.351 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 604.48' @ 14.29 hrs Surf.Area= 14,754 sf Storage= 85,218 cf
Flood Elev= 605.50' Surf.Area= 16,125 sf Storage= 100,089 cf

Plug-Flow detention time= 955.3 min calculated for 3.351 af (100% of inflow)
Center-of-Mass det. time= 955.2 min (1,833.7 - 878.5)

Volume	Invert	Avail.Storage	Storage Description
#1	593.00'	320 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	594.00'	107,600 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		107,920 cf	Total Available Storage

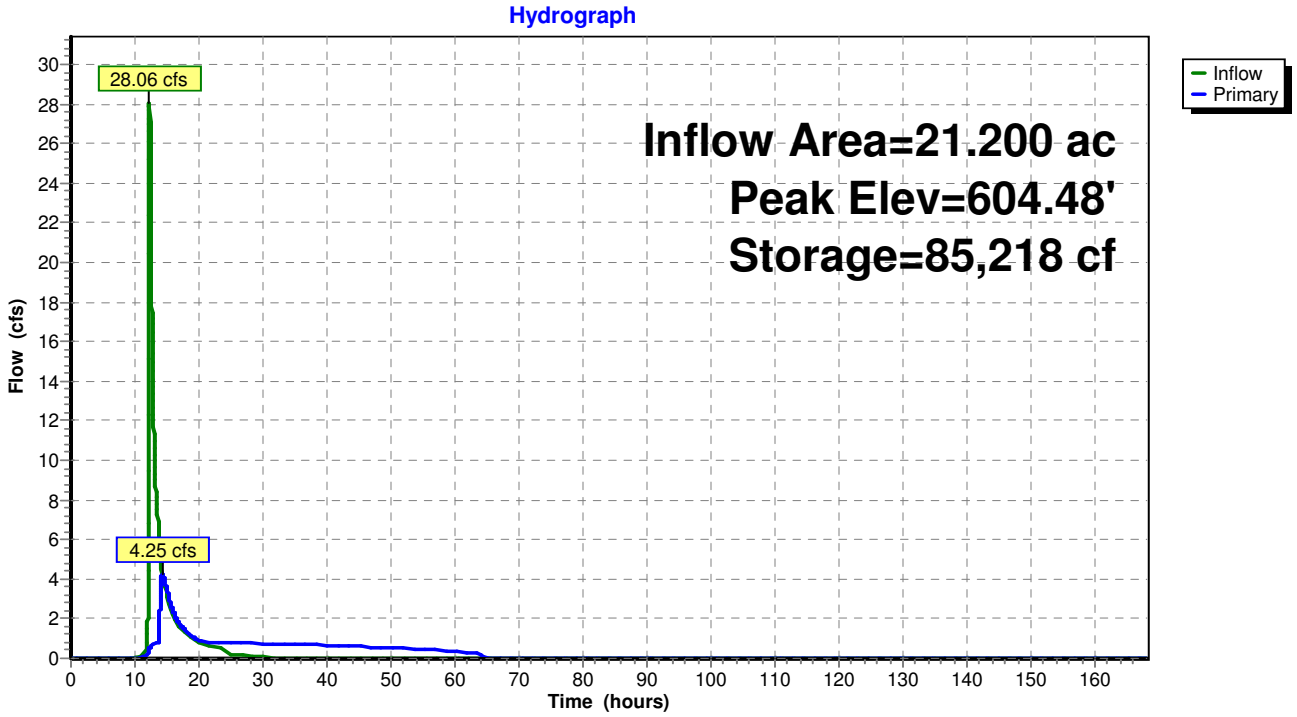
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
593.00	800	0	0
594.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
594.00	3,200	0	0
596.00	4,800	8,000	8,000
598.00	6,600	11,400	19,400
600.00	8,600	15,200	34,600
602.00	10,900	19,500	54,100
604.00	13,300	24,200	78,300
606.00	16,000	29,300	107,600

Device	Routing	Invert	Outlet Devices
#1	Primary	593.00'	**36.0" Round Culvert** L= 85.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 593.00' / 590.00' S= 0.0353 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	604.20'	**8.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	593.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=4.25 cfs @ 14.29 hrs HW=604.48' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 4.25 cfs of 107.54 cfs potential flow)
  ├─**2=Broad-Crested Rectangular Weir** (Weir Controls 3.46 cfs @ 1.52 fps)
  └─**3=Orifice/Grate** (Orifice Controls 0.80 cfs @ 16.23 fps)

Pond 2.7 EDB: South Lower Detention Basin



Stage-Area-Storage for Pond 2.7 EDB: South Lower Detention Basin

Elevation (feet)	Storage (cubic-feet)
593.00	0
593.15	48
593.30	96
593.45	144
593.60	192
593.75	240
593.90	288
594.05	481
594.20	976
594.35	1,489
594.50	2,020
594.65	2,569
594.80	3,136
594.95	3,721
595.10	4,324
595.25	4,945
595.40	5,584
595.55	6,241
595.70	6,916
595.85	7,609
596.00	8,320
596.15	9,050
596.30	9,800
596.45	10,571
596.60	11,362
596.75	12,173
596.90	13,004
597.05	13,856
597.20	14,728
597.35	15,620
597.50	16,533
597.65	17,465
597.80	18,418
597.95	19,391
598.10	20,385
598.25	21,401
598.40	22,440
598.55	23,501
598.70	24,585
598.85	25,691
599.00	26,820
599.15	27,971
599.30	29,145
599.45	30,341
599.60	31,560
599.75	32,801
599.90	34,065
600.05	35,351
600.20	36,663
600.35	38,000
600.50	39,364
600.65	40,753
600.80	42,168
600.95	43,609
601.10	45,076
601.25	46,568
601.40	48,087
601.55	49,631
601.70	51,202
601.85	52,798
602.00	54,420
602.15	56,068
602.30	57,744
602.45	59,447
602.60	61,176
602.75	62,933
602.90	64,716
603.05	66,526
603.20	68,364
603.35	70,229
603.50	72,120
603.65	74,038
603.80	75,984
603.95	77,957
604.10	79,957
604.25	81,987
604.40	84,048
604.55	86,139
604.70	88,261
604.85	90,413
605.00	92,595
605.15	94,808
605.30	97,051
605.45	99,324
605.60	101,628
605.75	103,962
605.90	**106,327**

Summary for Pond FS 1: North Detention Flow Split

Inflow Area = 16.900 ac, 17.75% Impervious, Inflow Depth = 4.41" for 25-yr event
Inflow = 29.90 cfs @ 12.30 hrs, Volume= 6.206 af
Outflow = 29.90 cfs @ 12.31 hrs, Volume= 6.206 af, Atten= 0%, Lag= 0.6 min
Primary = 0.46 cfs @ 12.31 hrs, Volume= 2.119 af
Secondary = 29.44 cfs @ 12.31 hrs, Volume= 4.087 af

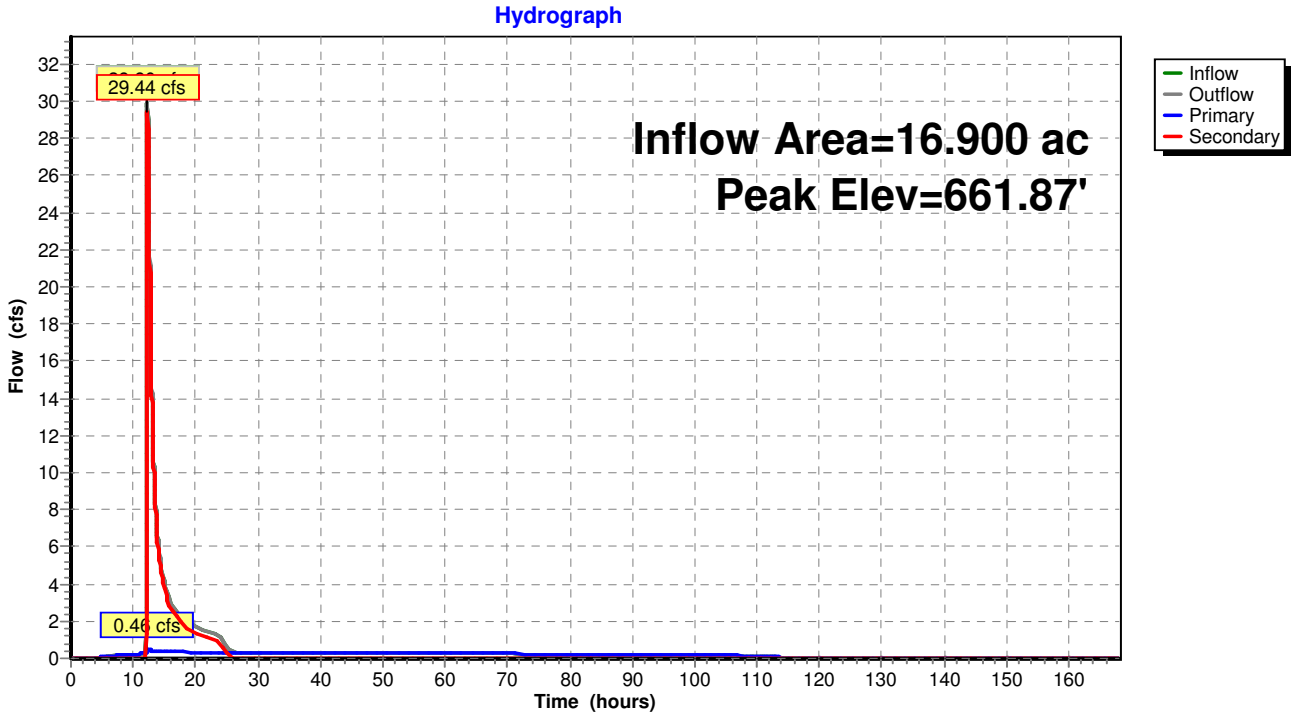
Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 661.87' @ 12.31 hrs
Flood Elev= 669.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	658.00'	**6.0" Round Culvert** L= 150.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 658.00' / 656.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	658.00'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Secondary	659.60'	**36.0" Round Culvert** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 659.60' / 656.00' S= 0.0450 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=0.46 cfs @ 12.31 hrs HW=661.87' TW=654.51' (Dynamic Tailwater)
↑└**1=Culvert** (Passes 0.46 cfs of 1.00 cfs potential flow)
↑└**2=Orifice/Grate** (Orifice Controls 0.46 cfs @ 9.32 fps)

Secondary OutFlow Max=29.44 cfs @ 12.31 hrs HW=661.87' TW=654.28' (Dynamic Tailwater)
↑└**3=Culvert** (Inlet Controls 29.44 cfs @ 5.13 fps)

Pond FS 1: North Detention Flow Split



Stage-Area-Storage for Pond FS 1: North Detention Flow Split

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
658.00	**0**	665.80	0
658.15	0	665.95	0
658.30	0	666.10	0
658.45	0	666.25	0
658.60	0	666.40	0
658.75	0	666.55	0
658.90	0	666.70	0
659.05	0	666.85	0
659.20	0	667.00	0
659.35	0	667.15	0
659.50	0	667.30	0
659.65	0	667.45	0
659.80	0	667.60	0
659.95	0	667.75	0
660.10	0	667.90	0
660.25	0	668.05	0
660.40	0	668.20	0
660.55	0	668.35	0
660.70	0	668.50	0
660.85	0	668.65	0
661.00	0	668.80	0
661.15	0	668.95	0
661.30	0		
661.45	0		
661.60	0		
661.75	0		
661.90	0		
662.05	0		
662.20	0		
662.35	0		
662.50	0		
662.65	0		
662.80	0		
662.95	0		
663.10	0		
663.25	0		
663.40	0		
663.55	0		
663.70	0		
663.85	0		
664.00	0		
664.15	0		
664.30	0		
664.45	0		
664.60	0		
664.75	0		
664.90	0		
665.05	0		
665.20	0		
665.35	0		
665.50	0		
665.65	0		

Summary for Pond FS 2:

Inflow Area = 19.500 ac, 39.49% Impervious, Inflow Depth = 4.43" for 25-yr event
Inflow = 28.88 cfs @ 12.28 hrs, Volume= 7.204 af
Outflow = 28.88 cfs @ 12.29 hrs, Volume= 7.204 af, Atten= 0%, Lag= 0.6 min
Primary = 1.45 cfs @ 12.29 hrs, Volume= 3.994 af
Secondary = 27.43 cfs @ 12.29 hrs, Volume= 3.210 af

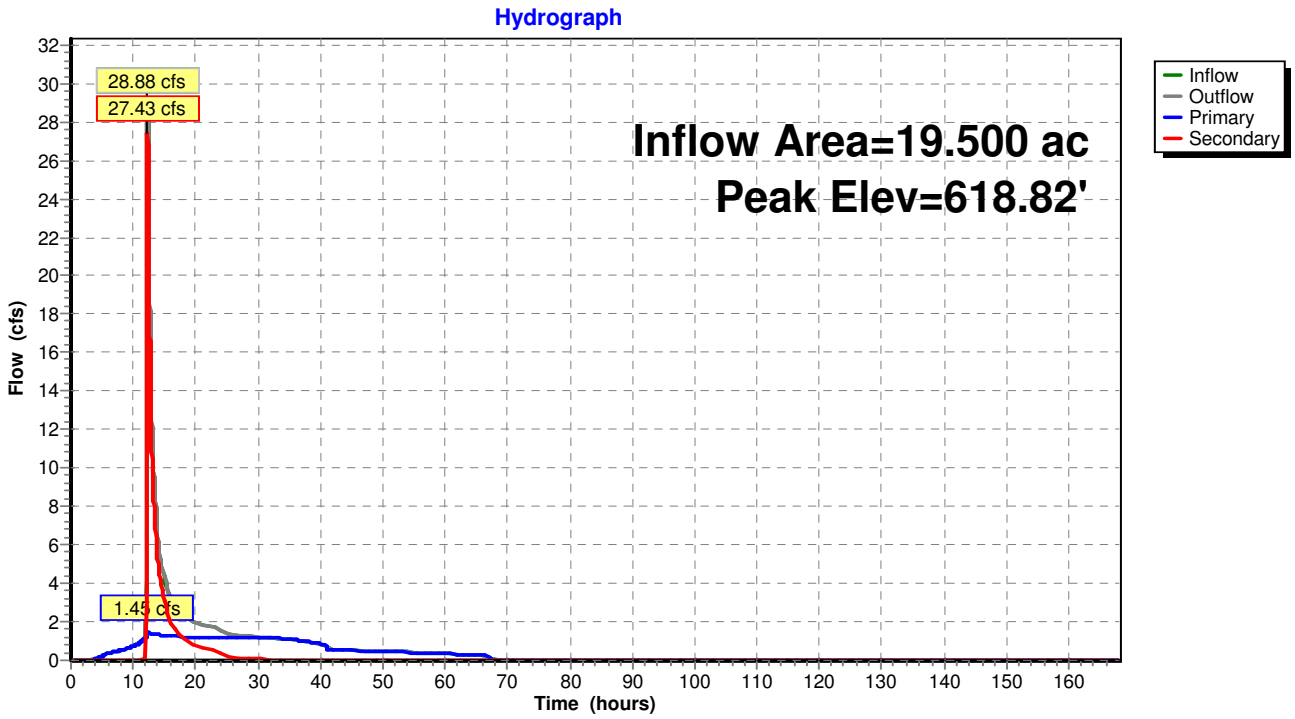
Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 618.82' @ 12.29 hrs
Flood Elev= 629.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	615.50'	**6.0" Round Culvert** L= 120.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 615.50' / 609.00' S= 0.0542 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 3	617.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	615.50'	**30.0" Round Culvert** L= 180.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 615.50' / 610.80' S= 0.0261 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=1.45 cfs @ 12.29 hrs HW=618.82' TW=609.02' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 1.45 cfs @ 7.39 fps)

Secondary OutFlow Max=27.42 cfs @ 12.29 hrs HW=618.82' TW=597.37' (Dynamic Tailwater)
└**3=Culvert** (Passes 27.42 cfs of 34.02 cfs potential flow)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 27.42 cfs @ 4.23 fps)

Pond FS 2:


Hydrograph
Inflow Area=19.500 ac
Peak Elev=618.82'
28.88 cfs
27.43 cfs
1.45 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160

Stage-Area-Storage for Pond FS 2:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
615.50	**0**	623.30	0
615.65	0	623.45	0
615.80	0	623.60	0
615.95	0	623.75	0
616.10	0	623.90	0
616.25	0	624.05	0
616.40	0	624.20	0
616.55	0	624.35	0
616.70	0	624.50	0
616.85	0	624.65	0
617.00	0	624.80	0
617.15	0	624.95	0
617.30	0	625.10	0
617.45	0	625.25	0
617.60	0	625.40	0
617.75	0	625.55	0
617.90	0	625.70	0
618.05	0	625.85	0
618.20	0	626.00	0
618.35	0	626.15	0
618.50	0	626.30	0
618.65	0	626.45	0
618.80	0	626.60	0
618.95	0	626.75	0
619.10	0	626.90	0
619.25	0	627.05	0
619.40	0	627.20	0
619.55	0	627.35	0
619.70	0	627.50	0
619.85	0	627.65	0
620.00	0	627.80	0
620.15	0	627.95	0
620.30	0	628.10	0
620.45	0	628.25	0
620.60	0	628.40	0
620.75	0	628.55	0
620.90	0	628.70	0
621.05	0	628.85	0
621.20	0	629.00	0
621.35	0	629.15	0
621.50	0	629.30	0
621.65	0	629.45	0
621.80	0		
621.95	0		
622.10	0		
622.25	0		
622.40	0		
622.55	0		
622.70	0		
622.85	0		
623.00	0		
623.15	0		

Summary for Subcatchment 1.1S: North Sports & Parking (Piped)

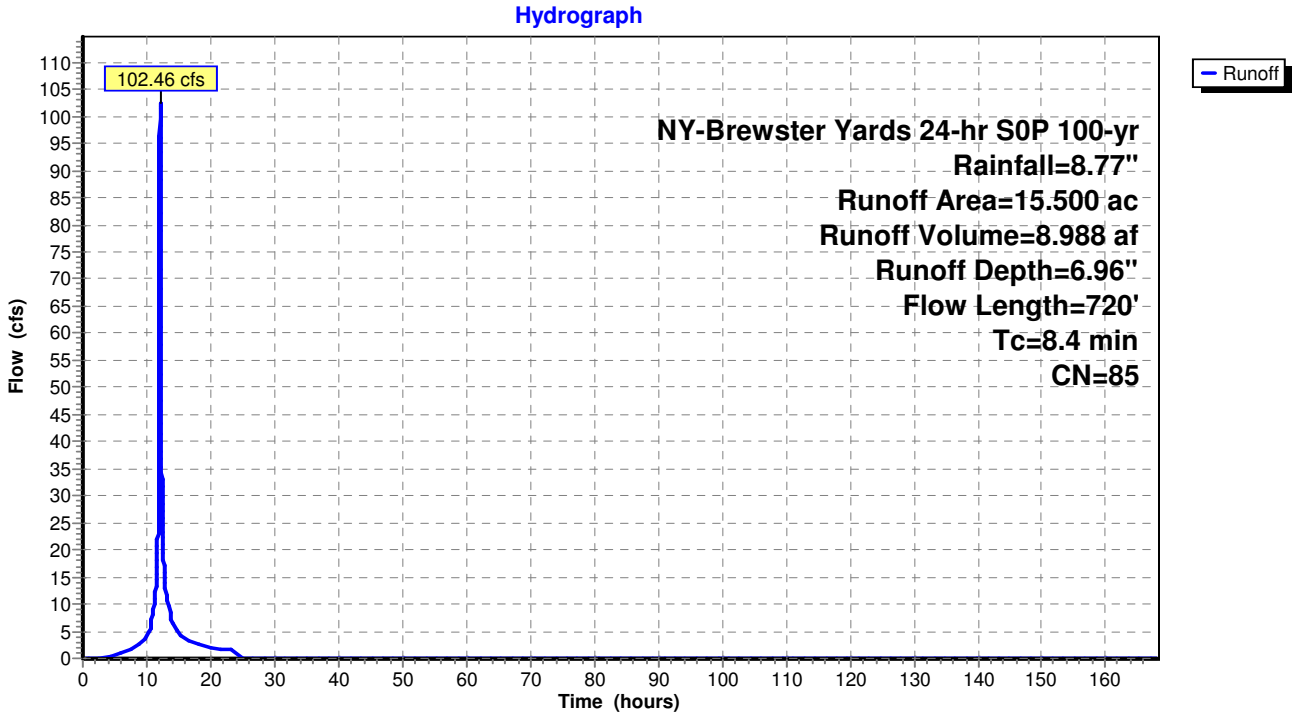
Runoff = 102.46 cfs @ 12.07 hrs, Volume= 8.988 af, Depth= 6.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

	Area (ac)	CN	Description
*	9.900	86	Field Turf
	1.400	61	>75% Grass cover, Good, HSG B
	1.200	74	>75% Grass cover, Good, HSG C
*	3.000	98	Impervious
	15.500	85	Weighted Average
	12.500		80.65% Pervious Area
	3.000		19.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.1	100	0.0600	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"
0.8	160	0.0438	3.14		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.1	190	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.4	270	0.0200	10.18	31.99	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
8.4	720	Total			

Subcatchment 1.1S: North Sports & Parking (Piped)



Summary for Subcatchment 1.2S: North Detention

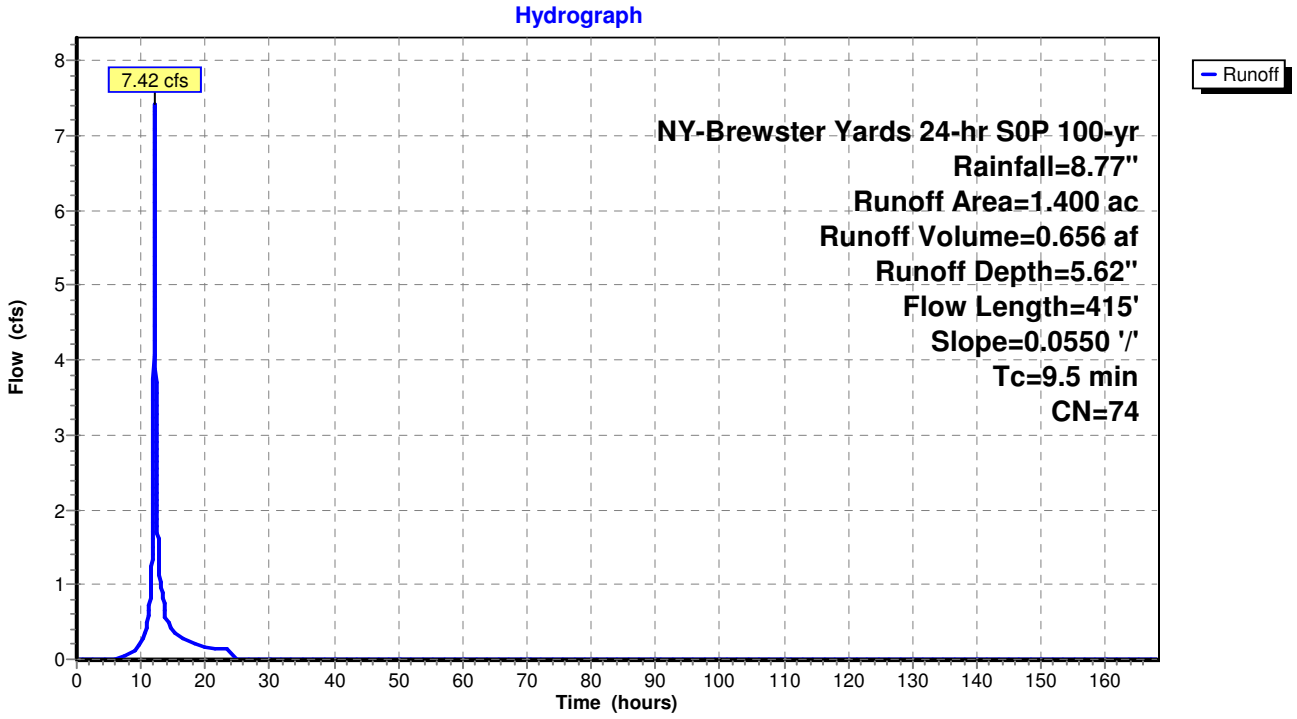
Runoff = 7.42 cfs @ 12.09 hrs, Volume= 0.656 af, Depth= 5.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

Area (ac)	CN	Description
1.400	74	>75% Grass cover, Good, HSG C
1.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.3	100	0.0550	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"
3.2	315	0.0550	1.64		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.5	415	Total			

Subcatchment 1.2S: North Detention



Summary for Subcatchment 1.3S: North Infiltration

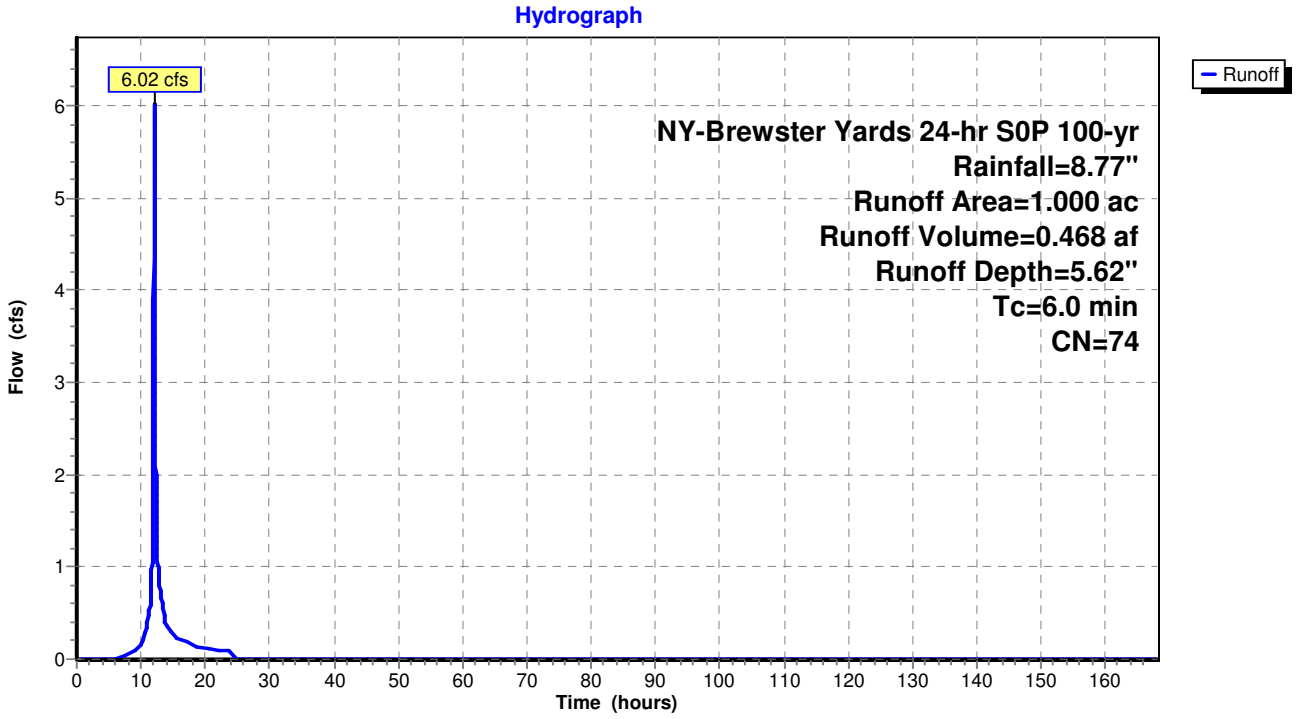
Runoff = 6.02 cfs @ 12.04 hrs, Volume= 0.468 af, Depth= 5.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

Area (ac)	CN	Description
1.000	74	>75% Grass cover, Good, HSG C
1.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.3S: North Infiltration



Summary for Subcatchment 1.4S: North Lower Detention

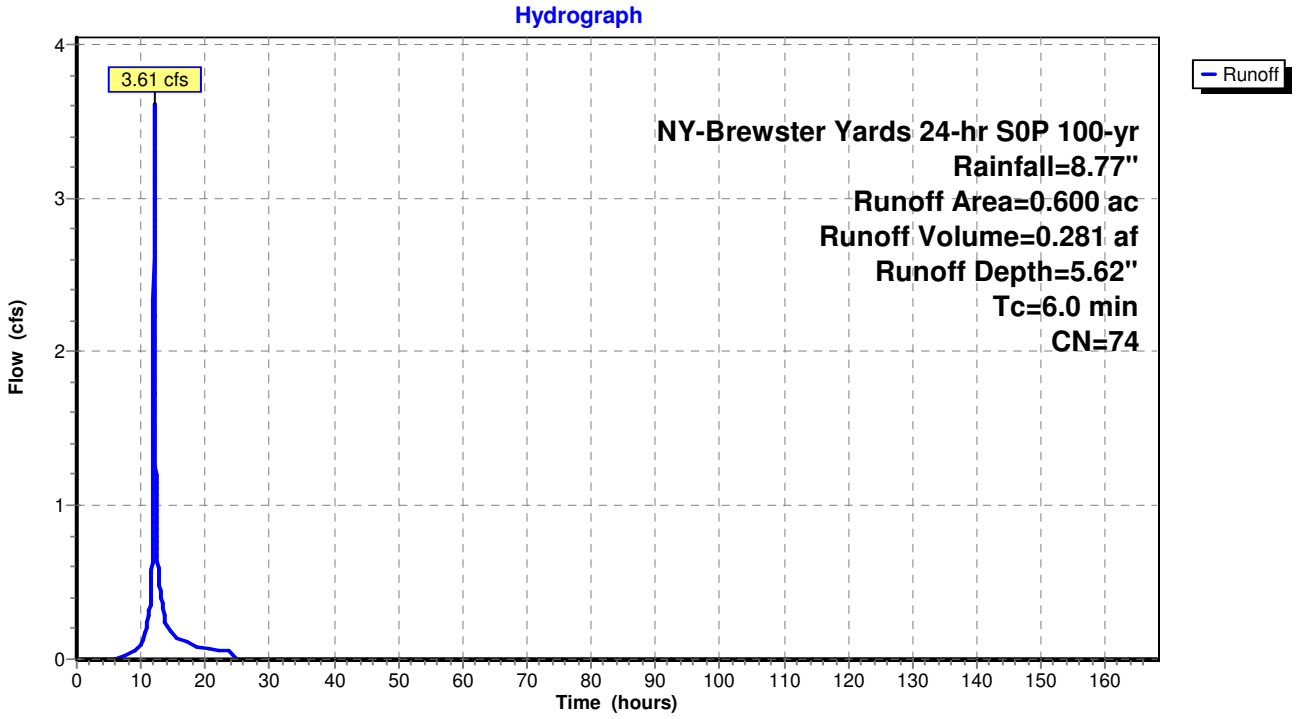
Runoff = 3.61 cfs @ 12.04 hrs, Volume= 0.281 af, Depth= 5.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

Area (ac)	CN	Description
0.600	74	>75% Grass cover, Good, HSG C
0.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 1.4S: North Lower Detention



Summary for Subcatchment 1.5S: North Untreated

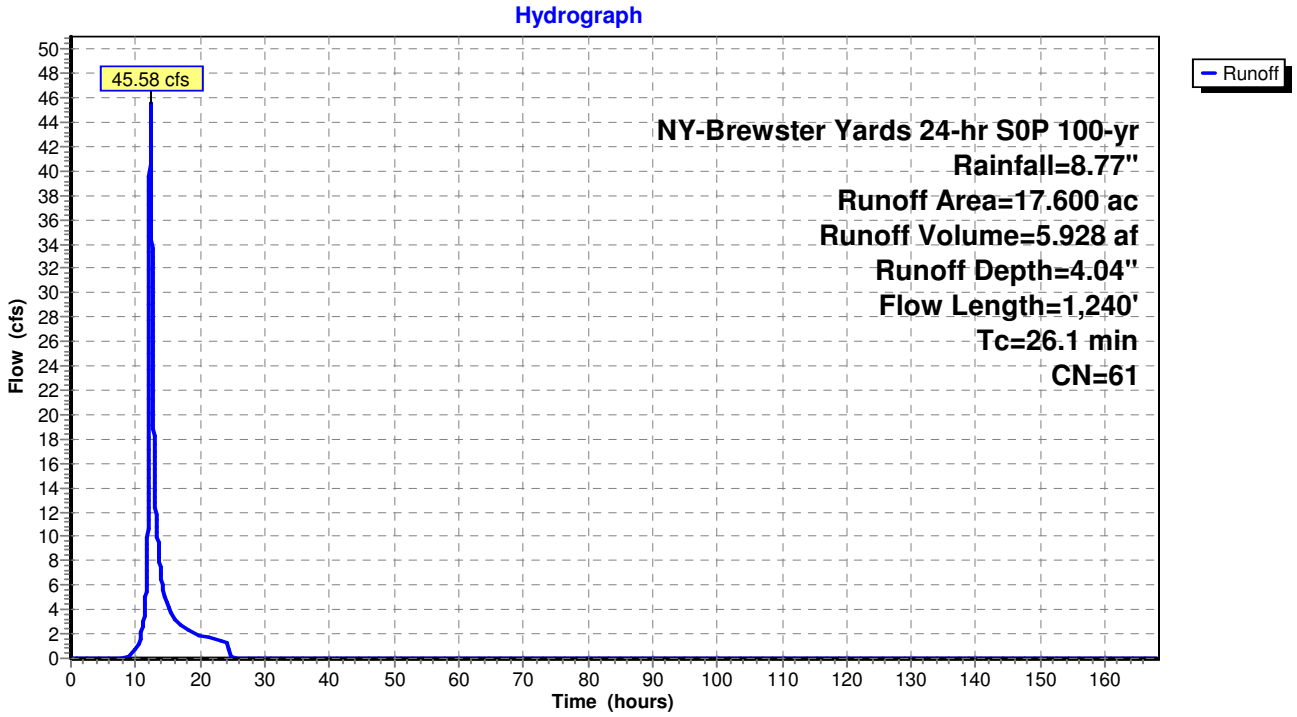
Runoff = 45.58 cfs @ 12.33 hrs, Volume= 5.928 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

Area (ac)	CN	Description
10.300	55	Woods, Good, HSG B
5.800	70	Woods, Good, HSG C
0.200	77	Woods, Good, HSG D
0.300	61	>75% Grass cover, Good, HSG B
1.000	74	>75% Grass cover, Good, HSG C
17.600	61	Weighted Average
17.600		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0300	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
0.5	60	0.1330	1.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.2	200	0.2900	2.69		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	150	0.0930	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.0	160	0.2875	2.68		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.4	350	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.8	220	0.1100	4.39	21.97	**Channel Flow,** Area= 5.0 sf Perim= 8.3' r= 0.60' n= 0.080 Earth, long dense weeds
26.1	1,240	Total			

Subcatchment 1.5S: North Untreated



Summary for Subcatchment 2.1S: Building & Fields (Piped)

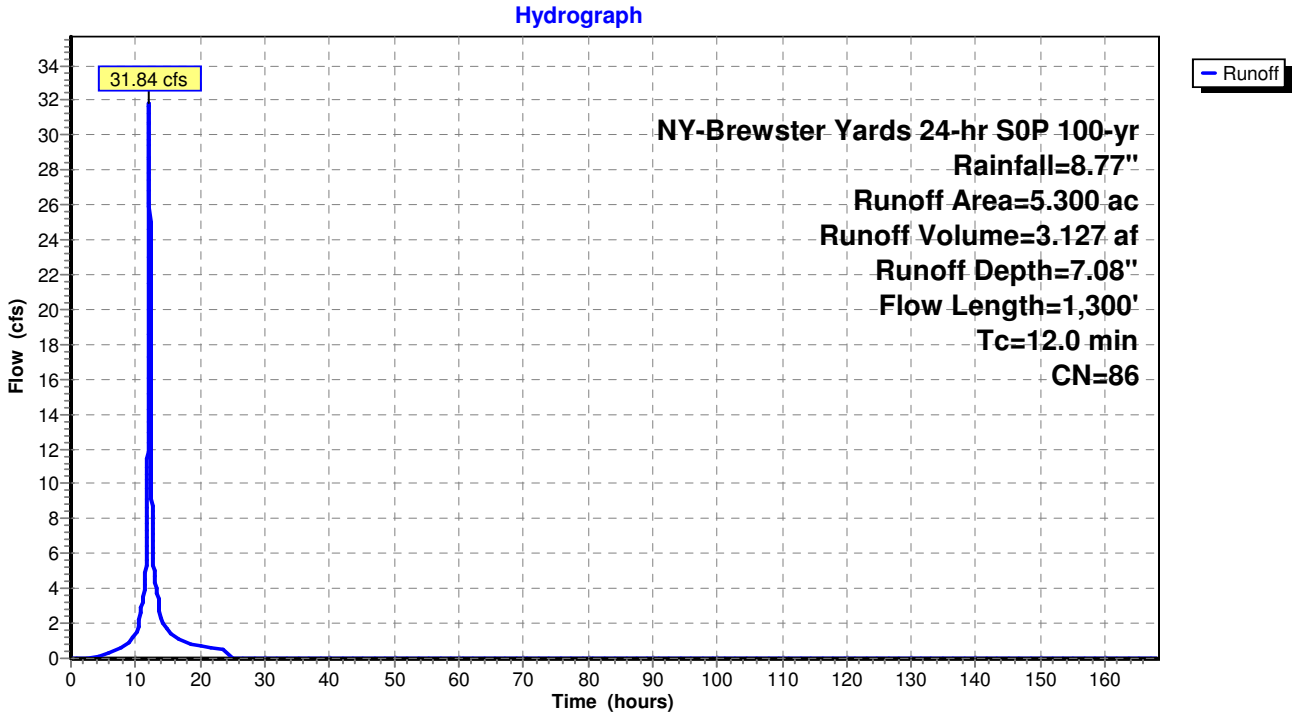
Runoff = 31.84 cfs @ 12.12 hrs, Volume= 3.127 af, Depth= 7.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

	Area (ac)	CN	Description
*	2.700	98	Impervious
*	1.400	86	Field Turf
	1.200	61	>75% Grass cover, Good, HSG B
	5.300	86	Weighted Average
	2.600		49.06% Pervious Area
	2.700		50.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	100	0.0300	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.44"
1.2	150	0.0200	2.12		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	250	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.9	800	0.0412	14.62	45.92	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Corrugated PE, smooth interior
12.0	1,300	Total			

Subcatchment 2.1S: Building & Fields (Piped)



Summary for Subcatchment 2.2S: Entrance Infiltration Basin

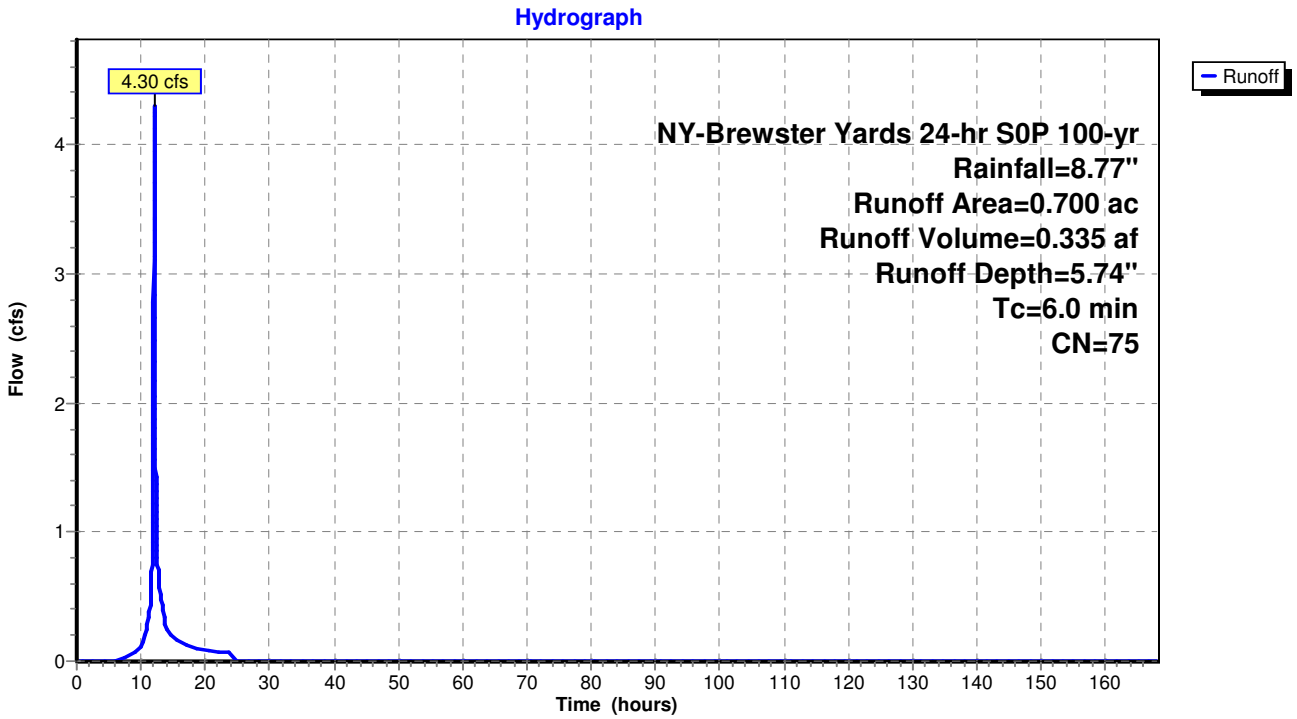
Runoff = 4.30 cfs @ 12.04 hrs, Volume= 0.335 af, Depth= 5.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

Area (ac)	CN	Description
0.200	61	>75% Grass cover, Good, HSG B
0.500	80	>75% Grass cover, Good, HSG D
0.700	75	Weighted Average
0.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.2S: Entrance Infiltration Basin



Summary for Subcatchment 2.3S: Fields & Parking (Piped)

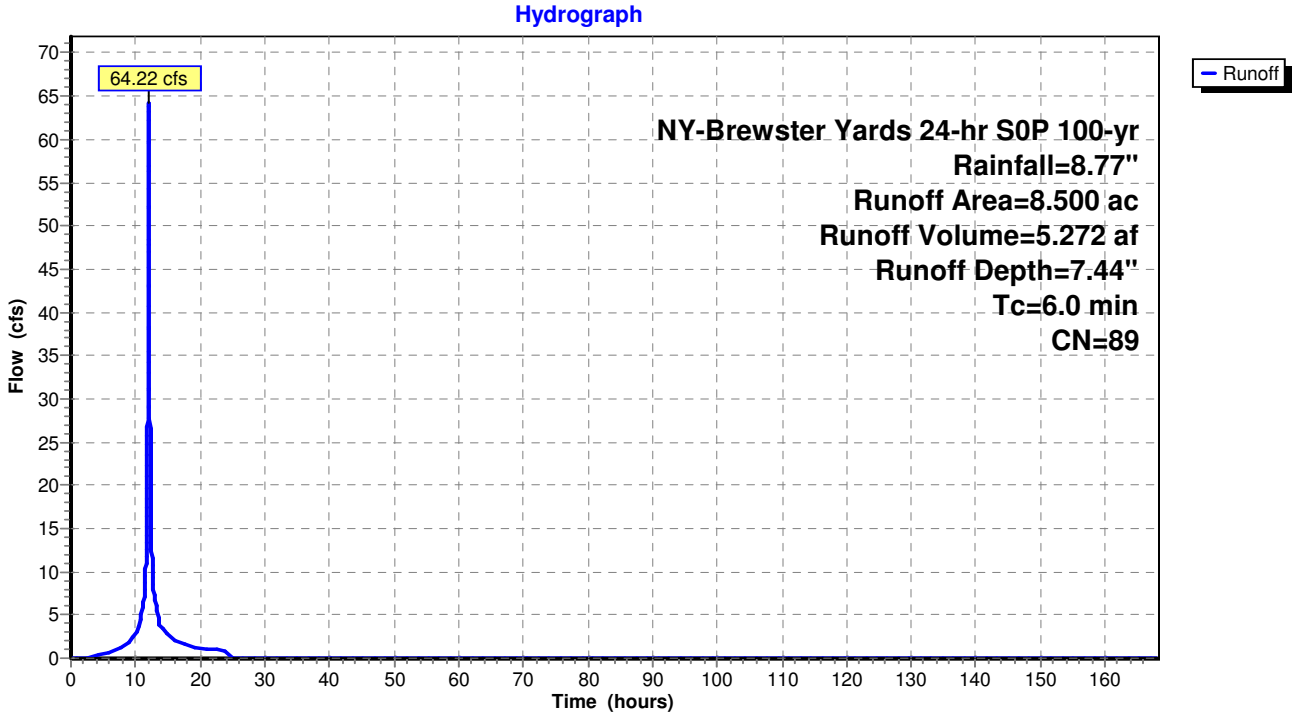
Runoff = 64.22 cfs @ 12.04 hrs, Volume= 5.272 af, Depth= 7.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

	Area (ac)	CN	Description
*	4.700	98	Impervious
*	2.400	86	Filed Turf
	1.400	61	>75% Grass cover, Good, HSG B
	8.500	89	Weighted Average
	3.800		44.71% Pervious Area
	4.700		55.29% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.3S: Fields & Parking (Piped)



Summary for Subcatchment 2.4S: South Showcase Field (Piped)

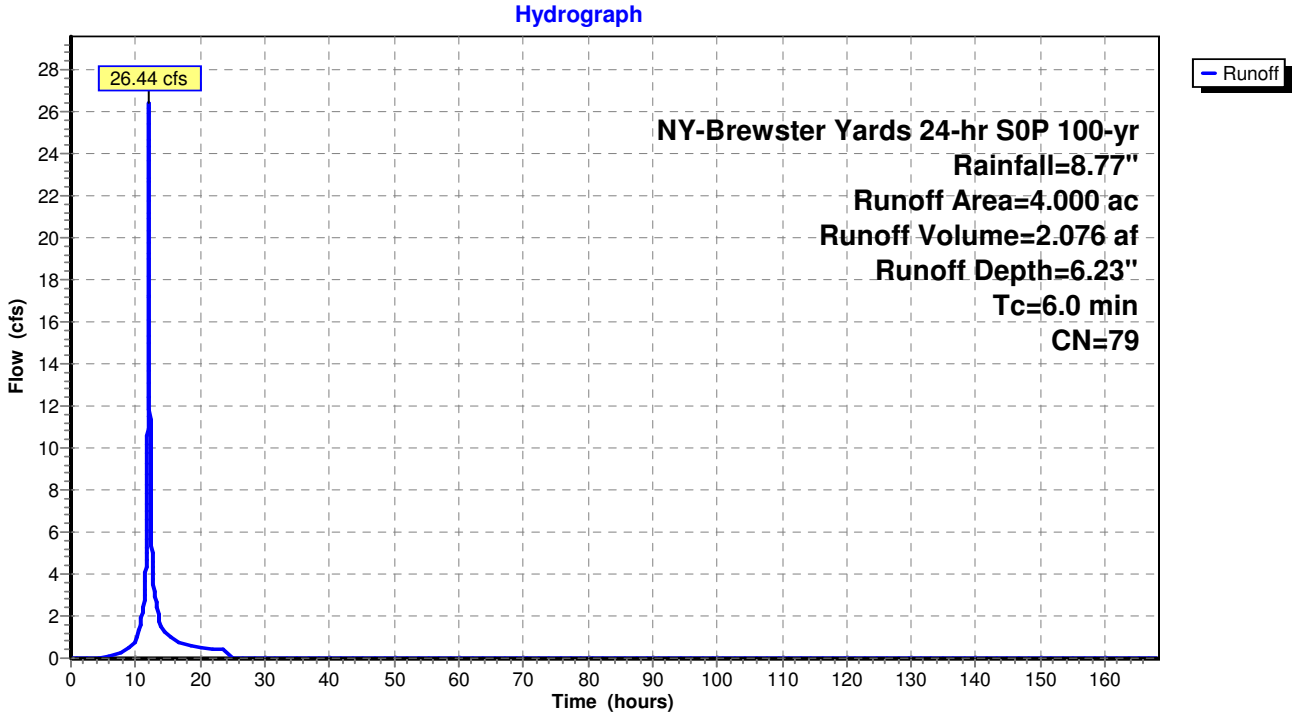
Runoff = 26.44 cfs @ 12.04 hrs, Volume= 2.076 af, Depth= 6.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

	Area (ac)	CN	Description
*	0.300	98	Impervious
*	2.500	86	Filed Turf
	1.200	61	>75% Grass cover, Good, HSG B
	4.000	79	Weighted Average
	3.700		92.50% Pervious Area
	0.300		7.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.4S: South Showcase Field (Piped)



Summary for Subcatchment 2.5S: South Detention Basin

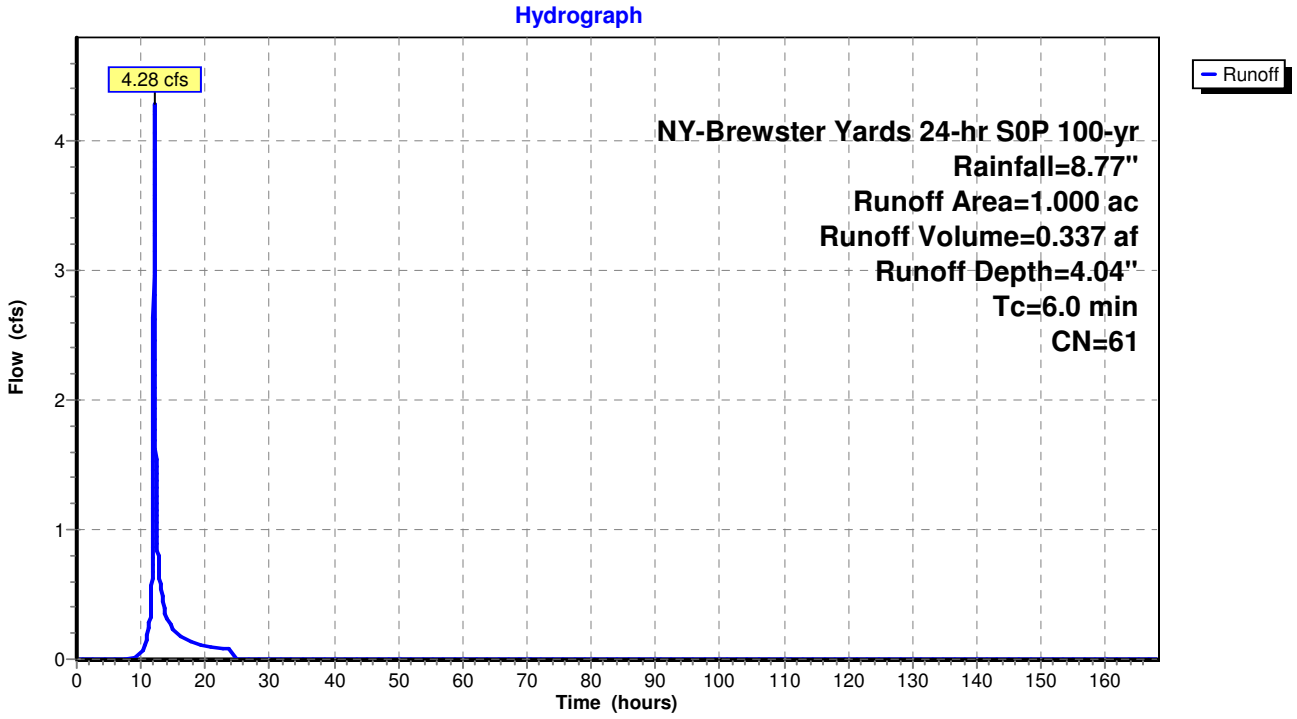
Runoff = 4.28 cfs @ 12.04 hrs, Volume= 0.337 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

Area (ac)	CN	Description
1.000	61	>75% Grass cover, Good, HSG B
1.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.5S: South Detention Basin



Summary for Subcatchment 2.6S: South Upper Pond

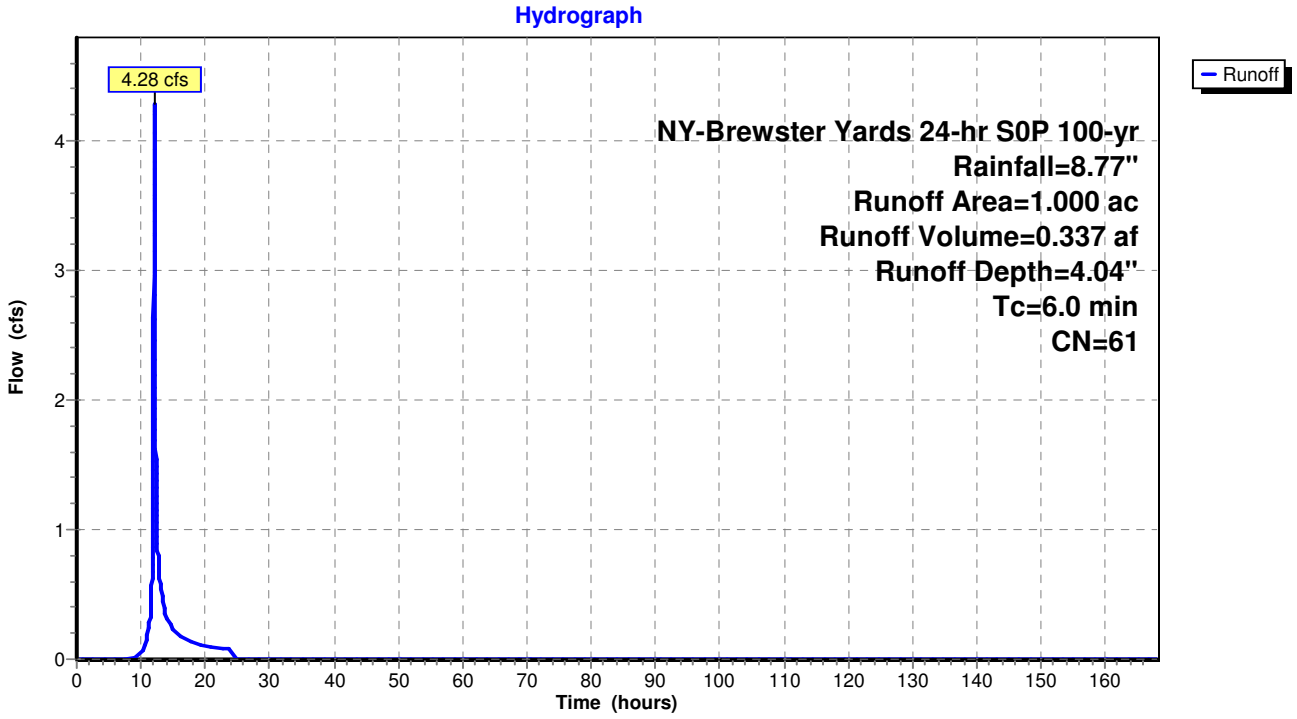
Runoff = 4.28 cfs @ 12.04 hrs, Volume= 0.337 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

Area (ac)	CN	Description
1.000	61	>75% Grass cover, Good, HSG B
1.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.6S: South Upper Pond



Summary for Subcatchment 2.7S: South Lower Pond

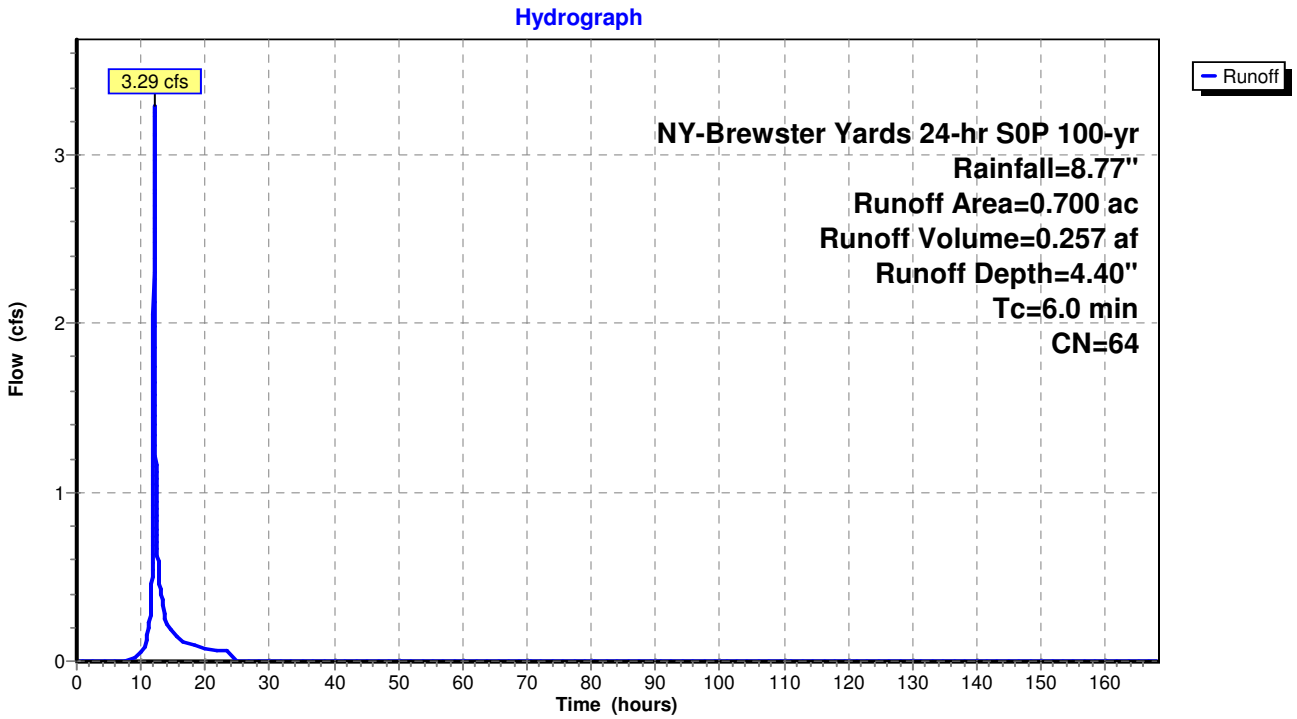
Runoff = 3.29 cfs @ 12.04 hrs, Volume= 0.257 af, Depth= 4.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

Area (ac)	CN	Description
0.600	61	>75% Grass cover, Good, HSG B
0.100	80	>75% Grass cover, Good, HSG D
0.700	64	Weighted Average
0.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment 2.7S: South Lower Pond



Summary for Subcatchment 2.8S: South Untreated

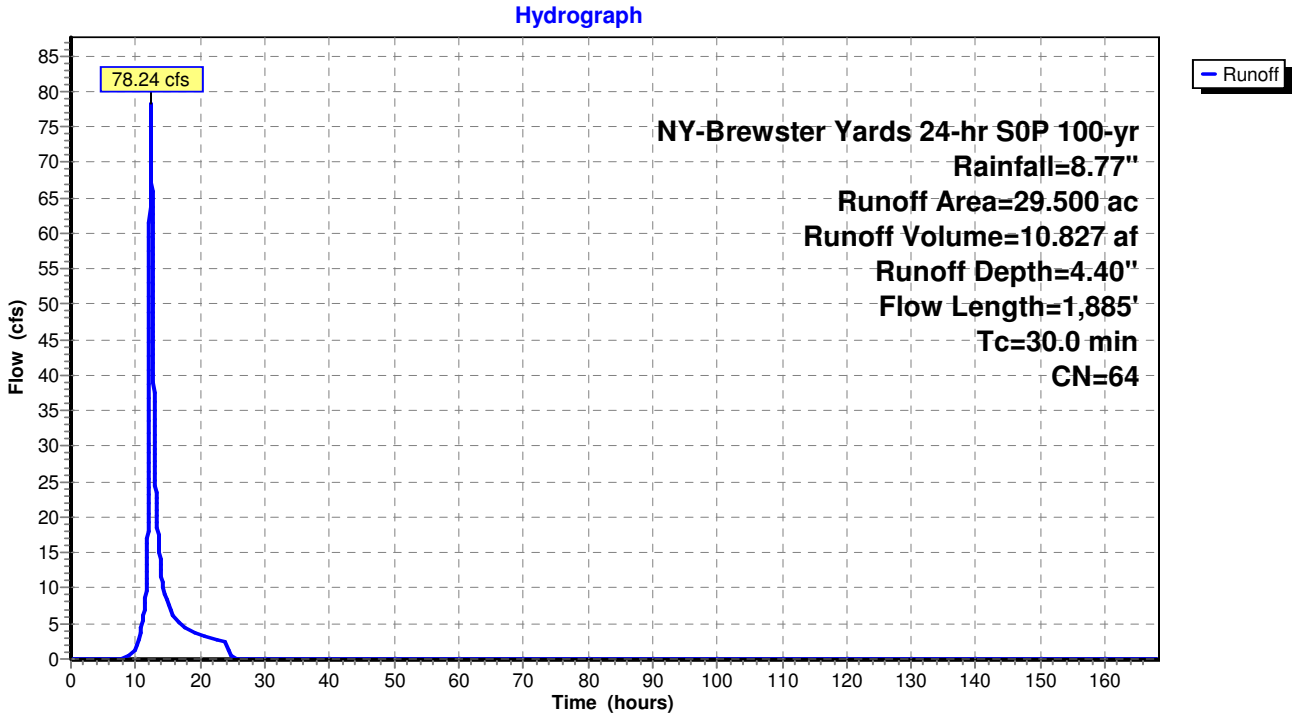
Runoff = 78.24 cfs @ 12.37 hrs, Volume= 10.827 af, Depth= 4.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
NY-Brewster Yards 24-hr S0P 100-yr Rainfall=8.77"

Area (ac)	CN	Description
14.800	55	Woods, Good, HSG B
0.100	70	Woods, Good, HSG C
10.300	77	Woods, Good, HSG D
4.100	61	>75% Grass cover, Good, HSG B
0.200	80	>75% Grass cover, Good, HSG D
29.500	64	Weighted Average
29.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.3	100	0.0240	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.44"
7.8	885	0.1430	1.89		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.9	900	0.0500	5.09	71.20	**Channel Flow,** Area= 14.0 sf Perim= 45.0' r= 0.31' n= 0.030 Earth, grassed & winding
30.0	1,885	Total			

Subcatchment 2.8S: South Untreated

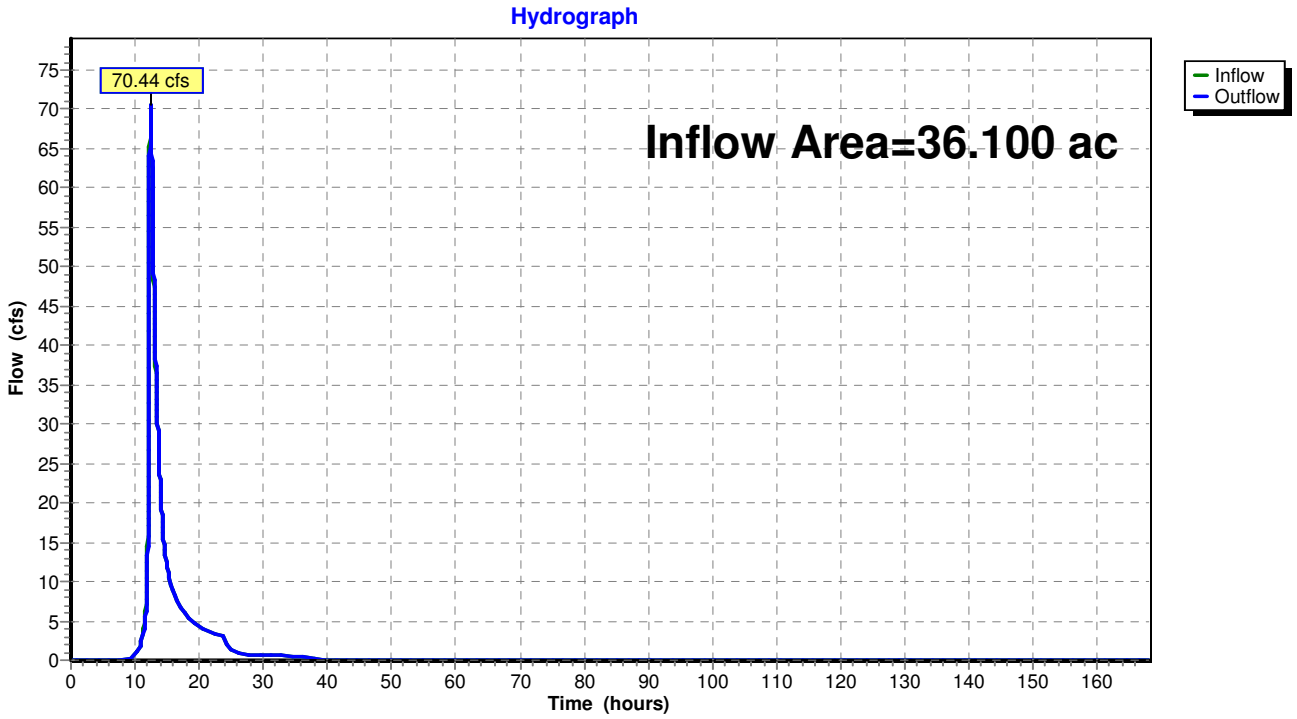


Summary for Reach DL 1:

Inflow Area = 36.100 ac, 8.31% Impervious, Inflow Depth = 4.55" for 100-yr event
Inflow = 70.44 cfs @ 12.41 hrs, Volume= 13.677 af
Outflow = 70.44 cfs @ 12.42 hrs, Volume= 13.677 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach DL 1:

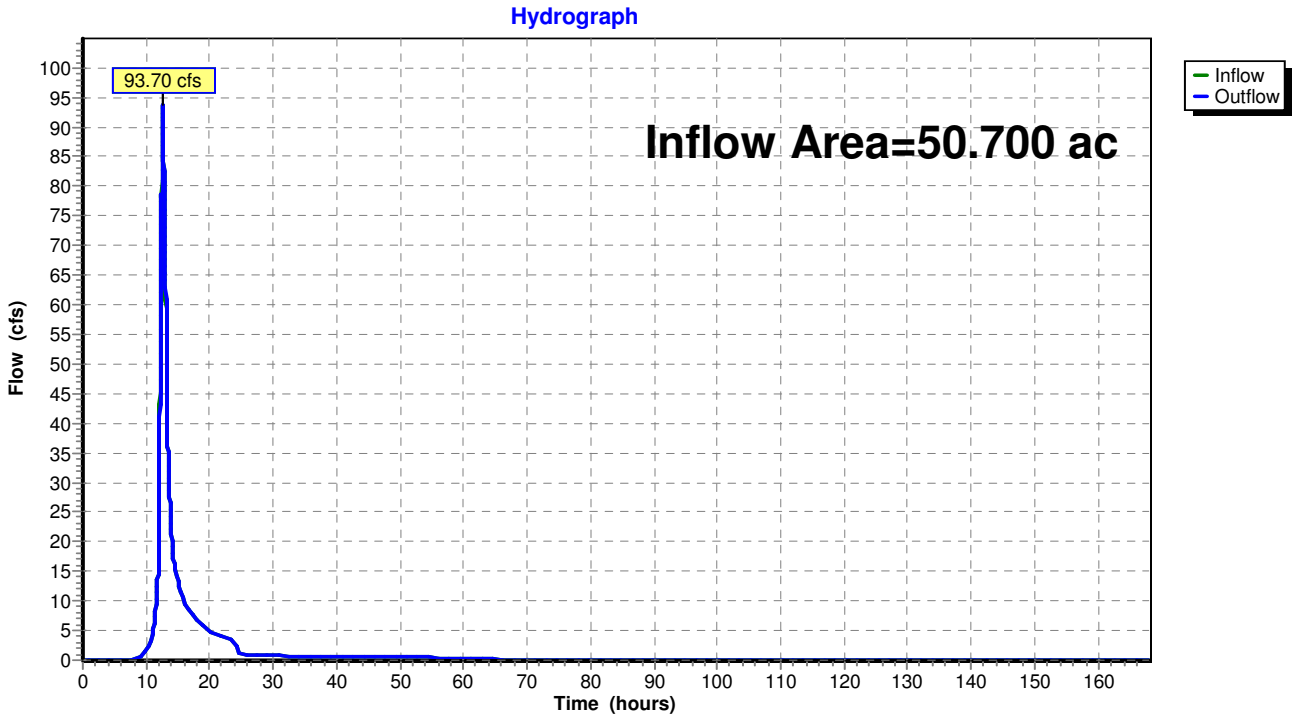


Summary for Reach DL 2:

Inflow Area = 50.700 ac, 15.19% Impervious, Inflow Depth = 4.26" for 100-yr event
Inflow = 93.70 cfs @ 12.59 hrs, Volume= 18.004 af
Outflow = 93.70 cfs @ 12.60 hrs, Volume= 18.004 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs

Reach DL 2:



Summary for Pond 1.2 EDB: North Detention Basin, Orifice, & Weir

Inflow Area = 16.900 ac, 17.75% Impervious, Inflow Depth = 6.85" for 100-yr event
Inflow = 109.75 cfs @ 12.07 hrs, Volume= 9.643 af
Outflow = 62.13 cfs @ 12.24 hrs, Volume= 9.643 af, Atten= 43%, Lag= 10.0 min
Primary = 62.13 cfs @ 12.24 hrs, Volume= 9.643 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 669.49' @ 12.24 hrs Surf.Area= 34,055 sf Storage= 146,686 cf
Flood Elev= 669.50' Surf.Area= 34,100 sf Storage= 147,015 cf

Plug-Flow detention time= 586.2 min calculated for 9.643 af (100% of inflow)
Center-of-Mass det. time= 586.1 min (1,381.9 - 795.8)

Volume	Invert	Avail.Storage	Storage Description
#1	659.00'	240 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 600 cf Overall x 40.0% Voids
#2	660.00'	164,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		164,340 cf	Total Available Storage

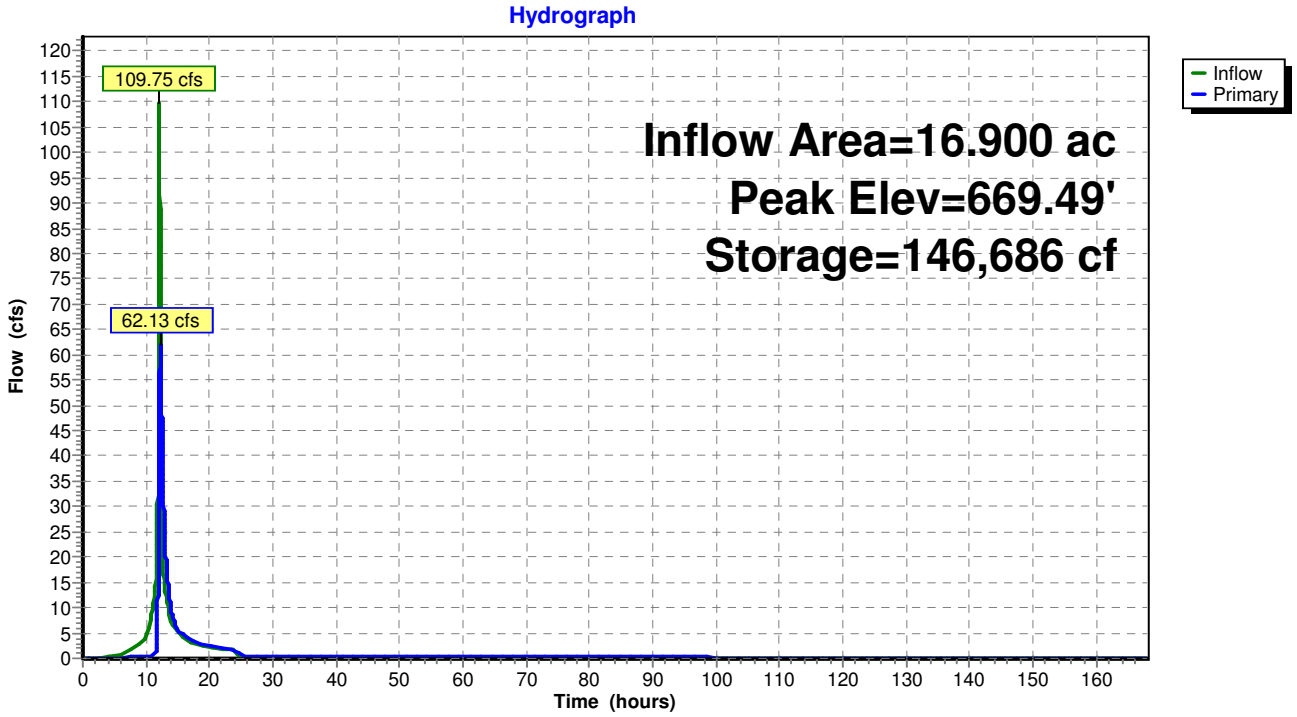
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
659.00	600	0	0
660.00	600	600	600

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
660.00	1,900	0	0
662.00	6,000	7,900	7,900
664.00	11,800	17,800	25,700
666.00	18,800	30,600	56,300
668.00	26,600	45,400	101,700
670.00	35,800	62,400	164,100

Device	Routing	Invert	Outlet Devices
#1	Primary	659.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#2	Primary	666.70'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=62.12 cfs @ 12.24 hrs HW=669.49' TW=664.36' (Dynamic Tailwater)
↑—**1=Orifice/Grate** (Orifice Controls 0.24 cfs @ 10.90 fps)
└—**2=Broad-Crested Rectangular Weir** (Weir Controls 61.88 cfs @ 5.55 fps)

Pond 1.2 EDB: North Detention Basin, Orifice, & Weir



Stage-Area-Storage for Pond 1.2 EDB: North Detention Basin, Orifice, & Weir

Elevation (feet)	Storage (cubic-feet)
659.00	0
659.15	36
659.30	72
659.45	108
659.60	144
659.75	180
659.90	216
660.05	338
660.20	661
660.35	1,031
660.50	1,446
660.65	1,908
660.80	2,416
660.95	2,970
661.10	3,570
661.25	4,217
661.40	4,909
661.55	5,648
661.70	6,432
661.85	7,263
662.00	8,140
662.15	9,073
662.30	10,070
662.45	11,134
662.60	12,262
662.75	13,456
662.90	14,714
663.05	16,039
663.20	17,428
663.35	18,883
663.50	20,403
663.65	21,988
663.80	23,638
663.95	25,354
664.10	27,138
664.25	28,999
664.40	30,940
664.55	32,959
664.70	35,058
664.85	37,234
665.00	39,490
665.15	41,824
665.30	44,237
665.45	46,729
665.60	49,300
665.75	51,949
665.90	54,677
666.05	57,485
666.20	60,378
666.35	63,359
666.50	66,428
666.65	69,584
666.80	72,828
666.95	76,160
667.10	79,580
667.25	83,087
667.40	86,682
667.55	90,365
667.70	94,136
667.85	97,994
668.00	101,940
668.15	105,982
668.30	110,127
668.45	114,376
668.60	118,728
668.75	123,184
668.90	127,743
669.05	132,406
669.20	137,172
669.35	142,042
669.50	147,015
669.65	152,092
669.80	157,272
669.95	**162,556**

Summary for Pond 1.3 IB: North Infiltration

Inflow Area = 17.900 ac, 16.76% Impervious, Inflow Depth = 1.77" for 100-yr event
Inflow = 6.48 cfs @ 12.04 hrs, Volume= 2.644 af
Outflow = 0.21 cfs @ 88.06 hrs, Volume= 2.574 af, Atten= 97%, Lag= 4,561.2 min
Discarded = 0.21 cfs @ 88.06 hrs, Volume= 2.574 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 656.71' @ 88.06 hrs Surf.Area= 17,851 sf Storage= 41,613 cf
Flood Elev= 659.00' Surf.Area= 22,300 sf Storage= 87,500 cf

Plug-Flow detention time= 2,470.1 min calculated for 2.574 af (97% of inflow)
Center-of-Mass det. time= 2,364.8 min (5,117.3 - 2,752.5)

Volume	Invert	Avail.Storage	Storage Description
#1	654.00'	110,800 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

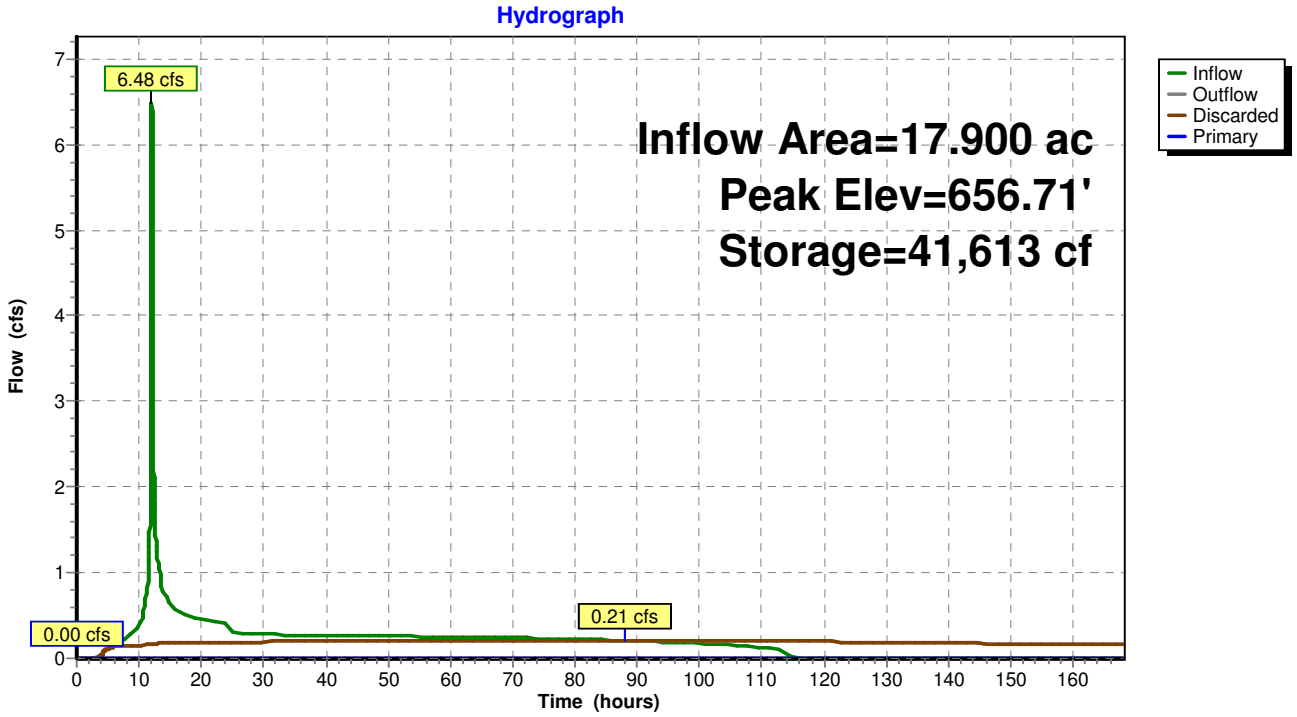
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
654.00	12,900	0	0
656.00	16,500	29,400	29,400
658.00	20,300	36,800	66,200
660.00	24,300	44,600	110,800

Device	Routing	Invert	Outlet Devices
#1	Discarded	654.00'	**0.500 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	658.90'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Discarded OutFlow Max=0.21 cfs @ 88.06 hrs HW=656.71' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.21 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=654.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1.3 IB: North Infiltration



Stage-Area-Storage for Pond 1.3 IB: North Infiltration

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
654.00	12,900	0
654.10	13,080	1,299
654.20	13,260	2,616
654.30	13,440	3,951
654.40	13,620	5,304
654.50	13,800	6,675
654.60	13,980	8,064
654.70	14,160	9,471
654.80	14,340	10,896
654.90	14,520	12,339
655.00	14,700	13,800
655.10	14,880	15,279
655.20	15,060	16,776
655.30	15,240	18,291
655.40	15,420	19,824
655.50	15,600	21,375
655.60	15,780	22,944
655.70	15,960	24,531
655.80	16,140	26,136
655.90	16,320	27,759
656.00	16,500	29,400
656.10	16,690	31,060
656.20	16,880	32,738
656.30	17,070	34,435
656.40	17,260	36,152
656.50	17,450	37,888
656.60	17,640	39,642
656.70	17,830	41,416
656.80	18,020	43,208
656.90	18,210	45,019
657.00	18,400	46,850
657.10	18,590	48,700
657.20	18,780	50,568
657.30	18,970	52,455
657.40	19,160	54,362
657.50	19,350	56,288
657.60	19,540	58,232
657.70	19,730	60,196
657.80	19,920	62,178
657.90	20,110	64,179
658.00	20,300	66,200
658.10	20,500	68,240
658.20	20,700	70,300
658.30	20,900	72,380
658.40	21,100	74,480
658.50	21,300	76,600
658.60	21,500	78,740
658.70	21,700	80,900
658.80	21,900	83,080
658.90	22,100	85,280
659.00	22,300	87,500
659.10	22,500	89,740
659.20	22,700	92,000
659.30	22,900	94,280
659.40	23,100	96,580
659.50	23,300	98,900
659.60	23,500	101,240
659.70	23,700	103,600
659.80	23,900	105,980
659.90	24,100	108,380
660.00	**24,300**	**110,800**

Summary for Pond 1.4 EDB: North Lower Detention Basin

Inflow Area = 0.600 ac, 0.00% Impervious, Inflow Depth = 154.97" for 100-yr event
Inflow = 63.03 cfs @ 12.24 hrs, Volume= 7.749 af
Outflow = 34.92 cfs @ 12.70 hrs, Volume= 7.749 af, Atten= 45%, Lag= 27.2 min
Primary = 34.92 cfs @ 12.70 hrs, Volume= 7.749 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Starting Elev= 594.00' Surf.Area= 0 sf Storage= 0 cf
Peak Elev= 659.49' @ 12.70 hrs Surf.Area= 17,933 sf Storage= 90,565 cf
Flood Elev= 659.50' Surf.Area= 17,950 sf Storage= 90,758 cf

Plug-Flow detention time= 123.0 min calculated for 7.749 af (100% of inflow)
Center-of-Mass det. time= 122.8 min (983.4 - 860.6)

Volume	Invert	Avail.Storage	Storage Description
#1	651.00'	320 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	652.00'	99,200 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		99,520 cf	Total Available Storage

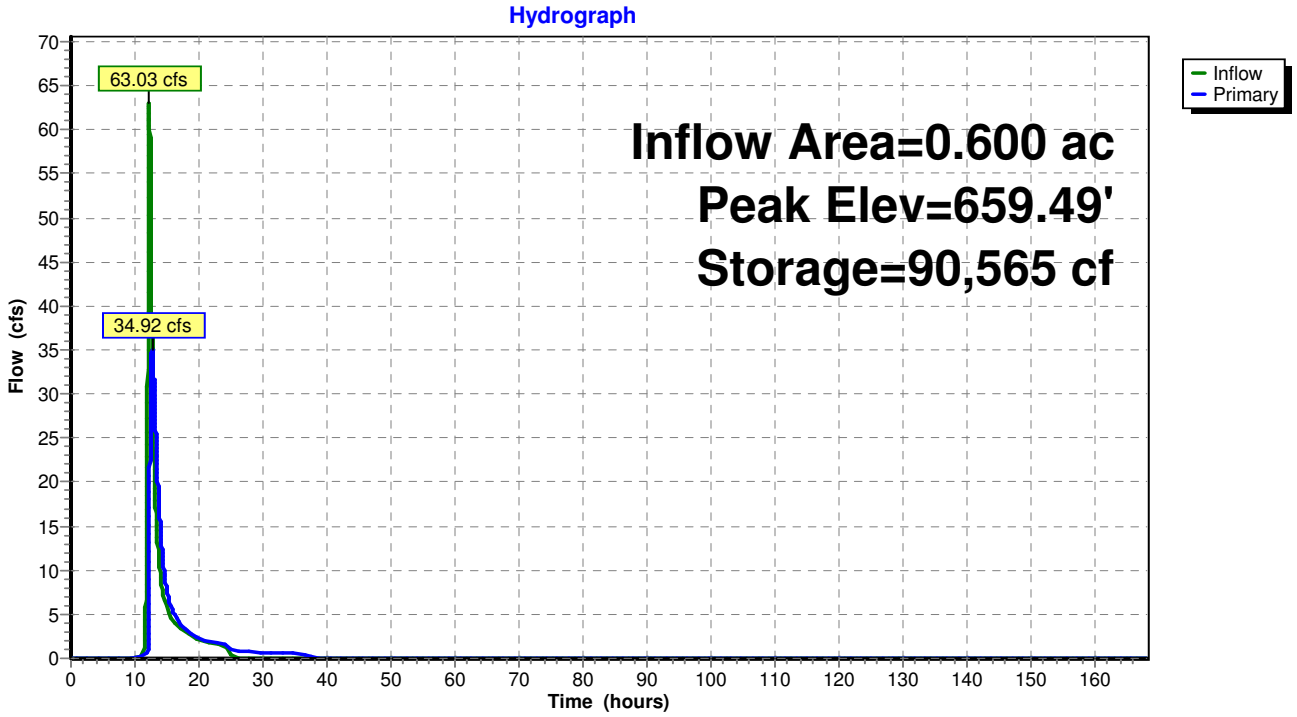
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
651.00	800	0	0
652.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
652.00	7,500	0	0
654.00	9,800	17,300	17,300
656.00	12,200	22,000	39,300
658.00	14,900	27,100	66,400
660.00	17,900	32,800	99,200

Device	Routing	Invert	Outlet Devices
#1	Primary	651.00'	**36.0" Round Culvert** L= 600.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 651.00' / 640.00' S= 0.0183 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	654.80'	**1.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	651.00'	**4.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=34.92 cfs @ 12.70 hrs HW=659.49' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Passes 34.92 cfs of 89.98 cfs potential flow)
  ├─**2=Broad-Crested Rectangular Weir** (Weir Controls 33.71 cfs @ 7.19 fps)
  └─**3=Orifice/Grate** (Orifice Controls 1.21 cfs @ 13.89 fps)

Pond 1.4 EDB: North Lower Detention Basin



Stage-Area-Storage for Pond 1.4 EDB: North Lower Detention Basin

Elevation (feet)	Storage (cubic-feet)
651.00	0
651.10	32
651.20	64
651.30	96
651.40	128
651.50	160
651.60	192
651.70	224
651.80	256
651.90	288
652.00	320
652.10	1,076
652.20	1,843
652.30	2,622
652.40	3,412
652.50	4,214
652.60	5,027
652.70	5,852
652.80	6,688
652.90	7,536
653.00	8,395
653.10	9,266
653.20	10,148
653.30	11,042
653.40	11,947
653.50	12,864
653.60	13,792
653.70	14,732
653.80	15,683
653.90	16,646
654.00	17,620
654.10	18,606
654.20	19,604
654.30	20,614
654.40	21,636
654.50	22,670
654.60	23,716
654.70	24,774
654.80	25,844
654.90	26,926
655.00	28,020
655.10	29,126
655.20	30,244
655.30	31,374
655.40	32,516
655.50	33,670
655.60	34,836
655.70	36,014
655.80	37,204
655.90	38,406
656.00	39,620
656.10	40,847
656.20	42,087
656.30	43,341
656.40	44,608
656.50	45,889
656.60	47,183
656.70	48,491
656.80	49,812
656.90	51,147
657.00	52,495
657.10	53,857
657.20	55,232
657.30	56,621
657.40	58,023
657.50	59,439
657.60	60,868
657.70	62,311
657.80	63,767
657.90	65,237
658.00	66,720
658.10	68,218
658.20	69,730
658.30	71,257
658.40	72,800
658.50	74,358
658.60	75,930
658.70	77,518
658.80	79,120
658.90	80,737
659.00	82,370
659.10	84,018
659.20	85,680
659.30	87,357
659.40	89,050
659.50	90,758
659.60	92,480
659.70	94,218
659.80	95,970
659.90	97,737
660.00	**99,520**

Summary for Pond 2.2 EDB: Entrance Detention Basin

Inflow Area = 6.000 ac, 45.00% Impervious, Inflow Depth = 6.92" for 100-yr event
Inflow = 35.17 cfs @ 12.12 hrs, Volume= 3.462 af
Outflow = 24.04 cfs @ 12.26 hrs, Volume= 3.462 af, Atten= 32%, Lag= 8.6 min
Primary = 24.04 cfs @ 12.26 hrs, Volume= 3.462 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 672.95' @ 12.26 hrs Surf.Area= 12,462 sf Storage= 50,343 cf
Flood Elev= 673.00' Surf.Area= 12,550 sf Storage= 50,895 cf

Plug-Flow detention time= 300.7 min calculated for 3.462 af (100% of inflow)
Center-of-Mass det. time= 300.5 min (1,096.9 - 796.5)

Volume	Invert	Avail.Storage	Storage Description
#1	663.00'	120 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 300 cf Overall x 40.0% Voids
#2	664.00'	64,000 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		64,120 cf	Total Available Storage

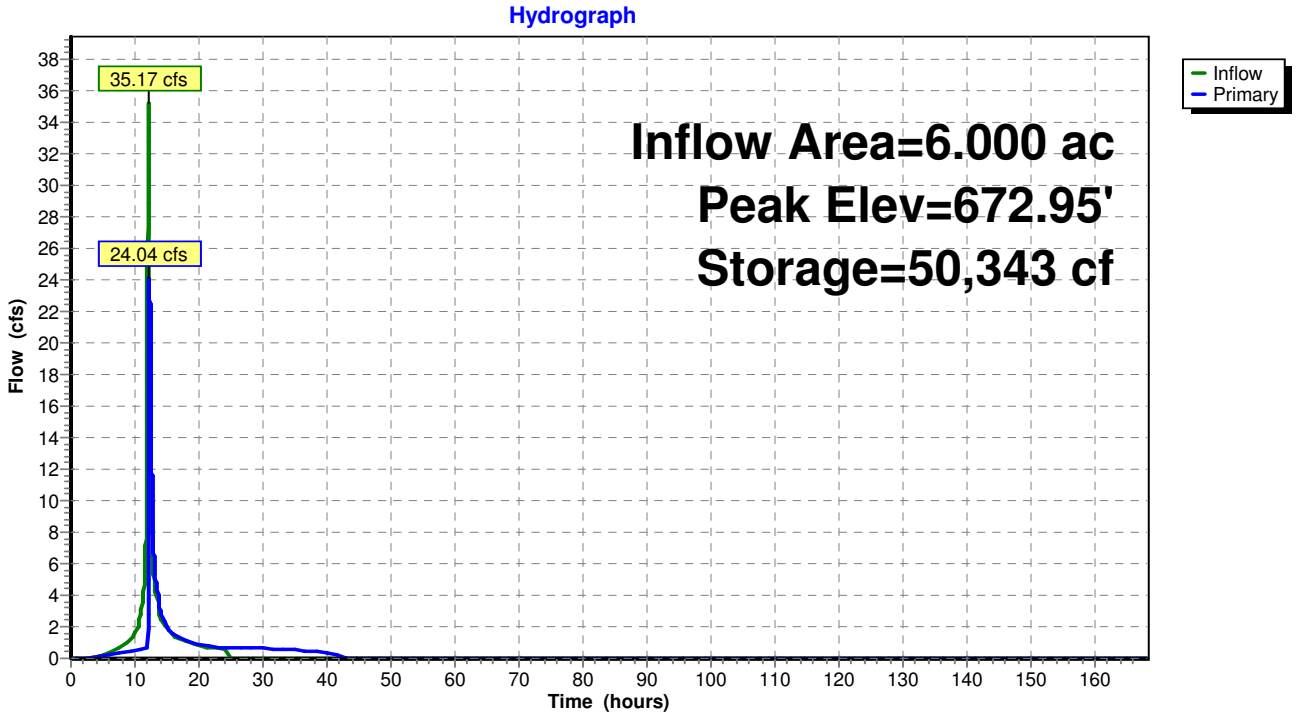
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
663.00	300	0	0
664.00	300	300	300

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
664.00	1,000	0	0
666.00	2,500	3,500	3,500
668.00	4,500	7,000	10,500
670.00	7,100	11,600	22,100
672.00	10,300	17,400	39,500
674.00	14,200	24,500	64,000

Device	Routing	Invert	Outlet Devices
#1	Primary	663.00'	**18.0" Round Culvert** L= 160.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 663.00' / 656.00' S= 0.0437 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	663.00'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	671.50'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=24.04 cfs @ 12.26 hrs HW=672.95' TW=621.61' (Dynamic Tailwater)
└─**1=Culvert** (Passes 24.04 cfs of 25.81 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.74 cfs @ 15.10 fps)
  └─**3=Broad-Crested Rectangular Weir** (Weir Controls 23.29 cfs @ 4.00 fps)

Pond 2.2 EDB: Entrance Detention Basin



Stage-Area-Storage for Pond 2.2 EDB: Entrance Detention Basin

Elevation (feet)	Storage (cubic-feet)
663.00	0
663.15	18
663.30	36
663.45	54
663.60	72
663.75	90
663.90	108
664.05	171
664.20	335
664.35	516
664.50	714
664.65	928
664.80	1,160
664.95	1,408
665.10	1,674
665.25	1,956
665.40	2,255
665.55	2,571
665.70	2,904
665.85	3,253
666.00	3,620
666.15	4,006
666.30	4,415
666.45	4,846
666.60	5,300
666.75	5,776
666.90	6,275
667.05	6,796
667.20	7,340
667.35	7,906
667.50	8,495
667.65	9,106
667.80	9,740
667.95	10,396
668.10	11,077
668.25	11,786
668.40	12,524
668.55	13,292
668.70	14,089
668.85	14,915
669.00	15,770
669.15	16,655
669.30	17,568
669.45	18,512
669.60	19,484
669.75	20,486
669.90	21,516
670.05	22,577
670.20	23,672
670.35	24,803
670.50	25,970
670.65	27,173
670.80	28,412
670.95	29,687
671.10	30,998
671.25	32,345
671.40	33,728
671.55	35,147
671.70	36,602
671.85	38,093
672.00	39,620
672.15	41,187
672.30	42,798
672.45	44,452
672.60	46,151
672.75	47,893
672.90	49,680
673.05	51,510
673.20	53,384
673.35	55,302
673.50	57,264
673.65	59,269
673.80	61,319
673.95	**63,412**

Summary for Pond 2.5 EDB: South Detention Basin

Inflow Area = 13.500 ac, 37.04% Impervious, Inflow Depth = 6.83" for 100-yr event
Inflow = 94.92 cfs @ 12.04 hrs, Volume= 7.685 af
Outflow = 32.01 cfs @ 12.09 hrs, Volume= 7.685 af, Atten= 66%, Lag= 2.9 min
Primary = 32.01 cfs @ 12.09 hrs, Volume= 7.685 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 631.50' @ 12.30 hrs Surf.Area= 20,526 sf Storage= 130,025 cf
Flood Elev= 631.50' Surf.Area= 20,525 sf Storage= 130,014 cf

Plug-Flow detention time= 448.4 min calculated for 7.685 af (100% of inflow)
Center-of-Mass det. time= 448.2 min (1,238.2 - 790.0)

Volume	Invert	Avail.Storage	Storage Description
#1	620.00'	320 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	621.00'	139,750 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		140,070 cf	Total Available Storage

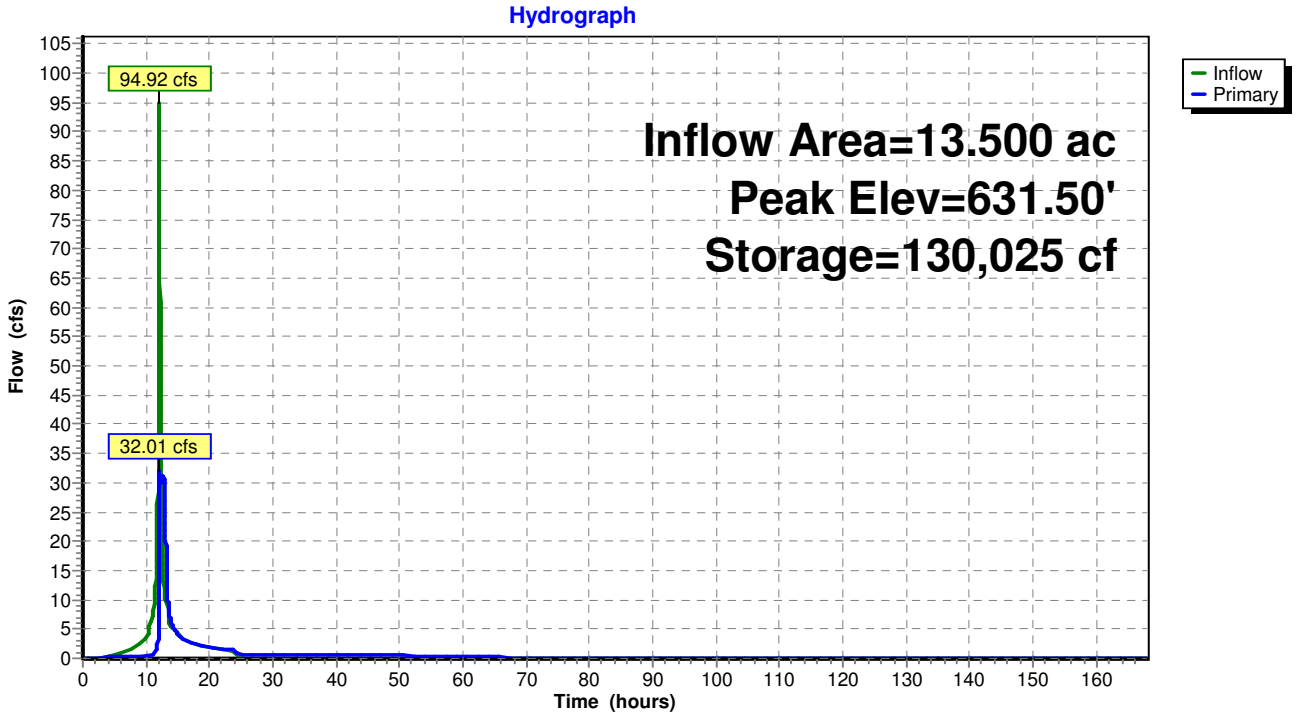
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
620.00	800	0	0
621.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
621.00	5,200	0	0
622.00	7,100	6,150	6,150
624.00	9,300	16,400	22,550
626.00	11,800	21,100	43,650
628.00	14,500	26,300	69,950
630.00	17,400	31,900	101,850
632.00	20,500	37,900	139,750

Device	Routing	Invert	Outlet Devices
#1	Primary	620.00'	**24.0" Round Culvert** L= 450.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 620.00' / 615.50' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	628.30'	**8.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	620.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=31.73 cfs @ 12.09 hrs HW=630.60' TW=619.34' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 31.73 cfs @ 10.10 fps)
└─**2=Broad-Crested Rectangular Weir** (Passes < 92.82 cfs potential flow)
└─**3=Orifice/Grate** (Passes < 0.77 cfs potential flow)

Pond 2.5 EDB: South Detention Basin



Stage-Area-Storage for Pond 2.5 EDB: South Detention Basin

Elevation (feet)	Storage (cubic-feet)
620.00	0
620.15	48
620.30	96
620.45	144
620.60	192
620.75	240
620.90	288
621.05	582
621.20	1,398
621.35	2,256
621.50	3,158
621.65	4,101
621.80	5,088
621.95	6,117
622.10	7,186
622.25	8,279
622.40	9,398
622.55	10,541
622.70	11,710
622.85	12,902
623.00	14,120
623.15	15,362
623.30	16,629
623.45	17,921
623.60	19,238
623.75	20,579
623.90	21,945
624.05	23,337
624.20	24,755
624.35	26,202
624.50	27,676
624.65	29,179
624.80	30,710
624.95	32,269
625.10	33,856
625.25	35,472
625.40	37,115
625.55	38,787
625.70	40,486
625.85	42,214
626.00	43,970
626.15	45,755
626.30	47,571
626.45	49,417
626.60	51,293
626.75	53,200
626.90	55,137
627.05	57,104
627.20	59,102
627.35	61,130
627.50	63,189
627.65	65,278
627.80	67,397
627.95	69,547
628.10	71,727
628.25	73,940
628.40	76,186
628.55	78,464
628.70	80,775
628.85	83,119
629.00	85,495
629.15	87,904
629.30	90,345
629.45	92,819
629.60	95,326
629.75	97,865
629.90	100,437
630.05	103,042
630.20	105,681
630.35	108,355
630.50	111,064
630.65	113,807
630.80	116,586
630.95	119,399
631.10	122,248
631.25	125,131
631.40	128,049
631.55	131,002
631.70	133,990
631.85	137,012
632.00	**140,070**

Summary for Pond 2.6 IB: South Upper Infiltration Basin

Inflow Area = 20.500 ac, 37.56% Impervious, Inflow Depth = 2.67" for 100-yr event
Inflow = 5.75 cfs @ 12.05 hrs, Volume= 4.564 af
Outflow = 3.21 cfs @ 12.29 hrs, Volume= 4.564 af, Atten= 44%, Lag= 14.9 min
Discarded = 3.21 cfs @ 12.29 hrs, Volume= 4.564 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 609.27' @ 12.29 hrs Surf.Area= 6,929 sf Storage= 1,852 cf
Flood Elev= 617.50' Surf.Area= 18,675 sf Storage= 104,556 cf

Plug-Flow detention time= 1.0 min calculated for 4.564 af (100% of inflow)
Center-of-Mass det. time= 1.0 min (1,694.6 - 1,693.6)

Volume	Invert	Avail.Storage	Storage Description
#1	609.00'	114,100 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

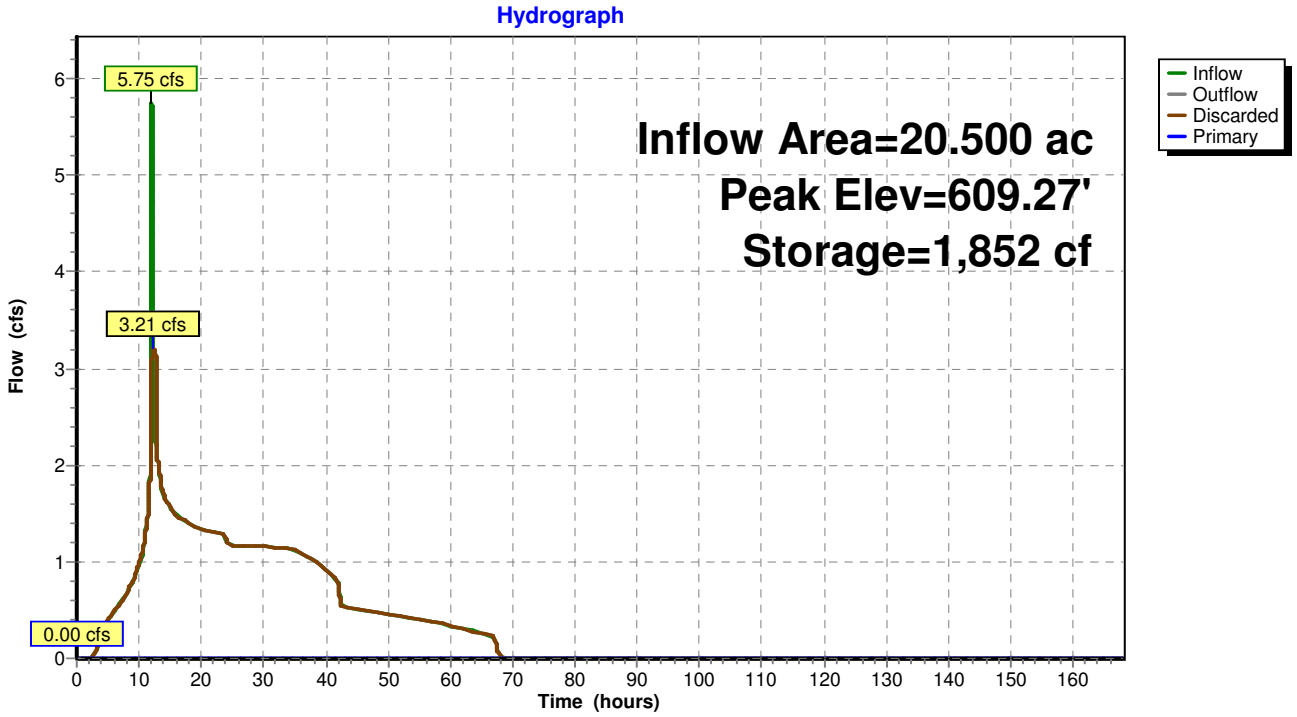
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
609.00	6,600	0	0
610.00	7,800	7,200	7,200
612.00	10,400	18,200	25,400
614.00	13,200	23,600	49,000
616.00	16,200	29,400	78,400
618.00	19,500	35,700	114,100

Device	Routing	Invert	Outlet Devices
#1	Primary	609.00'	**12.0" Round Culvert** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 609.00' / 594.00' S= 0.1875 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	617.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Discarded	609.00'	**20.000 in/hr Exfiltration over Surface area** Phase-In= 0.02'

Discarded OutFlow Max=3.21 cfs @ 12.29 hrs HW=609.27' (Free Discharge)
↑—**3=Exfiltration** (Exfiltration Controls 3.21 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=609.00' TW=593.00' (Dynamic Tailwater)
↑—**1=Culvert** (Controls 0.00 cfs)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2.6 IB: South Upper Infiltration Basin



Stage-Area-Storage for Pond 2.6 IB: South Upper Infiltration Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
609.00	6,600	0
609.10	6,720	666
609.20	6,840	1,344
609.30	6,960	2,034
609.40	7,080	2,736
609.50	7,200	3,450
609.60	7,320	4,176
609.70	7,440	4,914
609.80	7,560	5,664
609.90	7,680	6,426
610.00	7,800	7,200
610.10	7,930	7,987
610.20	8,060	8,786
610.30	8,190	9,598
610.40	8,320	10,424
610.50	8,450	11,263
610.60	8,580	12,114
610.70	8,710	12,979
610.80	8,840	13,856
610.90	8,970	14,746
611.00	9,100	15,650
611.10	9,230	16,567
611.20	9,360	17,496
611.30	9,490	18,438
611.40	9,620	19,394
611.50	9,750	20,363
611.60	9,880	21,344
611.70	10,010	22,339
611.80	10,140	23,346
611.90	10,270	24,366
612.00	10,400	25,400
612.10	10,540	26,447
612.20	10,680	27,508
612.30	10,820	28,583
612.40	10,960	29,672
612.50	11,100	30,775
612.60	11,240	31,892
612.70	11,380	33,023
612.80	11,520	34,168
612.90	11,660	35,327
613.00	11,800	36,500
613.10	11,940	37,687
613.20	12,080	38,888
613.30	12,220	40,103
613.40	12,360	41,332
613.50	12,500	42,575
613.60	12,640	43,832
613.70	12,780	45,103
613.80	12,920	46,388
613.90	13,060	47,687
614.00	13,200	49,000
614.10	13,350	50,328
614.20	13,500	51,670
614.30	13,650	53,027
614.40	13,800	54,400
614.50	13,950	55,788
614.60	14,100	57,190
614.70	14,250	58,608
614.80	14,400	60,040
614.90	14,550	61,487
615.00	14,700	62,950
615.10	14,850	64,428
615.20	15,000	65,920
615.30	15,150	67,427
615.40	15,300	68,950
615.50	15,450	70,488
615.60	15,600	72,040
615.70	15,750	73,608
615.80	15,900	75,190
615.90	16,050	76,787
616.00	16,200	78,400
616.10	16,365	80,028
616.20	16,530	81,673
616.30	16,695	83,334
616.40	16,860	85,012
616.50	17,025	86,706
616.60	17,190	88,417
616.70	17,355	90,144
616.80	17,520	91,888
616.90	17,685	93,648
617.00	17,850	95,425
617.10	18,015	97,218
617.20	18,180	99,028
617.30	18,345	100,854
617.40	18,510	102,697
617.50	18,675	104,556
617.60	18,840	106,432
617.70	19,005	108,324
617.80	19,170	110,233
617.90	19,335	112,158
618.00	**19,500**	**114,100**

Summary for Pond 2.7 EDB: South Lower Detention Basin

Inflow Area = 21.200 ac, 36.32% Impervious, Inflow Depth = 4.06" for 100-yr event
Inflow = 53.43 cfs @ 12.26 hrs, Volume= 7.177 af
Outflow = 39.94 cfs @ 12.75 hrs, Volume= 7.177 af, Atten= 25%, Lag= 29.4 min
Primary = 39.94 cfs @ 12.75 hrs, Volume= 7.177 af

Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 605.49' @ 12.75 hrs Surf.Area= 16,117 sf Storage= 100,001 cf
Flood Elev= 605.50' Surf.Area= 16,125 sf Storage= 100,089 cf

Plug-Flow detention time= 478.9 min calculated for 7.177 af (100% of inflow)
Center-of-Mass det. time= 478.7 min (1,327.7 - 849.0)

Volume	Invert	Avail.Storage	Storage Description
#1	593.00'	320 cf	**Underdrain Gravel (Prismatic)** Listed below (Recalc) 800 cf Overall x 40.0% Voids
#2	594.00'	107,600 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		107,920 cf	Total Available Storage

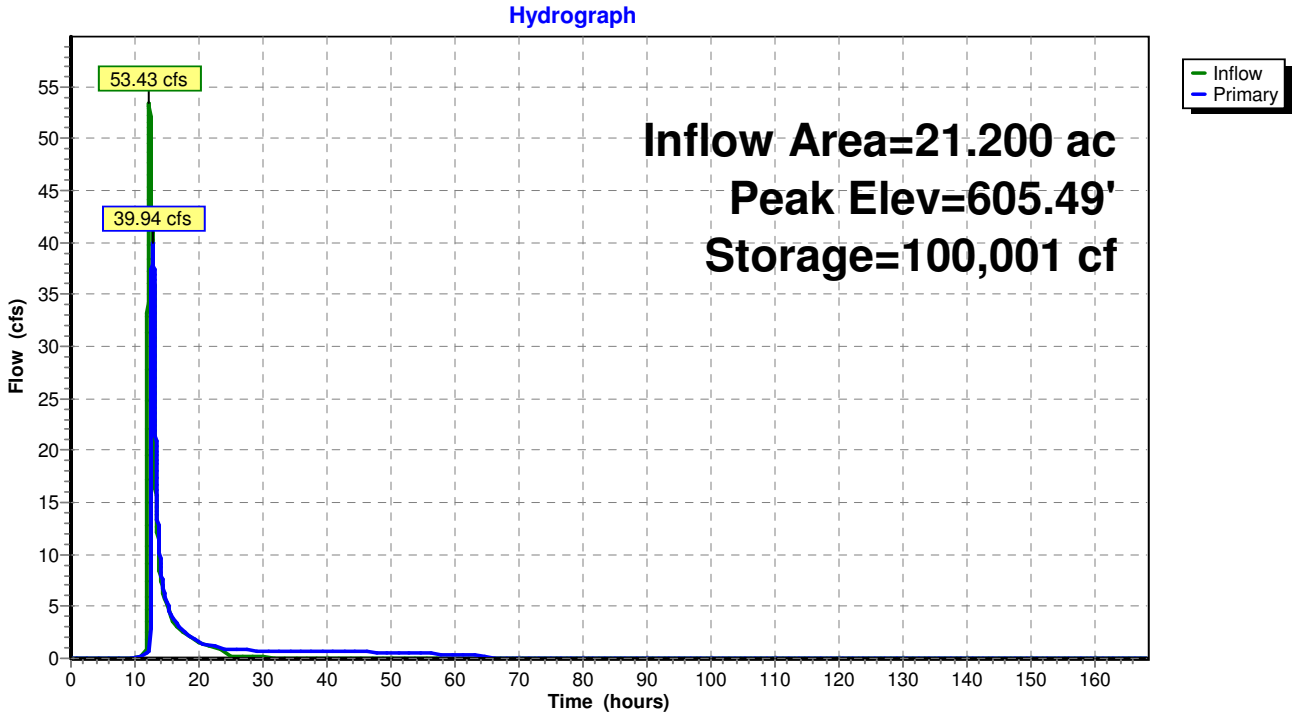
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
593.00	800	0	0
594.00	800	800	800

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
594.00	3,200	0	0
596.00	4,800	8,000	8,000
598.00	6,600	11,400	19,400
600.00	8,600	15,200	34,600
602.00	10,900	19,500	54,100
604.00	13,300	24,200	78,300
606.00	16,000	29,300	107,600

Device	Routing	Invert	Outlet Devices
#1	Primary	593.00'	**36.0" Round Culvert** L= 85.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 593.00' / 590.00' S= 0.0353 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf
#2	Device 1	604.20'	**8.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Device 1	593.00'	**3.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=39.94 cfs @ 12.75 hrs HW=605.49' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 39.94 cfs of 112.85 cfs potential flow)
  - **2=Broad-Crested Rectangular Weir** (Weir Controls 39.11 cfs @ 3.78 fps)
  - **3=Orifice/Grate** (Orifice Controls 0.83 cfs @ 16.93 fps)

Pond 2.7 EDB: South Lower Detention Basin



Stage-Area-Storage for Pond 2.7 EDB: South Lower Detention Basin

Elevation (feet)	Storage (cubic-feet)
593.00	0
593.15	48
593.30	96
593.45	144
593.60	192
593.75	240
593.90	288
594.05	481
594.20	976
594.35	1,489
594.50	2,020
594.65	2,569
594.80	3,136
594.95	3,721
595.10	4,324
595.25	4,945
595.40	5,584
595.55	6,241
595.70	6,916
595.85	7,609
596.00	8,320
596.15	9,050
596.30	9,800
596.45	10,571
596.60	11,362
596.75	12,173
596.90	13,004
597.05	13,856
597.20	14,728
597.35	15,620
597.50	16,533
597.65	17,465
597.80	18,418
597.95	19,391
598.10	20,385
598.25	21,401
598.40	22,440
598.55	23,501
598.70	24,585
598.85	25,691
599.00	26,820
599.15	27,971
599.30	29,145
599.45	30,341
599.60	31,560
599.75	32,801
599.90	34,065
600.05	35,351
600.20	36,663
600.35	38,000
600.50	39,364
600.65	40,753
600.80	42,168
600.95	43,609
601.10	45,076
601.25	46,568
601.40	48,087
601.55	49,631
601.70	51,202
601.85	52,798
602.00	54,420
602.15	56,068
602.30	57,744
602.45	59,447
602.60	61,176
602.75	62,933
602.90	64,716
603.05	66,526
603.20	68,364
603.35	70,229
603.50	72,120
603.65	74,038
603.80	75,984
603.95	77,957
604.10	79,957
604.25	81,987
604.40	84,048
604.55	86,139
604.70	88,261
604.85	90,413
605.00	92,595
605.15	94,808
605.30	97,051
605.45	99,324
605.60	101,628
605.75	103,962
605.90	**106,327**

Summary for Pond FS 1: North Detention Flow Split

Inflow Area = 16.900 ac, 17.75% Impervious, Inflow Depth = 6.85" for 100-yr event
Inflow = 62.13 cfs @ 12.24 hrs, Volume= 9.643 af
Outflow = 62.13 cfs @ 12.25 hrs, Volume= 9.643 af, Atten= 0%, Lag= 0.6 min
Primary = 0.59 cfs @ 12.25 hrs, Volume= 2.176 af
Secondary = 61.54 cfs @ 12.25 hrs, Volume= 7.468 af

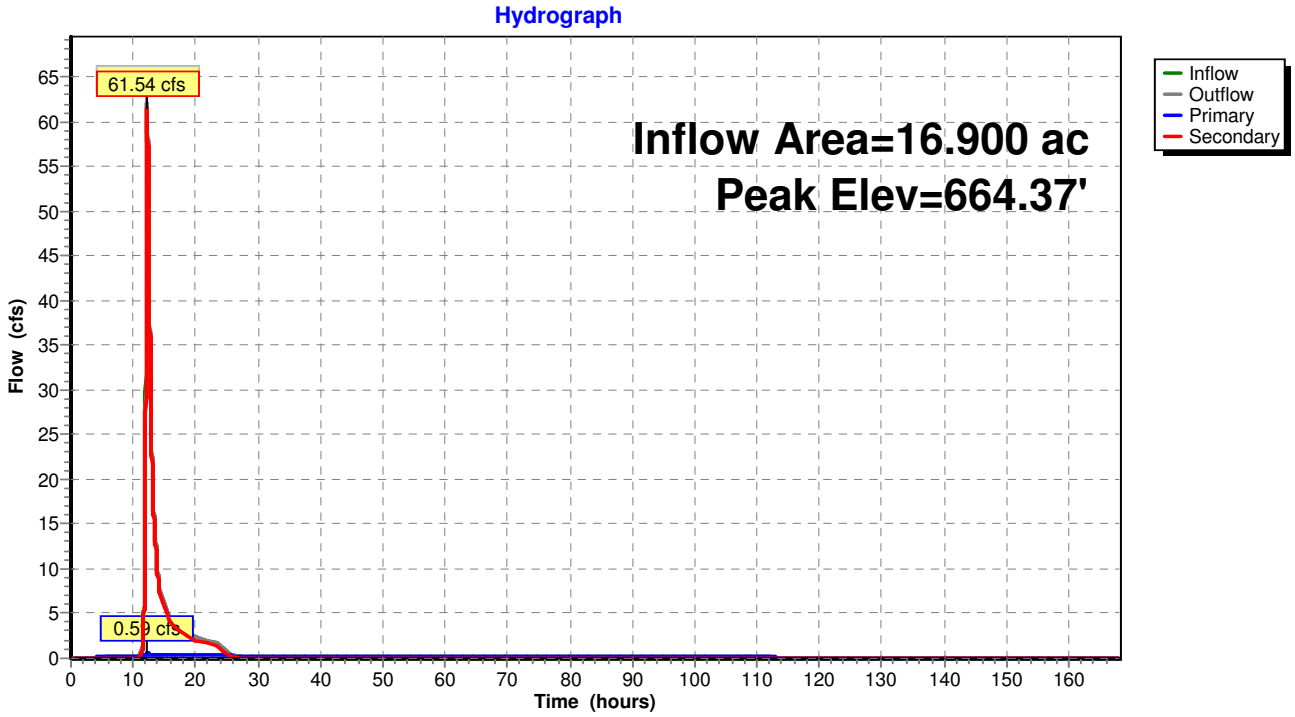
Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 664.37' @ 12.25 hrs
Flood Elev= 669.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	658.00'	**6.0" Round Culvert** L= 150.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 658.00' / 656.00' S= 0.0133 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 1	658.00'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Secondary	659.60'	**36.0" Round Culvert** L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 659.60' / 656.00' S= 0.0450 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=0.59 cfs @ 12.25 hrs HW=664.37' TW=654.84' (Dynamic Tailwater)
↑**1=Culvert** (Passes 0.59 cfs of 1.21 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.59 cfs @ 12.03 fps)

Secondary OutFlow Max=61.53 cfs @ 12.25 hrs HW=664.37' TW=657.26' (Dynamic Tailwater)
↑**3=Culvert** (Inlet Controls 61.53 cfs @ 8.70 fps)

Pond FS 1: North Detention Flow Split



Stage-Area-Storage for Pond FS 1: North Detention Flow Split

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
658.00	**0**	665.80	0
658.15	0	665.95	0
658.30	0	666.10	0
658.45	0	666.25	0
658.60	0	666.40	0
658.75	0	666.55	0
658.90	0	666.70	0
659.05	0	666.85	0
659.20	0	667.00	0
659.35	0	667.15	0
659.50	0	667.30	0
659.65	0	667.45	0
659.80	0	667.60	0
659.95	0	667.75	0
660.10	0	667.90	0
660.25	0	668.05	0
660.40	0	668.20	0
660.55	0	668.35	0
660.70	0	668.50	0
660.85	0	668.65	0
661.00	0	668.80	0
661.15	0	668.95	0
661.30	0		
661.45	0		
661.60	0		
661.75	0		
661.90	0		
662.05	0		
662.20	0		
662.35	0		
662.50	0		
662.65	0		
662.80	0		
662.95	0		
663.10	0		
663.25	0		
663.40	0		
663.55	0		
663.70	0		
663.85	0		
664.00	0		
664.15	0		
664.30	0		
664.45	0		
664.60	0		
664.75	0		
664.90	0		
665.05	0		
665.20	0		
665.35	0		
665.50	0		
665.65	0		

Summary for Pond FS 2:

Inflow Area = 19.500 ac, 39.49% Impervious, Inflow Depth = 6.86" for 100-yr event
Inflow = 53.78 cfs @ 12.26 hrs, Volume= 11.147 af
Outflow = 53.78 cfs @ 12.27 hrs, Volume= 11.147 af, Atten= 0%, Lag= 0.6 min
Primary = 1.65 cfs @ 12.27 hrs, Volume= 4.228 af
Secondary = 52.12 cfs @ 12.27 hrs, Volume= 6.920 af

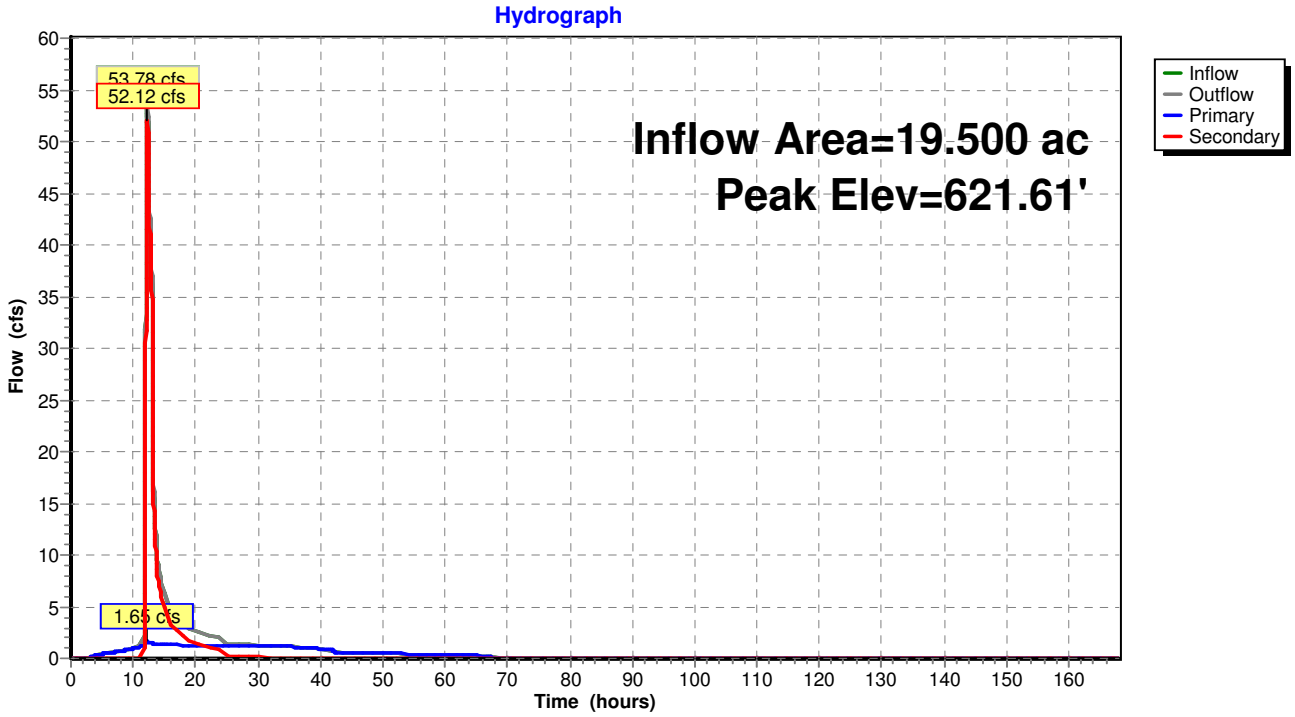
Routing by Sim-Route method, Time Span= 0.00-168.00 hrs, dt= 0.01 hrs
Peak Elev= 621.61' @ 12.27 hrs
Flood Elev= 629.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	615.50'	**6.0" Round Culvert** L= 120.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 615.50' / 609.00' S= 0.0542 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Device 3	617.20'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#3	Secondary	615.50'	**30.0" Round Culvert** L= 180.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 615.50' / 610.80' S= 0.0261 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 4.91 sf

Primary OutFlow Max=1.65 cfs @ 12.27 hrs HW=621.61' TW=609.27' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 1.65 cfs @ 8.42 fps)

Secondary OutFlow Max=52.12 cfs @ 12.27 hrs HW=621.61' TW=601.72' (Dynamic Tailwater)
└**3=Culvert** (Inlet Controls 52.12 cfs @ 10.62 fps)
└**2=Broad-Crested Rectangular Weir** (Passes 52.12 cfs of 123.13 cfs potential flow)

Pond FS 2:


Hydrograph
Inflow Area=19.500 ac
Peak Elev=621.61'
53.78 cfs
52.12 cfs
1.65 cfs
Inflow
Outflow
Primary
Secondary
Flow (cfs)
Time (hours)
0
5
10
15
20
25
30
35
40
45
50
55
60
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160

Stage-Area-Storage for Pond FS 2:

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
615.50	**0**	623.30	0
615.65	0	623.45	0
615.80	0	623.60	0
615.95	0	623.75	0
616.10	0	623.90	0
616.25	0	624.05	0
616.40	0	624.20	0
616.55	0	624.35	0
616.70	0	624.50	0
616.85	0	624.65	0
617.00	0	624.80	0
617.15	0	624.95	0
617.30	0	625.10	0
617.45	0	625.25	0
617.60	0	625.40	0
617.75	0	625.55	0
617.90	0	625.70	0
618.05	0	625.85	0
618.20	0	626.00	0
618.35	0	626.15	0
618.50	0	626.30	0
618.65	0	626.45	0
618.80	0	626.60	0
618.95	0	626.75	0
619.10	0	626.90	0
619.25	0	627.05	0
619.40	0	627.20	0
619.55	0	627.35	0
619.70	0	627.50	0
619.85	0	627.65	0
620.00	0	627.80	0
620.15	0	627.95	0
620.30	0	628.10	0
620.45	0	628.25	0
620.60	0	628.40	0
620.75	0	628.55	0
620.90	0	628.70	0
621.05	0	628.85	0
621.20	0	629.00	0
621.35	0	629.15	0
621.50	0	629.30	0
621.65	0	629.45	0
621.80	0		
621.95	0		
622.10	0		
622.25	0		
622.40	0		
622.55	0		
622.70	0		
622.85	0		
623.00	0		
623.15	0		

APPENDIX D

NYSDEC SPDES for Construction Activities Construction Site Log Book

APPENDIX F
CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG BOOK

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES

SAMPLE CONSTRUCTION SITE LOG BOOK

Table of Contents

I. Pre-Construction Meeting Documents
   a. Preamble to Site Assessment and Inspections
   b. Pre-Construction Site Assessment Checklist

II. Construction Duration Inspections
   a. Directions
   b. Modification to the SWPPP

I. **PRE-CONSTRUCTION MEETING DOCUMENTS**

Project Name _____

Permit No. _____ **Date of Authorization** _____

Name of Operator _____

Prime Contractor _____

a. **Preamble to Site Assessment and Inspections**

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified inspector[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction meeting should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 Refer to "Qualified Inspector" inspection requirements in the current SPDES General Permit for Stormwater Discharges from Construction Activity for complete list of inspection requirements.
2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.
3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?_____
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?_____
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?_____
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?
[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.
[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.
[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.
[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.
[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.
[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals
[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.
[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
[ ] [ ] [ ] The plan is contained in the SWPPP on page _____
[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? _____

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project.

Required Elements:

1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)	**Date of Inspection**
Qualified Inspector (print name)	**Qualified Inspector Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA

[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions at the outfalls?
[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease at the outfalls?
[ ] [ ] [ ] All disturbance is within the limits of the approved plans.
[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA

[ ] [ ] [ ] Is construction site litter, debris and spoils appropriately managed?
[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?
[ ] [ ] [ ] Is construction impacting the adjacent property?
[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA

[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.
[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.
[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?
[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

3. Stabilized Construction Access

Yes No NA

[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.
[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.
[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.
[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

Runoff Control Practices (continued)

2. Flow Spreader

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.
[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.
[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.
[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

4. Stone Check Dam

Yes No NA

[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection

Yes No NA

[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization

1. Topsoil and Spoil Stockpiles

Yes No NA

[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No NA

[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control Practices

1. Silt Fence and Linear Barriers

Yes No NA

[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control Practices (continued)

2. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated; Filter Sock or Manufactured practices)

Yes No NA

[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2" x 4" frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
[ ] [ ] [ ] Manufactured insert fabric is free of tears and punctures.
[ ] [ ] [ ] Filter Sock is not torn or flattened and fill material is contained within the mesh sock.

Sediment accumulation ___% of design capacity.

3. Temporary Sediment Trap

Yes No NA

[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.
[ ] [ ] [ ] Sediment trap slopes and disturbed areas are stabilized.

Sediment accumulation is ___% of design capacity.

4. Temporary Sediment Basin

Yes No NA

[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
[ ] [ ] [ ] Sediment basin dewatering pool is dewatering at appropriate rate.

Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
   a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
   b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

APPENDIX E

Project and Owner Information

Site Data:

160 & 132 Pugsley Road
Town of Southeast, New York 10509
Area: 153.5 acres ±

Owner Information:

Town of Southeast
1360 Route 22
Brewster, NY 10509
845-279-4313
thay@southeast-ny.gov

Applicant Information:

ProSwing Sports Realty, Inc.
27 Radio Circle Drive
Mount Kisco, NY 10590
914-242-1626
Dan@proswingbaseball.com

Parties Responsible for Implementation of the Short and Long Term Maintenance Plan:

To Be Determined

Qualified Professional Responsible for Inspection of the Stormwater Pollution Prevention Plan:

Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512
845-225-9690

APPENDIX F
NYSDEC Stormwater Design Manual Chapter 5 Analysis

Table Key: ● = Practice Used in Accordance with Chapter 5 Requirements
o = Practice Not Used
- = Practice is Not Applicable

NYSDEC Chapter 5 Requirements	Remarks		
	Design Line 1	Design Line 2	
Practices			
Preservation of Undisturbed Areas	●	●	See Note #1
Preservation of Buffers	●	●	See Note #1
Reduction of Clearing & Grading	●	●	See Note #2
Locating Development in Less Sensitive Areas	●	●	See Note #1
Open Space Design	-		
Soil Restoration	●	●	See Note #3
Practices			
Roadway Reduction	●	●	See Note #2
Sidewalk Reduction	●	●	See Note #2
Driveway Reduction	-		
Cul-de-sac Reduction	-		
Building Footprint Reduction	-		
Parking Reduction	●	●	
Conservation of Natural Areas	●	●	See Note #1
Sheetflow to Riparian Buffers or Filter Strips	o		
Vegetated Swale	o		See Note #4
Tree Planting / Tree Pit	o		
Disconnection of Rooftop Runoff	o		
Stream Daylighting	o		
Rain Gardens	o		
Green Roofs	o		
Stormwater Planters	o		
Rain Barrels / Cisterns	o	o	See Note #4
Porous Pavement	o		See Note #4

Notes:

1. Although no formal calculations have been provided, the subject project has provided conservation of natural areas, development in less sensitive areas and preservation of buffers and undisturbed areas to the maximum extent practical.
2. The reduction in clearing and grading as well as the driveway and parking areas foot print reduction will be enforced with the approval of the project SWPPP. Notes on the project plans, establish that any changes in the project plans would require an amended approval from the necessary regulatory agencies.
3. Soil restoration notes have been provided on the project plans.
4. Two (2) infiltration practices have been designed as a standard stormwater management practice (SMP) and are proposed for treatment of the RRv and WQv from the proposed development.

APPENDIX G

NYSDEC Stormwater Management Practice Construction and Maintenance Checklists

Infiltration Basin Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
1. Pre-Construction		
Runoff diverted		
Soil permeability tested		
Groundwater / bedrock depth		
2. Excavation		
Size and location		
Side slopes stable		
Excavation does not compact subsoils		
3. Embankment		
Barrel		
Anti-seep collar or Filter diaphragm		
Fill material		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Final Excavation		
Drainage area stabilized		
Sediment removed from facility		
Basin floor tilled		
Facility stabilized		
5. Final Inspection		
Pretreatment facility in place		
Inlets / outlets		
Contributing watershed stabilized before flow is routed to the factility		

Comments:

Actions to be Taken:

Stormwater/Wetland Pond Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
Pre-Construction/Materials and Equipment		
Pre-construction meeting		
Pipe and appurtenances on-site prior to construction and dimensions checked		
1. Material (including protective coating, if specified)		
2. Diameter		
3. Dimensions of metal riser or pre-cast concrete outlet structure		
4. Required dimensions between water control structures (orifices, weirs, etc.) are in accordance with approved plans		
5. Barrel stub for prefabricated pipe structures at proper angle for design barrel slope		
6. Number and dimensions of prefabricated anti-seep collars		
7. Watertight connectors and gaskets		
8. Outlet drain valve		
Project benchmark near pond site		
Equipment for temporary de-watering		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
2. Subgrade Preparation		
Area beneath embankment stripped of all vegetation, topsoil, and organic matter		
3. Pipe Spillway Installation		
Method of installation detailed on plans		
A. Bed preparation		
Installation trench excavated with specified side slopes		
Stable, uniform, dry subgrade of relatively impervious material (If subgrade is wet, contractor shall have defined steps before proceeding with installation)		
Invert at proper elevation and grade		
B. Pipe placement		
Metal / plastic pipe		
1. Watertight connectors and gaskets properly installed		
2. Anti-seep collars properly spaced and having watertight connections to pipe		
3. Backfill placed and tamped by hand under “haunches” of pipe		
4. Remaining backfill placed in max. 8 inch lifts using small power tamping equipment until 2 feet cover over pipe is reached		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
3. Pipe Spillway Installation		
Concrete pipe		
1. Pipe set on blocks or concrete slab for pouring of low cradle		
2. Pipe installed with rubber gasket joints with no spalling in gasket interface area		
3. Excavation for lower half of anti-seep collar(s) with reinforcing steel set		
4. Entire area where anti-seep collar(s) will come in contact with pipe coated with mastic or other approved waterproof sealant		
5. Low cradle and bottom half of anti-seep collar installed as monolithic pour and of an approved mix		
6. Upper half of anti-seep collar(s) formed with reinforcing steel set		
7. Concrete for collar of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
8. Forms stripped and collar inspected for honeycomb prior to backfilling. Parge if necessary.		
C. Backfilling		
Fill placed in maximum 8 inch lifts		
Backfill taken minimum 2 feet above top of anti-seep collar elevation before traversing with heavy equipment		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Riser / Outlet Structure Installation		
Riser located within embankment		
A. Metal riser		
Riser base excavated or formed on stable subgrade to design dimensions		
Set on blocks to design elevations and plumbed		
Reinforcing bars placed at right angles and projecting into sides of riser		
Concrete poured so as to fill inside of riser to invert of barrel		
B. Pre-cast concrete structure		
Dry and stable subgrade		
Riser base set to design elevation		
If more than one section, no spalling in gasket interface area; gasket or approved caulking material placed securely		
Watertight and structurally sound collar or gasket joint where structure connects to pipe spillway		
C. Poured concrete structure		
Footing excavated or formed on stable subgrade, to design dimensions with reinforcing steel set		
Structure formed to design dimensions, with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
Forms stripped & inspected for “honeycomb” prior to backfilling; parge if necessary		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
5. Embankment Construction		
Fill material		
Compaction		
Embankment		
1. Fill placed in specified lifts and compacted with appropriate equipment		
2. Constructed to design cross-section, side slopes and top width		
3. Constructed to design elevation plus allowance for settlement		
6. Impounded Area Construction		
Excavated / graded to design contours and side slopes		
Inlet pipes have adequate outfall protection		
Forebay(s)		
Pond benches		
7. Earth Emergency Spillway Construction		
Spillway located in cut or structurally stabilized with riprap, gabions, concrete, etc.		
Excavated to proper cross-section, side slopes and bottom width		
Entrance channel, crest, and exit channel constructed to design grades and elevations		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
8. Outlet Protection		
A. End section		
Securely in place and properly backfilled		
B. Endwall		
Footing excavated or formed on stable subgrade, to design dimensions and reinforcing steel set, if specified		
Endwall formed to design dimensions with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing, if necessary)		
Forms stripped and structure inspected for "honeycomb" prior to backfilling; parge if necessary		
C. Riprap apron / channel		
Apron / channel excavated to design cross-section with proper transition to existing ground		
Filter fabric in place		
Stone sized as per plan and uniformly place at the thickness specified		
9. Vegetative Stabilization		
Approved seed mixture or sod		
Proper surface preparation and required soil amendments		
Excelsior mat or other stabilization, as per plan		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
10. Miscellaneous		
Drain for ponds having a permanent pool		
Trash rack / anti-vortex device secured to outlet structure		
Trash protection for low flow pipes, orifices, etc.		
Fencing (when required)		
Access road		
Set aside for clean-out maintenance		
11. Stormwater Wetlands		
Adequate water balance		
Variety of depth zones present		
Approved pondscaping plan in place Reinforcement budget for additional plantings		
Plants and materials ordered 6 months prior to construction		
Construction planned to allow for adequate planting and establishment of plant community (April-June planting window)		
Wetland buffer area preserved to maximum extent possible		

Comments:

Actions to be Taken:

Infiltration Trench Operation, Maintenance, and Management Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
1. Debris Cleanout (Monthly)		
Trench surface clear of debris		
Inflow pipes clear of debris		
Overflow spillway clear of debris		
Inlet area clear of debris		
2. Sediment Traps or Forebays (Annual)		
Obviously trapping sediment		
Greater than 50% of storage volume remaining		
3. Dewatering (Monthly)		
Trench dewaters between storms		
4. Sediment Cleanout of Trench (Annual)		
No evidence of sedimentation in trench		
Sediment accumulation doesn't yet require cleanout		
5. Inlets (Annual)		

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
Good condition		
No evidence of erosion		
6. Outlet/Overflow Spillway (Annual)		
Good condition, no need for repair		
No evidence of erosion		
7. Aggregate Repairs (Annual)		
Surface of aggregate clean		
Top layer of stone does not need replacement		
Trench does not need rehabilitation		

Comments:

Actions to be Taken:

Stormwater Pond/Wetland Operation, Maintenance and Management Inspection Checklist

Project _____
Location: _____
Site Status: _____

Date: _____
Time: _____

Inspector: _____

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
1. Embankment and emergency spillway (Annual, After Major Storms)		
1. Vegetation and ground cover adequate		
2. Embankment erosion		
3. Animal burrows		
4. Unauthorized planting		
5. Cracking, bulging, or sliding of dam		
a. Upstream face		
b. Downstream face		
c. At or beyond toe		
downstream		
upstream		
d. Emergency spillway		
6.Pond, toe & chimney drains clear and functioning		
7.Seeps/leaks on downstream face		
8.Slope protection or riprap failure		
9. Vertical/horizontal alignment of top of dam “As-Built”		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
10. Emergency spillway clear of obstructions and debris		
11. Other (specify)		
2. Riser and principal spillway (Annual)		
Type: Reinforced concrete _____ Corrugated pipe _____ Masonry _____ 1. Low flow orifice obstructed		
2. Low flow trash rack. a. Debris removal necessary		
b. Corrosion control		
3. Weir trash rack maintenance a. Debris removal necessary		
b. corrosion control		
4. Excessive sediment accumulation insider riser		
5. Concrete/masonry condition riser and barrels a. cracks or displacement		
b. Minor spalling (<1")		
c. Major spalling (rebars exposed)		
d. Joint failures		
e. Water tightness		
6. Metal pipe condition		
7. Control valve a. Operational/exercised		
b. Chained and locked		
8. Pond drain valve a. Operational/exercised		
b. Chained and locked		
9. Outfall channels functioning		
10. Other (specify)		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
3. Permanent Pool (Wet Ponds) (monthly)		
1. Undesirable vegetative growth		
2. Floating or floatable debris removal required		
3. Visible pollution		
4. Shoreline problem		
5. Other (specify)		
4. Sediment Forebays		
1.Sedimentation noted		
2. Sediment cleanout when depth < 50% design depth		
5. Dry Pond Areas		
1. Vegetation adequate		
2. Undesirable vegetative growth		
3. Undesirable woody vegetation		
4. Low flow channels clear of obstructions		
5. Standing water or wet spots		
6. Sediment and / or trash accumulation		
7. Other (specify)		
6. Condition of Outfalls (Annual , After Major Storms)		
1. Riprap failures		
2. Slope erosion		
3. Storm drain pipes		
4.Endwalls / Headwalls		
5. Other (specify)		
7. Other (Monthly)		
1. Encroachment on pond, wetland or easement area		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
2. Complaints from residents		
3.Aesthetics a. Grass growing required		
b. Graffiti removal needed		
c. Other (specify)		
4. Conditions of maintenance access routes.		
5. Signs of hydrocarbon build-up		
6. Any public hazards (specify)		
8. Wetland Vegetation (Annual)		
1. Vegetation healthy and growing Wetland maintaining 50% surface area coverage of wetland plants after the second growing season. (If unsatisfactory, reinforcement plantings needed)		
2. Dominant wetland plants: Survival of desired wetland plant species Distribution according to landscaping plan?		
3. Evidence of invasive species		
4. Maintenance of adequate water depths for desired wetland plant species		
5. Harvesting of emergent plantings needed		
6. Have sediment accumulations reduced pool volume significantly or are plants “choked” with sediment		
7. Eutrophication level of the wetland.		
8. Other (specify)		

Comments:

Actions to be Taken:

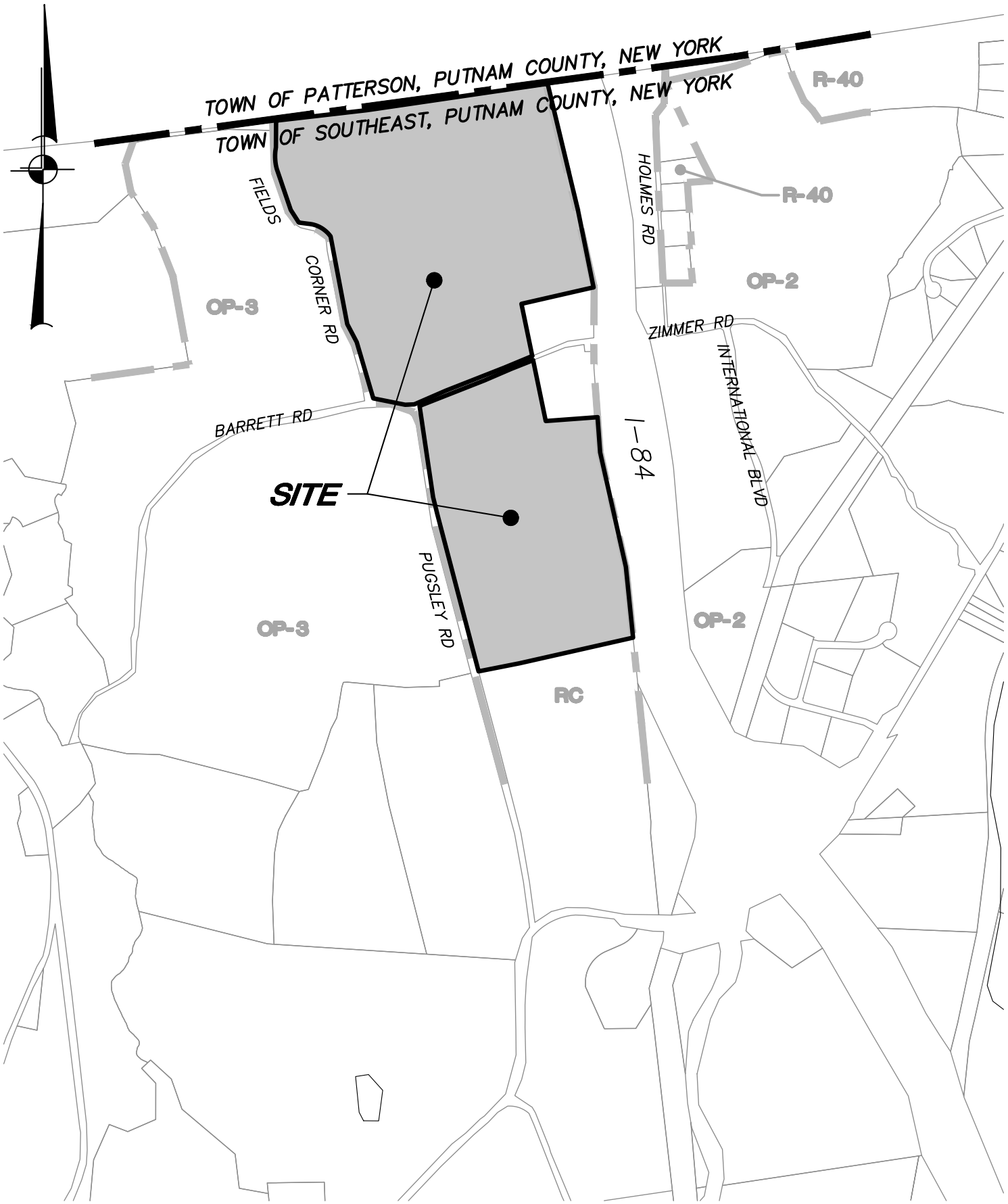
APPENDIX H

Temporary Sediment Trap Sizing Calculations

3,600 CF minimum of storage required for each acre of contributing area

Sediment Trap #	Contributing Area (Acres)	Minimum Volume Required (cf)	Volume Provided (cf)
1.2	9.0	32,400	70,656
1.4	8.9	32,040	82,370
2.2	6.8	24,480	34,670
2.5	6.9	24,840	74,685
2.7	6.8	24,480	81,307

FIGURES



PROJECT:

BREWSTER YARDS

160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING:

LOCATION MAP

PREPARED BY:

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place • Carmel, New York 10512
Phone (845) 225-9690 • Fax (845) 225-9717
www.insite-eng.com

DATE:	01-18-22
SCALE:	1" = 1,000'
PROJECT NO.:	19249.100
FIGURE:	1

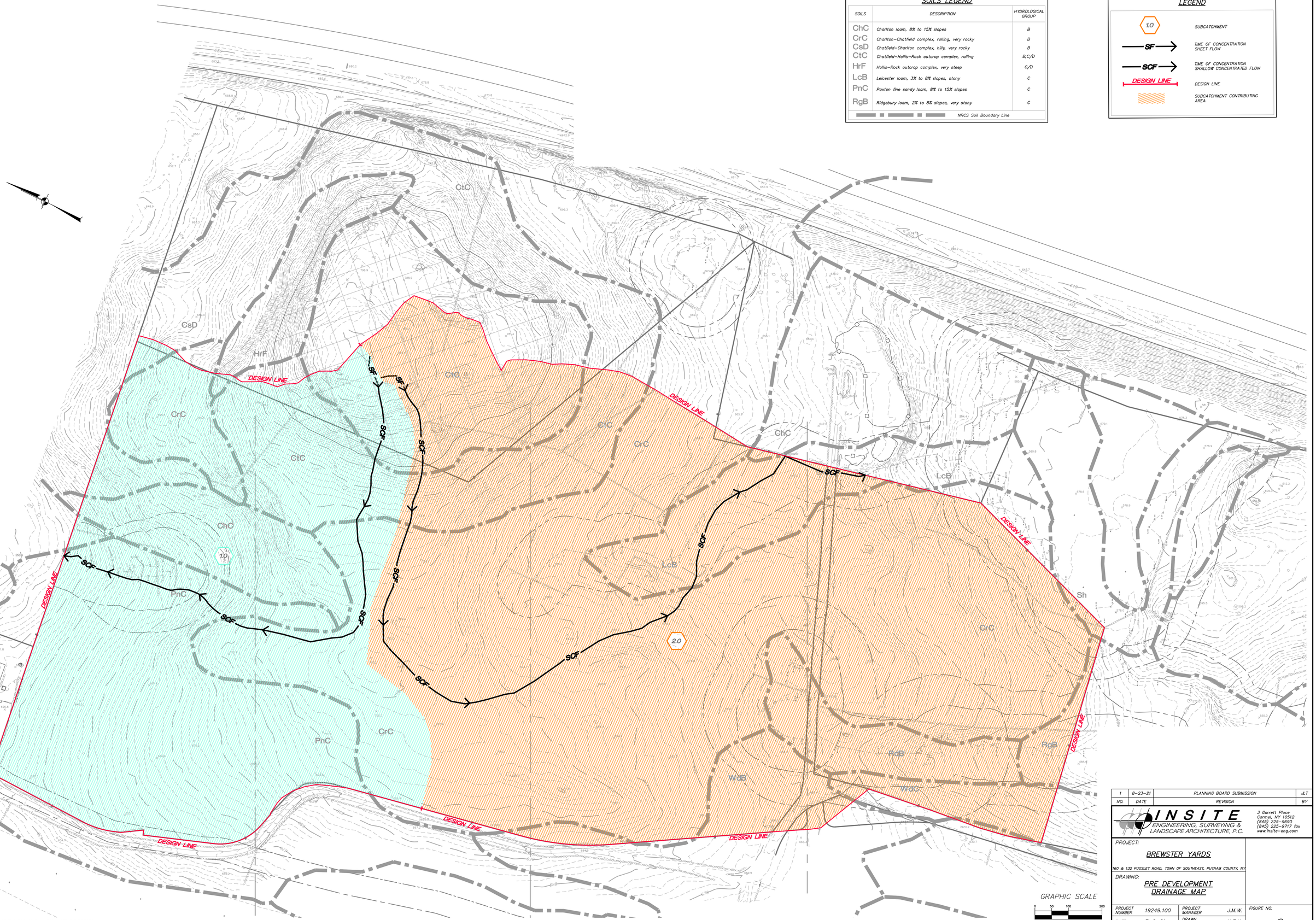
Z:\E\19249100 ProSwing Pugsley\Stormwater\Figures\Figure 1 - Location Map.dwg, 1/18/2022 12:53:26 PM, pmanning, 1:1

SOILS LEGEND

SOILS	DESCRIPTION	HYDROLOGICAL GROUP
ChC	Charlton loam, 8% to 15% slopes	B
CrC	Charlton–Chatfield complex, rolling, very rocky	B
CsD	Chatfield–Charlton complex, hilly, very rocky	B
CtC	Chatfield–Hollis–Rock outcrop complex, rolling	B,C/D
HrF	Hollis–Rock outcrop complex, very steep	C/D
LcB	Leicester loam, 3% to 8% slopes, stony	C
PnC	Paxton fine sandy loam, 8% to 15% slopes	C
RgB	Ridgebury loam, 2% to 8% slopes, very stony	C
	NRCS Soil Boundary Line	

LEGEND

- 1.0 — SUBCATCHMENT
- SF — TIME OF CONCENTRATION SHEET FLOW
- SCF — TIME OF CONCENTRATION SHALLOW CONCENTRATED FLOW
- DESIGN LINE — DESIGN LINE
- SUBCATCHMENT CONTRIBUTING AREA



GRAPHIC SCALE
0 50 100 200
(IN FEET)
1 inch = 100 ft.

NO.	DATE	REVISION	BY
1	8-23-21	PLANNING BOARD SUBMISSION	JLT

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9090
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BREWSTER YARDS
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING:
PRE DEVELOPMENT DRAINAGE MAP

PROJECT NUMBER	19249.100	PROJECT MANAGER	J.M.W.
DATE	7-6-21	DRAWN BY	M.E.U.
SCALE	1" = 100'	CHECKED BY	K.M.G.

FIGURE NO. 2

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

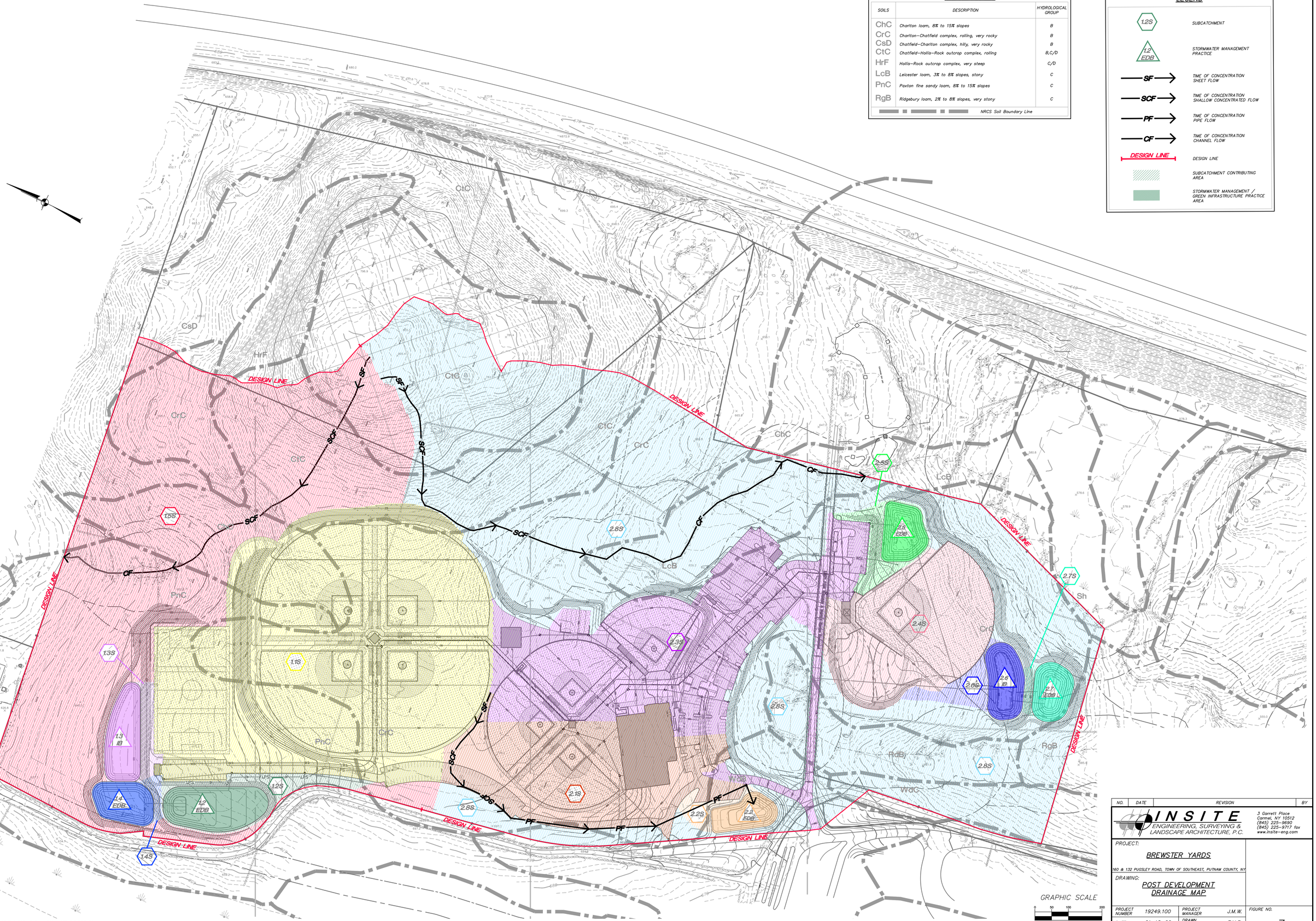
Z:\EVE\19249\0 Proj\eng\hydro\stormwater\Figures\Figure 2 - Pre.dwg, 10/21/2022 2:10:48 PM, jmooney, 1:1

SOILS LEGEND

SOILS	DESCRIPTION	HYDROLOGICAL GROUP
ChC	Charlton loam, 8% to 15% slopes	B
CrC	Charlton–Chatfield complex, rolling, very rocky	B
CsD	Chatfield–Charlton complex, hilly, very rocky	B
CtC	Chatfield–Hollis–Rock outcrop complex, rolling	B,C/D
HrF	Hollis–Rock outcrop complex, very steep	C/D
LcB	Leicester loam, 3% to 8% slopes, stony	C
PnC	Paxton fine sandy loam, 8% to 15% slopes	C
RgB	Ridgebury loam, 2% to 8% slopes, very stony	C
	NRCS Soil Boundary Line	

LEGEND

- 1.2S — SUBCATCHMENT
- 1.2 EDB — STORMWATER MANAGEMENT PRACTICE
- SF — TIME OF CONCENTRATION SHEET FLOW
- SCF — TIME OF CONCENTRATION SHALLOW CONCENTRATED FLOW
- PF — TIME OF CONCENTRATION PIPE FLOW
- CF — TIME OF CONCENTRATION CHANNEL FLOW
- DESIGN LINE — DESIGN LINE
- SUBCATCHMENT CONTRIBUTING AREA
- STORMWATER MANAGEMENT / GREEN INFRASTRUCTURE PRACTICE AREA



GRAPHIC SCALE
0 50 100 200
(IN FEET)
1 inch = 100 ft.

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

NO.	DATE	REVISION	BY

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

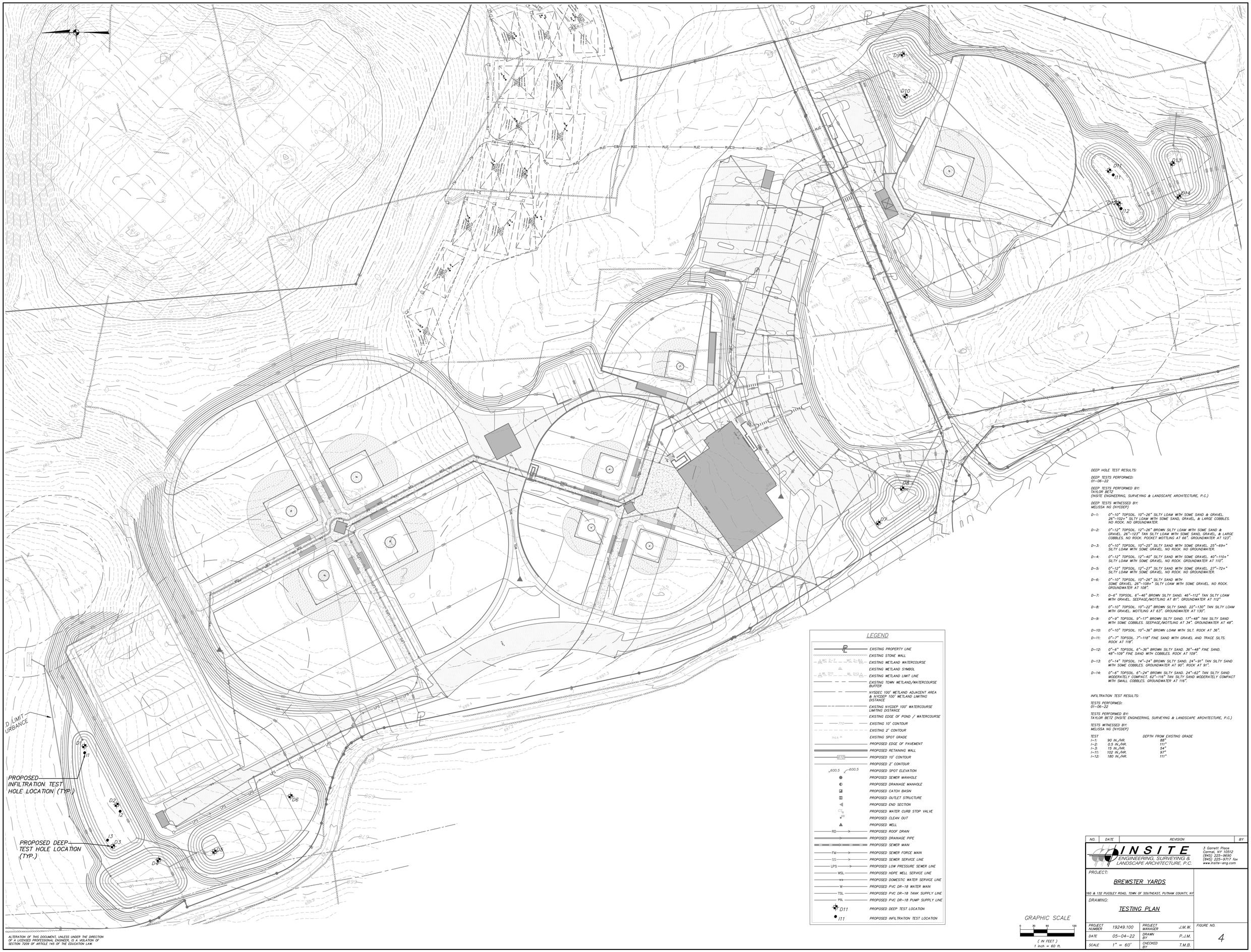
PROJECT:
BREWSTER YARDS
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING:
POST DEVELOPMENT DRAINAGE MAP

PROJECT NUMBER	19249.100	PROJECT MANAGER	J.M.W.
DATE	01-18-22	DRAWN BY	T.M.B.
SCALE	1" = 100'	CHECKED BY	Z.M.P.

FIGURE NO. 3

Z:\E\19249\00 Pro\Dwng Pg\Dwg Sh\Stormwater\Figures\Figure 3 - Post dwg 1/25/2022 2:08:52 PM, jmwong, 1:1



LEGEND

- EXISTING PROPERTY LINE
- EXISTING STONE WALL
- EXISTING WETLAND WATERCOURSE
- EXISTING WETLAND SYMBOL
- EXISTING WETLAND LIMIT LINE
- EXISTING TOWN WETLAND/WATERCOURSE BUFFER
- NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE
- EXISTING NYCDEP 100' WATERCOURSE LIMITING DISTANCE
- EXISTING EDGE OF POND / WATERCOURSE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING SPOT GRADE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED RETAINING WALL
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- PROPOSED END SECTION
- PROPOSED WATER CURB STOP VALVE
- PROPOSED CLEAN OUT
- PROPOSED WELL
- PROPOSED ROOF DRAIN
- PROPOSED DRAINAGE PIPE
- PROPOSED SEWER MAIN
- PROPOSED SEWER FORCE MAIN
- PROPOSED SEWER SERVICE LINE
- PROPOSED LOW PRESSURE SEWER LINE
- PROPOSED HDPE WELL SERVICE LINE
- PROPOSED DOMESTIC WATER SERVICE LINE
- PROPOSED PVC DR-18 WATER MAIN
- PROPOSED PVC DR-18 TANK SUPPLY LINE
- PROPOSED PVC DR-18 PUMP SUPPLY LINE
- PROPOSED DEEP TEST LOCATION
- PROPOSED INFILTRATION TEST LOCATION

GRAPHIC SCALE

0 30 60 100

(IN FEET)
1 inch = 60 ft.

DEEP HOLE TEST RESULTS:

DEEP TESTS PERFORMED:
01-06-22

DEEP TESTS PERFORMED BY:
TAYLOR BETZ
(INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.)

DEEP TESTS WITNESSED BY:
MELISSA NG (NYCDEP)

D-1: *0"-10" TOPSOIL, 10"-26" SILTY LOAM WITH SOME SAND & GRAVEL. 26"-102+" SILTY LOAM WITH SOME SAND, GRAVEL, & LARGE COBBLES. NO ROCK. NO GROUNDWATER.*

D-2: *0"-12" TOPSOIL, 12"-26" BROWN SILTY LOAM WITH SOME SAND & GRAVEL. 26"-123" TAN SILTY LOAM WITH SOME SAND, GRAVEL, & LARGE COBBLES. NO ROCK. POCKET MOTTLING AT 66". GROUNDWATER AT 123".*

D-3: *0"-10" TOPSOIL, 10"-25" SILTY SAND WITH SOME GRAVEL. 25"-69+" SILTY LOAM WITH SOME GRAVEL. NO ROCK. NO GROUNDWATER.*

D-4: *0"-12" TOPSOIL, 12"-40" SILTY SAND WITH SOME GRAVEL. 40"-110+" SILTY LOAM WITH SOME GRAVEL. NO ROCK. GROUNDWATER AT 110".*

D-5: *0"-12" TOPSOIL, 12"-27" SILTY SAND WITH SOME GRAVEL. 27"-72+" SILTY LOAM WITH SOME GRAVEL. NO ROCK. NO GROUNDWATER.*

D-6: *0"-10" TOPSOIL, 10"-26" SILTY SAND WITH SOME GRAVEL. 26"-108+" SILTY LOAM WITH SOME GRAVEL. NO ROCK. GROUNDWATER AT 108".*

D-7: *0-6" TOPSOIL, 6"-46" BROWN SILTY SAND, 46"-112" TAN SILTY LOAM WITH GRAVEL. SEEPAGE/MOTTLING AT 81". GROUNDWATER AT 112"*

D-8: *0"-10" TOPSOIL, 10"-22" BROWN SILTY SAND, 22"-130" TAN SILTY LOAM WITH GRAVEL. MOTTLING AT 63". GROUNDWATER AT 130".*

D-9: *0"-9" TOPSOIL, 9"-17" BROWN SILTY SAND, 17"-48" TAN SILTY SAND WITH SOME COBBLES. SEEPAGE/MOTTLING AT 34". GROUNDWATER AT 48".*

D-10: *0"-10" TOPSOIL, 10"-36" BROWN LOAM WITH SILT. ROCK AT 36".*

D-11: *0"-7" TOPSOIL, 7"-118" FINE SAND WITH GRAVEL AND TRACE SILTS. ROCK AT 118".*

D-12: *0"-6" TOPSOIL, 6"-36" BROWN SILTY SAND, 36"-48" FINE SAND. 48"-109" FINE SAND WITH COBBLES. ROCK AT 109".*

D-13: *0"-14" TOPSOIL, 14"-24" BROWN SILTY SAND, 24"-91" TAN SILTY SAND WITH SOME COBBLES. GROUNDWATER AT 90". ROCK AT 91".*

D-14: *0"-6" TOPSOIL, 6"-24" BROWN SILTY SAND, 24"-62" TAN SILTY SAND MODERATELY COMPACT. 62"-116" TAN SILTY SAND MODERATELY COMPACT WITH SMALL COBBLES. GROUNDWATER AT 116".*

INFILTRATION TEST RESULTS:

TESTS PERFORMED:
01-06-22

TESTS PERFORMED BY:
TAYLOR BETZ (INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.)

TESTS WITNESSED BY:
MELISSA NG (NYCDEP)

TEST		DEPTH FROM EXISTING GRADE
I-1:	90 IN./HR.	88"
I-2:	0.5 IN./HR.	111"
I-3:	15 IN./HR.	54"
I-11:	102 IN./HR.	97"
I-12:	180 IN./HR.	111"

NO.	DATE	REVISION	BY

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BREWSTER YARDS
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING:
TESTING PLAN

PROJECT NUMBER	19249.100	PROJECT MANAGER	J.M.W.
DATE	05-04-22	DRAWN BY	P.J.M.
SCALE	1" = 60'	CHECKED BY	T.M.B.

FIGURE NO. 4

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

Z:\E19249\000 Working\Digital Information\Figures\Figure 4 - Testing Plan.dwg, 5/4/2022 2:53:23 PM, razvi, 1:1

Appendix F
NATURAL RESOURCE INVENTORIES

Appendix F.1

List of Observed Site Vegetation
November, 2019 — September, 2021

List of vegetation observed in November, 2019 - September, 2021 across the Brewster Yards parcels.

Common Name[1]	Scientific Name
Common threeseed mercury	*Acalypha rhomboidea*
Red maple	*Acer rubrum*
Sugar maple	*Acer saccharum*
White snakeroot	*Ageratina altissima*
Tall hairy agrimony	*Agrimonia gryposepala*
Water plantain	*Alisma triviale*
Garlic mustard	*Alliaria petiolata*
Wild leek	*Allium tricoccum*
Sweet vernalgrass	*Anthoxanthum odoratum*
Wild columbine	*Aquilegia canadensis*
Lesser burdock	*Arctium minus*
Jack in the Pulpit	*Arisaema triphyllum*
Common wormwood	*Artemisia vulgaris*
Garden yellowrocket	*Barbarea vulgaris*
Japanese barberry	*Berberis thunbergii*
Yellow birch	*Betula alleghaniensis*
Sweet birch	*Betula lenta*
Nodding beggarticks	*Bidens cernua*
Narrowleaf bittercress	*Cardamine impatiens*
Pennsylvania bittercress	*Cardamine pensylvanica*
Greater bladder sedge	*Carex intumescens*
Pennsylvania sedge	*Carex pensylvanica*
Broad-leaved Sedge	*Carex platyphylla*
Tussock sedge	*Carex stricta*
American hornbeam	*Carpinus caroliniana*
Pignut hickory	*Carya glabra*
Shagbark hickory	*Carya ovata*
Hickory	*Carya spp.*
Oriental bittersweet	*Celastrus orbiculatus*
Celandine	*Chelidonium majus*
Spotted wintergreen	*Chimaphila maculata*
Enchanter's nightshade	*Circaea lutetiana*

[1] Common names comply with USDA Plants database nomenclature

Common Name[1]	Scientific Name
Horseweed	*Conyza canadensis*
Dogwoods	*Cornus spp.*
Hawthorn	*Crataegus spp.*
Deer-tongue grass	*Dichanthelium clandestinum*
Crested woodfern	*Dryopteris cristata*
Evergreen wood fern	*Dryopteris intermedia*
Marginal woodfern	*Dryopteris marginalis*
Autumn olive	*Elaeagnus umbellata*
Beech-drops	*Epifagus virginiana*
Willowherb	*Epilobium spp.*
Helleborine	*Epipactis helleborine*
Field horsetail	*Equisetum arvense*
Pilewort	*Erechtites hieraciifolia*
Eastern daisy fleabane	*Erigeron annuus*
Winged euonymus	*Euonymus alata*
White wood aster	*Eurybia divaricata*
American beech	*Fagus grandifolia*
Green ash	*Fraxinus pennsylvanica*
Ash	*Fraxinus spp.*
Catchweed bedstraw	*Galium aparine*
Licorice bedstraw	*Galium circaezans*
Great hedge bedstraw	*Galium mollugo*
Bedstraw	*Galium spp.*
Spotted geranium	*Geranium maculatum*
Robert geranium	*Geranium robertianum*
White avens	*Geum canadense*
Virginia stickseed	*Hackelia virginiana*
Witchhazel	*Hamamelis virginiana*
Winterberry	*Ilex verticillata*
Jewelweed	*Impatiens capensis*
Harlequin blue flag	*Iris versicolor*
Path rush	*Juncus tenuis*
Eastern red cedar	*Juniperus virginiana*
Duckweed	*Lemna spp.*
Privet	*Ligustrum spp.*
Butter-and-eggs	*Linaria vulgaris*
Spicebush	*Lindera benzoin*
Tulip poplar	*Liriodendron tulipifera*

Common Name[1]	Scientific Name
Indian tobacco	*Lobelia inflata*
Japanese honeysuckle	*Lonicera japonica*
Bush honeysuckle	*Lonicera spp.*
Northern bugleweed	*Lycopus uniflorus*
Moneywort loosestrife	*Lysimachia nummularia*
Canada mayflower	*Maianthemum canadense*
Nepalese browntop (Japanese stilt grass)	*Microstegium vimineum*
Partridgeberry	*Mitchella repens*
Indian pipe	*Monotropa uniflora*
Giant chickweed	*Myosoton aquaticum*
Common evening primrose	*Oenothera biennis*
Sensitive fern	*Onoclea sensibilis*
Interrupted fern	*Osmunda claytoniana*
Cinnamon fern	*Osmundastrum cinnamomeum*
Common yellow oxalis	*Oxalis stricta*
Asiatic tearthumb	*Persicaria perfoliata*
Common reed	*Phragmites australis*
Pokeweed	*Phytolacca americana*
Clearweed	*Pilea pumila*
Sycamore	*Platanus occidentalis*
Oriental lady's thumb	*Polygonum cespitosum*
Jumpseed	*Polygonum virginianum*
Rock polypody	*Polypodium virginianum*
Christmas fern	*Polystichum acrostichoides*
Eastern cottonwood	*Populus deltoides*
Big tooth aspen	*Populus grandidentata*
Common cinquefoil	*Potentilla simplex*
Selfheal	*Prunella vulgaris*
Black cherry	*Prunus serotina*
Waxflower shinleaf	*Pyrola elliptica*
White oak	*Quercus alba*
Pin oak	*Quercus palustris*
Chestnut oak	*Quercus prinus*
Red oak	*Quercus rubra*
Black oak	*Quercus velutina*
Tall buttercup	*Ranunculus acris*
Creeping buttercup	*Ranunculus repens*
Multiflora rose	*Rosa multiflora*

Common Name[1]	Scientific Name
Swamp rose	*Rosa palustris*
Allegheny blackberry	*Rubus allegheniensis*
Bristly dewberry	*Rubus hispidus*
American red raspberry	*Rubus idaeus*
Brambles	*Rubus spp.*
Red sorrel	*Rumex acetosella*
Curly dock	*Rumex crispus*
Bitter dock	*Rumex obtusifolius*
American black elderberry	*Sambucus nigra*
Canada goldenrod	*Solidago canadensis*
Roughleaf goldenrod	*Solidago patula*
Wrinkleleaf goldenrod	*Solidago rugosa*
Spagnum moss	*Sphagnum spp.*
Calico aster	*Symphyotrichum lateriflorum*
Hairy white oldfield aster	*Symphyotrichum pilosum*
Skunk cabbage	*Symplocarpus foetidus*
Common dandelion	*Taraxacum officinale*
New York fern	*Thelypteris noveboracensis*
Eastern poison ivy	*Toxicodendron radicans*
Coltsfoot	*Tussilago farfara*
American elm	*Ulmus americana*
Stinging nettle	*Urtica dioica*
Lowbush blueberry	*Vaccinium angustifolium*
Highbush blueberry	*Vaccinium corymbosum*
Common gypsyweed	*Veronica officinalis*
Maple-leaved viburnum	*Viburnum acerifolium*
Southern arrowwood	*Viburnum dentatum*
Common blue violet	*Viola sororia*
Grape	*Vitis spp.*

Appendix F.2

List of Regional Mammalian Wildlife Species

Common mammalian wildlife species expected to be found within the vicinity of the Brewster Yards parcels.

COMMON NAME	SCIENTIFIC NAME
Northern short-tailed shrew	*Blarina brevicauda*
Coyote	*Canis latrans*
Beaver	*Castor canadensis*
Southern red-backed vole	*Clethrionomys gapperi*
Star-nosed mole	*Condylura cristata*
Least shrew	*Cryptotis parva*
Virginia opossum	*Didelphis virginiana*
Big brown bat	*Eptesicus fuscus*
Southern flying squirrel	*Glaucomys volans*
Silver-haired bat	*Lasionycteris noctivagans*
Red bat	*Lasiurus borealis*
Hoary bat	*Lasiurus cinereus*
Varying hare	*Lepus americanus*
European hare	*Lepus europaeus*
Bobcat	*Lynx rufus*
Woodchuck*	*Marmota monax*
Striped skunk	*Mephitis mephitis*
Rock vole	*Microtus chrotorrhinus*
Meadow vole	*Microtus pennsylvanicus*
Woodland vole	*Microtus pinetorum*
House mouse	*Mus musculus*
Ermine	*Mustela erminea*
Long-tailed weasel	*Mustela frenata*
Mink	*Mustela vison*
Small-footed bat	*Myotis leibii*
Little brown bat	*Myotis lucifugus*
Northern long-eared bat	*Myotis septentrionalis*
Indiana bat	*Myotis sodalis*
White-tailed deer*	*Odocoileus virginianus*
Muskrat	*Ondatra zibethicus*
White-footed mouse	*Peromyscus leucopus*
Deer mouse	*Peromyscus maniculatus*
Eastern pipistrelle	*Pipistrellus subflavus*
Raccoon	*Procyon lotor*

COMMON NAME	SCIENTIFIC NAME
Norway rat	*Rattus norvegicus*
Eastern mole	*Scalopus aquaticus*
Gray squirrel*	*Sciurus carolinensis*
Masked shrew	*Sorex cinereus*
Smoky shrew	*Sorex fumeus*
Water shrew	*Sorex palustris*
Eastern cottontail	*Sylvilagus floridanus*
New England cottontail	*Sylvilagus transitionalis*
Southern bog lemming	*Synaptomys cooperi*
Eastern chipmunk	*Tamias striatus*
Gray fox	*Urocyon cinereoargenteus*
Black bear	*Ursus americanus*
Gray fox	*Vulpes cinereoargenteus*
Red fox	*Vulpes vulpes*
Meadow jumping mouse	*Zapus hudsonius*

*Species that were observed by sight or scat during the field surveys from 2019-2021.

Appendix F.3

NYSDEC Breeding Bird Atlas Data

Bird Species Listed for Block 6058B in NYSDEC Breeding Bird Atlases.

COMMON NAME	SCIENTIFIC NAME
Cooper's Hawk	*Accipiter cooperii*
Red-winged Blackbird	*Agelaius phoeniceus*
Wood Duck	*Aix sponsa*
Mallard	*Anas platyrhynchos*
Mallard x Am. Black Duck Hybrid	*Anas platyrhynchos x A. rubripes*
American Black Duck	*Anas rubripes*
Ruby-throated Hummingbird	*Archilochus colubris*
Great Blue Heron	*Ardea herodias*
Tufted Titmouse	*Baeolophus bicolor*
Cedar Waxwing	*Bombycilla cedrorum*
Ruffed Grouse	*Bonasa umbellus*
Canada Goose	*Branta canadensis*
Great Horned Owl	*Bubo virginianus*
Red-tailed Hawk	*Buteo jamaicensis*
Broad-winged Hawk	*Buteo platypterus*
Green Heron	*Butorides virescens*
Whip-poor-will	*Caprimulgus vociferus*
Northern Cardinal	*Cardinalis cardinalis*
House Finch	*Carpodacus mexicanus*
Purple Finch	*Carpodacus purpureus*
Turkey Vulture	*Cathartes aura*
Veery	*Catharus fuscescens*
Brown Creeper	*Certhia americana*
Chimney Swift	*Chaetura pelagica*
Killdeer	*Charadrius vociferus*
Yellow-billed Cuckoo	*Coccyzus americanus*
Northern Flicker	*Colaptes auratus*
Rock Pigeon	*Columba livia*
Eastern Wood-Pewee	*Contopus virens*
American Crow	*Corvus brachyrhynchos*
Fish Crow	*Corvus ossifragus*
Blue Jay	*Cyanocitta cristata*
Mute Swan	*Cygnus olor*
Prairie Warbler	*Dendroica discolor*
Chestnut-sided Warbler	*Dendroica pensylvanica*

COMMON NAME	SCIENTIFIC NAME
Yellow Warbler	*Dendroica petechia*
Black-throated Green Warbler	*Dendroica virens*
Bobolink	*Dolichonyx oryzivorus*
Pileated Woodpecker	*Dryocopus pileatus*
Gray Catbird	*Dumetella carolinensis*
Willow Flycatcher	*Empidonax traillii*
American Kestrel	*Falco sparverius*
Common Yellowthroat	*Geothlypis trichas*
Worm-eating Warbler	*Helmitheros vermivorum*
Barn Swallow	*Hirundo rustica*
Wood Thrush	*Hylocichla mustelina*
Baltimore Oriole	*Icterus galbula*
Belted Kingfisher	*Megaceryle alcyon*
Eastern Screech-Owl	*Megascops asio*
Red-bellied Woodpecker	*Melanerpes carolinus*
Wild Turkey	*Meleagris gallopavo*
Swamp Sparrow	*Melospiza georgiana*
Song Sparrow	*Melospiza melodia*
Northern Mockingbird	*Mimus polyglottos*
Black-and-white Warbler	*Mniotilta varia*
Brown-headed Cowbird	*Molothrus ater*
Great Crested Flycatcher	*Myiarchus crinitus*
House Sparrow	*Passer domesticus*
Indigo Bunting	*Passerina cyanea*
Cliff Swallow	*Petrochelidon pyrrhonota*
Double-crested Cormorant	*Phalacrocorax auritus*
Ring-necked Pheasant	*Phasianus colchicus*
Rose-breasted Grosbeak	*Pheucticus ludovicianus*
Downy Woodpecker	*Picoides pubescens*
Hairy Woodpecker	*Picoides villosus*
Eastern Towhee	*Pipilo erythrophthalmus*
Scarlet Tanager	*Piranga olivacea*
Black-capped Chickadee	*Poecile atricapillus*
Common Grackle	*Quiscalus quiscula*
Eastern Phoebe	*Sayornis phoebe*
American Woodcock	*Scolopax minor*
Ovenbird	*Seiurus aurocapilla*
Louisiana Waterthrush	*Seiurus motacilla*

COMMON NAME	SCIENTIFIC NAME
American Redstart	*Setophaga ruticilla*
Eastern Bluebird	*Sialia sialis*
White-breasted Nuthatch	*Sitta carolinensis*
Yellow-bellied Sapsucker	*Sphyrapicus varius*
American Goldfinch	*Spinus tristis*
Chipping Sparrow	*Spizella passerina*
Field Sparrow	*Spizella pusilla*
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*
Eastern Meadowlark	*Sturnella magna*
European Starling	*Sturnus vulgaris*
Tree Swallow	*Tachycineta bicolor*
Carolina Wren	*Thryothorus ludovicianus*
Brown Thrasher	*Toxostoma rufum*
House Wren	*Troglodytes aedon*
American Robin	*Turdus migratorius*
Eastern Kingbird	*Tyrannus tyrannus*
Blue-winged Warbler	*Vermivora pinus*
Yellow-throated Vireo	*Vireo flavifrons*
Warbling Vireo	*Vireo gilvus*
Red-eyed Vireo	*Vireo olivaceus*
Mourning Dove	*Zenaida macroura*

*Species that were observed by NYSDEC observers, 1980-1985 and 2000-2005.

EAF Mapper Summary Report

Tuesday, March 2, 2021 1:05 PM

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

B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	NYC Watershed Boundary
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]	864-194
E.2.h.iv [Surface Water Features - Stream Classification]	C
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):85.9
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	LC-28

E.2.h.v [Impaired Water Bodies]	No
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	No
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	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]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National or State Register of Historic Places or State Eligible Sites]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

Appendix F.5

Habitat Photographs

Brewster Yards
Photo locations
Legend
Brewster Yards site
Photograph number
PHOTO 5
PHOTO 1
PHOTO 10
PHOTO 7
PHOTO 8
PHOTO 9
PHOTO 3
PHOTO 6
PHOTO 2
PHOTO 4
Holmes Rd
Fields Corner Rd
Volunteer Park Ball Fields
Zimmer Rd
International Blvd
Ace Endico Corporation
Westchester Tractor
Unilock New York
Putnam County Motor
84
N
2000 ft
Google Earth

Photo 1 – View, to southeast, of upland hardwood forest habitat.

Photo 2 – View, to southeast, of upland hardwood forest habitat.

Photo 3 – View, to east across Wetland B (NYSDEC Wetland LC-28), of palustrine red maple hardwood forest.

Photo 4 – View, to east across Wetland F (NYSDEC Wetland LC-28), of palustrine red maple hardwood forest.

Photo 5 – View, to south, of upper rocky headwater stream forming Wetland G.

Photo 6 – View, to southwest, of lower stretch of rocky headwater stream.

Photo 7 – View, to west, of small pond within Wetland A.

Photo 8 – View, to north, of small pond within Wetland C.

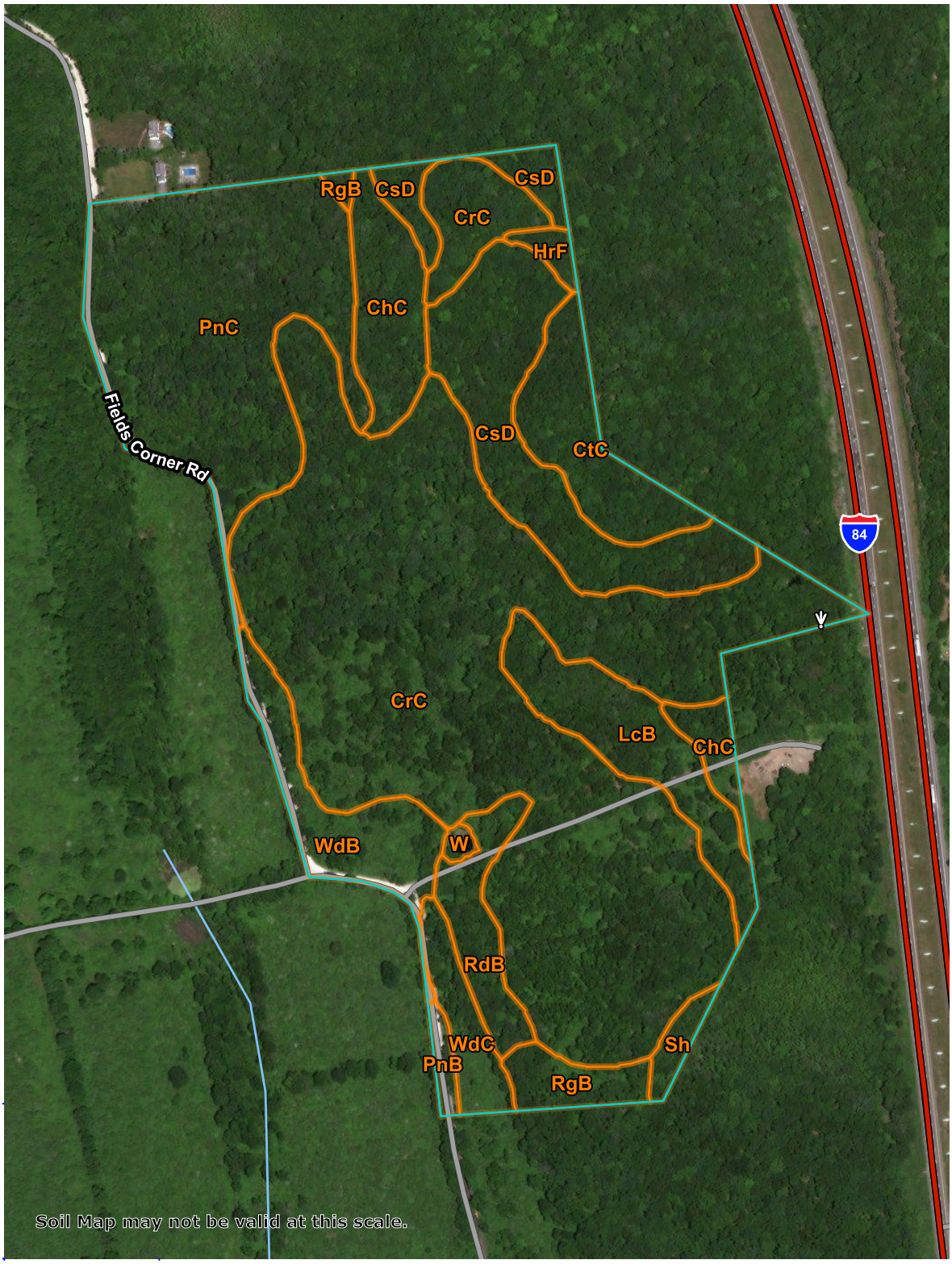
Photo 9 – View, to north, of small pond within Wetland D.

Photo 10 – View, to northeast, of Ridgetop Protection Area.

Appendix G
SOILS SURVEY INFORMATION

Soil Map—Putnam County, New York
(Pugsley Road Site)

73° 38' 31" W
73° 37' 50" W
41° 26' 33" N
41° 25' 52" N



Map Scale: 1:6,090 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: 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: Putnam County, New York
Survey Area Data: Version 17, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

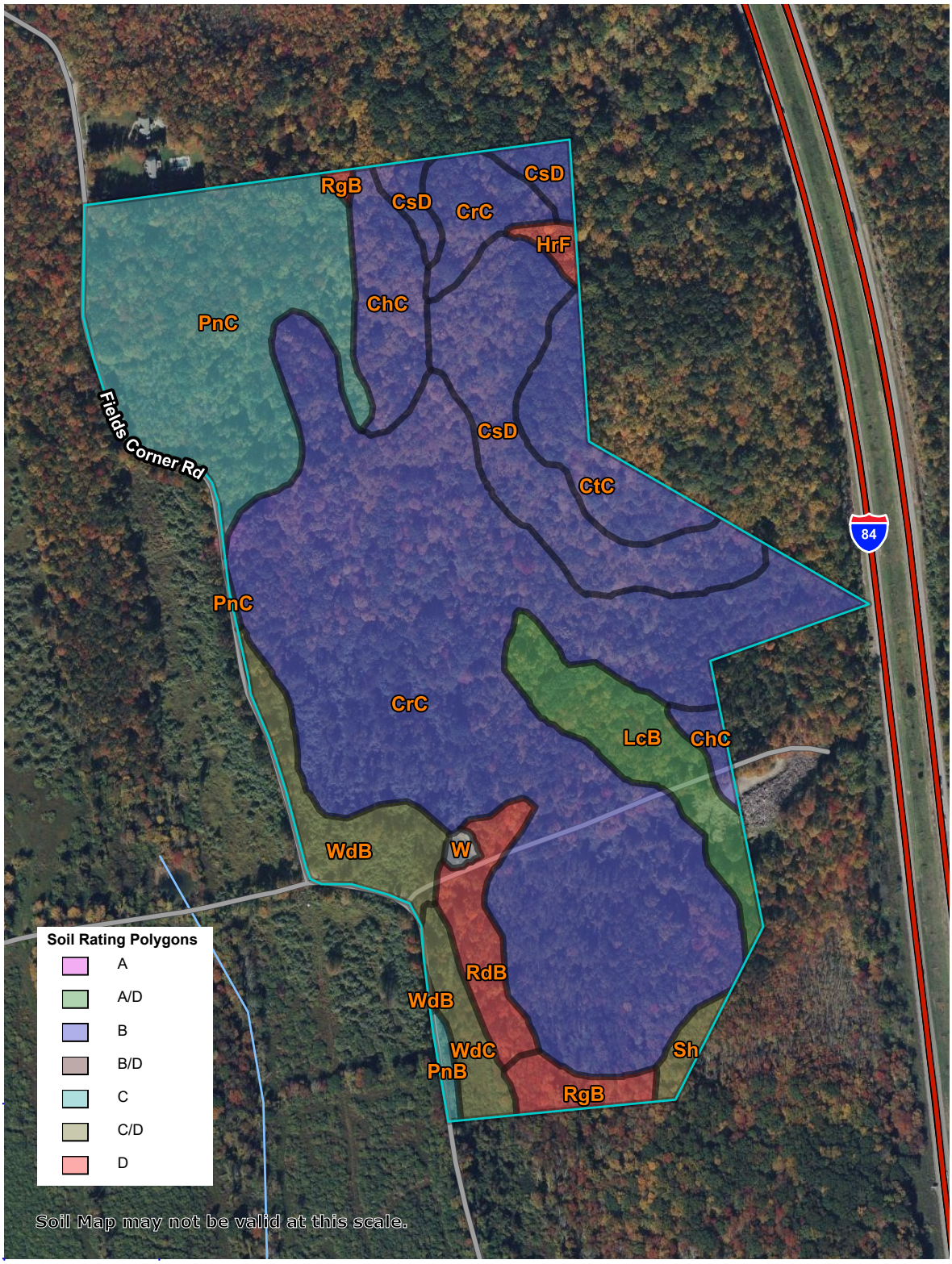
Date(s) aerial images were photographed: Dec 31, 2009—Oct 5, 2016

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
ChC	Charlton fine sandy loam, 8 to 15 percent slopes	4.8	4.7%
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	47.8	46.8%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	10.4	10.2%
CtC	Chatfield-Hollis-Rock outcrop complex, 0 to 15 percent slopes	4.4	4.3%
HrF	Hollis-Rock outcrop complex, 35 to 60 percent slopes	0.5	0.5%
LcB	Leicester loam, 3 to 8 percent slopes, stony	5.2	5.1%
PnB	Paxton fine sandy loam, 3 to 8 percent slopes	0.5	0.5%
PnC	Paxton fine sandy loam, 8 to 15 percent slopes	16.6	16.2%
RdB	Ridgebury complex, 3 to 8 percent slopes	2.8	2.7%
RgB	Ridgebury complex, 0 to 8 percent slopes, very stony	1.9	1.8%
Sh	Sun loam	0.7	0.7%
W	Water	0.2	0.2%
WdB	Woodbridge loam, 3 to 8 percent slopes	4.2	4.1%
WdC	Woodbridge loam, 8 to 15 percent slopes	2.1	2.0%
Totals for Area of Interest		**102.1**	**100.0%**

73° 38' 31" W
73° 37' 51" W
41° 26' 32" N
41° 25' 53" N



Map Scale: 1:5,970 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84

SOIL LIMITATIONS
Restrictive Considerations for Development Planning

Soil Map Unit	Hydrologic Group	Shallow Excavations	Small Commercial Buildings	Roads and Streets	Lawns and Landscapes	Septic Tank Absorption Fields
ChC	B	Moderate: Slope	Severe: Slope	Moderate: Slope	Moderate: Slope	Moderate: Slope
CrC – Charlton	B	Moderate: Slope	Severe: Slope	Moderate: Slope	Moderate: Slope	Moderate: Slope
CrC - Chatfield	B	Severe: Depth to rock	Severe: Slope	Moderate: Slope, Depth to rock, Frost action	Moderate Droughty, Slope, Thin layer	Severe: Depth to rock
CsD - Chatfield	B	Severe: Depth to rock, slope	Severe: Slope	Severe: Slope	Severe: Slope	Severe: Depth to rock, Slope
CsD - Charlton	B	Severe: Slope	Severe: Slope	Severe: Slope	Severe: Slope	Severe: Slope
CtC - Chatfield	B	Severe: Depth to rock	Severe: Slope	Moderate: Slope, Depth to rock, Frost action	Moderate: Droughty, Slope, Thin layer	Severe: Depth to rock
CtC - Hollis	D	Severe: Depth to rock	Severe: Slope, Depth to rock	Severe: Depth to rock	Severe: Depth to rock	Severe: Depth to rock
CtC – Rock outcrop	D	Severe: Depth to rock	Severe: Slope, Depth to rock	Severe: Depth to rock	Severe: Depth to rock	Severe: Depth to rock
HrF - Hollis	D	Severe: Slope, Depth to rock	Severe: Slope, Depth to rock	Severe: Slope, Depth to rock	Severe: Slope, Depth to rock	Severe: Slope, Depth to rock

Soil Map Unit	Hydrologic Group	Shallow Excavations	Small Commercial Buildings	Roads and Streets	Lawns and Landscapes	Septic Tank Absorption Fields
HrF – Rock outcrop	D	Severe: Depth to rock, Slope	Severe: Slope, Depth to rock	Severe: Depth to rock, Slope	Severe: Depth to rock	Severe: Depth to rock
LcB	A/D	Severe: Wetness	Severe: Wetness	Severe: Wetness, Frost action	Severe: Wetness	Severe: Wetness
PnB	C	Moderate: Dense layer, Wetness	Moderate: Wetness, Slope	Moderate: Wetness, Frost action	Slight	Severe: Percs slowly
PnC	C	Moderate: Dense layer, Wetness, Slope	Severe: Slope	Moderate: Wetness, Slope, Frost action	Moderate: Slope	Severe: Percs slowly
RdB	D	Severe: Wetness	Severe: Wetness	Sever: Wetness, Frost action	Severe: Wetness	Severe: Percs slowly, Wetness
RgB	D	Severe: Wetness	Severe: Wetness	Severe: Wetness, Frost action	Severe: Wetness	Severe: Percs slowly, Wetness
Sh	C/D	Severe: Wetness	Severe: Wetness	Severe: Wetness, Frost action	Severe: Wetness	Severe: Wetness, Percs slowly
WdB	C/D	Severe: Wetness	Moderate: Wetness, Slope	Severe: Frost action	Moderate: Wetness	Severe: Wetness, Percs slowly
WdC	C/D	Severe: Wetness	Severe: Slope	Severe: Frost action	Moderate: Wetness Slope	Severe: Wetness, Percs slowly
Adapted from: USDA. 1994. Soil Survey of Putnam and Westchester Counties, New York.						

Appendix H
GEOTECHNICAL SURVEY

Geotechnical Report

ProSwing Sports
Training Facility

160 & 132 Pugsley Road
Southeast, New York

July 30, 2021

Prepared for:

Kaeyer, Garment + Davidson Architects, PC
285 Main Street
Mount Kisco, NY 10549

Prepared by:

SKYLANDS ENGINEERING, LLC
124 Milton Road
Sparta, NJ 07871

Geotechnical Report

ProSwing Sports
Training Facility

160 & 132 Pugsley Road
Southeast, New York

July 30, 2021

Prepared for:

Kaeyer, Garment + Davidson Architects, PC
285 Main Street
Mount Kisco, NY 10549

Prepared by:

SKYLANDS ENGINEERING, LLC
124 Milton Road
Sparta, NJ 07871
Certificate of Authorization No. 0013624

STATE OF NEW YORK
EUGENE J. SCHWARZROCK
077071
LICENSED PROFESSIONAL ENGINEER

8-4-2021

Eugene J. Schwarzrock, Professional Engineer — Date
New York License No. 077071

Note: it is a violation of NY Education Law Section 7209 for any person to alter any item in this report in any way, unless they are acting under the direction of a Professional Engineer registered in New York. The altering engineer shall affix to this page their seal, the notation "altered by" followed by their signature and date of alteration, and a specific description of the alteration(s) made.

TABLE OF CONTENTS

INTRODUCTION **1**

GEOLOGY **1**

SUBSURFACE INVESTIGATION **1**

LABORATORY TESTING **2**

SUBSURFACE CONDITIONS **2**

DESIGN RECOMMENDATIONS

BUILDINGS **3**

SITE WORK AND RETAINING WALLS **5**

CONSTRUCTION RECOMMENDATIONS **5**

APPENDIX

Boring Location Plan

Data Summary Table

Boring Logs

Laboratory Test Results

INTRODUCTION

This project consists of the design and construction of a new sports training facility at 160 & 132 Pugsley Road in the Town of Southeast, Putnam County, New York. Synthetic sports fields, stormwater management basins, and parking lots will occupy the majority of the site, with numerous and various-sized buildings and retaining walls proposed across the site, as well.

The site is currently wooded and undeveloped and the terrain is generally highest near the center of the site, and slopes down to the north and south. Based on our review of the April 30, 2021 Boring Location Plan prepared by Insite Engineering Surveying & Landscaping, P.C. of Carmel, NY and which shows the proposed features, elevations vary from El. 730 near the center to El. ±630 in the north and El. ±60 in the south. Various cuts and fills and approximately ten (10) retaining walls are required for grading requirements.

Based on our review of the same plan, we note the following seven (7) buildings are proposed (all dimensions approximate):

1. Office/Training Building – 150 ft. x 330 ft. (prop. FF El. 688)
2. Concession/restroom Building at northern multi-sport fields - 20 ft. x 35 ft. (PFF El. 677)
3. Announcers Booth at baseball fields - 25 ft. x 25 ft. (PFF El. 708)
4. Outbuilding northeast of little league fields - 60 ft. x 60 ft. (PFF El. 706.5)
5. Announcers Booth at little league fields - 20 ft. x 20 ft. (PFF El. 700)
6. Maintenance Shed - 24 ft. x 48 ft. (PFF El. 657.5)
7. Announcers Booth at southern baseball stadium - 20 ft. x 20 ft. (PFF El. 632)

This report presents the findings of a subsurface investigation prepared and conducted by others specifically for this project, as well as recommendations for foundation design and construction of the proposed new structures.

GEOLOGY

Based on our review of topographic maps and published geologic data for this area of Southeast, including the *Surficial Geologic Map of New York - Lower Hudson Sheet*, 1989, by Caldwell, Connally, et. al., this site is expected to be underlain by glacial till deposits consisting of a mixture of grain sizes ranging from clay and silt, to sand, cobbles and boulders. Underlying bedrock is expected to consist of biotite-quarz- gneiss, and amphibolite-gneiss based on the *(Bedrock) Geologic Map of New York - Lower Hudson Sheet*, 1970, by Rickard, Isachsen, and Fisher, and be deeper than 20 ft.

SUBSURFACE INVESTIGATION

Soiltesting, Inc. of Oxford, CT performed forty (40) borings between June 16 and June 21, 2021 to identify the subsurface conditions present beneath the project site. Borings BE-1 through BE-6 were performed at the locations of the proposed stormwater management basins, borings C-1 through C-11 were performed at locations of proposed buildings, and borings BP-2 through BP-12A were performed across the general project/sports fields footprints. Note that borings BP-1, BP-6,, and BP-8 were not drilled, and thirty-four (34) second-attempt borings were performed adjacent to originally-drilled borings.

All borings were drilled using a nominal 4-¼ in. hollow stem auger to advance and maintain the hole. Sampling was performed using a 2 in. O.D. split spoon sampler driven by a 140 lb. safety hammer with a 30 in. drop and the number of blows for each 6 in. increment was recorded, in accordance with procedures outlined in ASTM D1586, Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils. The "C-" borings were sampled generally continuously from the ground surface to a depth of 12 ft., or until spoon or auger refusal was reached; all other borings were sampled generally at the ground surface then at 5 ft. intervals to the completion of each boring. All borings were terminated at depths ranging from 6 in. to 17 ft.

Soil samples were classified by an experienced geologist from Soiltesting, Inc., in general accordance with D.M. Burmister's "Suggested Test Methods for Identification of Soils" (ASTM, 1958).

The depth to groundwater was determined during drilling since all borings were drilled using a hollow stem auger without the introduction of water. Additionally, two (2) temporary groundwater observation wells were installed after the completion of borings BE-4 and C-9, both near the center of the site. The wells were installed to depths of 17 ft. and 15 ft., respectively, and the depths to groundwater were measured 16 and 19 days after installation.

A Boring Location Plan and boring logs are presented in the Appendix. The boring logs were amended by Skylands Engineering to include estimated ground and groundwater elevations, which we estimated based on the Boring Location Plan provided to us.

LABORATORY TESTING

Following the completion of the field portion of the subsurface investigation, a laboratory testing program was performed to confirm and provide additional soil classifications and properties. In total, twelve (12) grain size analyses were performed on soil samples from eight (8) borings. Soil samples were tested by our associated laboratory, Skylands Testing, LLC also of Sparta, New Jersey. The results of the test programs are discussed in the following section and presented in the Appendix.

SUBSURFACE CONDITIONS

The subsurface conditions encountered beneath the site are generally consistent with the published geologic literature, with glacial till present over relatively shallow bedrock. Topsoil thicknesses ranged from 0 in. to 8 in., with a mean thickness of 3.75 in. Beneath the topsoil and surficial layers, medium dense to very dense, light brown to gray silt with lesser amounts of medium to fine sand and generally trace amounts of coarse to fine gravel are present in the overburden. Cobbles and, to a lesser degree, boulders were encountered frequently and at various depths within the project limits. No areas of overlying loose or soft soils, and no deposits of fill or organic soils were encountered at the boring locations.

Bedrock or suspected bedrock was encountered at all but one (1) of the 43 boring locations at depths ranging from 0 ft. (at the ground surface) to 17 ft. Auger refusal was used to estimate the top of presumed bedrock.

Dry soils were encountered above bedrock during drilling at all but two (2) borings. Boring BE-4 encountered groundwater at a depth of 15 ft. during drilling; three (3) days after installation of a temporary groundwater observation well groundwater rose 4.5 ft. and then remained constant at a

depth of 10.7 ft. (El. 667.3). Similarly, boring C-9 encountered groundwater at a depth of 15 ft. during drilling; beginning eleven (11) days after installation of a temporary groundwater observation well groundwater rose 6.5 ft. and then remained constant at a depth of 8.7 ft. (El. 684.3).

A tabular summary of key findings of the borings, along with the individual boring logs containing specific information at each boring location, are included in the Appendix.

DESIGN RECOMMENDATIONS

BUILDINGS

Based on our review of the findings of this subsurface investigation program, along with known and assumed depths of foundations for the seven (7) proposed buildings, it is recommended that conventional shallow foundations (footings) are suitable for support of the new buildings. The recommended footing/frost depth for Putnam County is 48 in. below final exterior grade therefore bottoms of footings should be located at or below this depth, or directly on bedrock, to prevent possible frost heave damage. Based on a review of listed and assumed finish floor elevations, some buildings' footings will be founded on bedrock, some will be founded on structural fill above existing grade, and some will be founded on loose in-situ soil.

Following clearing and grubbing of all topsoil, stumps, roots, etc., the following subgrade preparation procedures are recommended for each of the seven (7) buildings.

Office/Training Building – this building's footings are expected to be founded on bedrock, loose in-situ soil, and on structural fill above existing ground. In order to provide uniform support and limit differential settlements, it is recommended to remove 12 in. of in situ soil where present at the bottom of footing, compact the bottom of the excavation, then place structural fill back up to the bottom of footing elevation. Following this procedure, an allowable bearing capacity of 2 tsf and a coefficient of base sliding of 0.40 is recommended for design, regardless of whether the footings are founded on rock, or structural fill. Minimum footing widths of 20 in. for wall footings and 30 in. for column footings are recommended to limit settlements.

Concession/restroom Building at northern multi-sport fields – this building's footings are expected to be founded on loose in-situ soil. In order to provide uniform support and limit differential settlements it is recommended to remove 12 in. of in situ soil from beneath the bottom of footing excavation, compact the footing subgrade, then place structural fill back up to the bottom of footing. Following this procedure, an allowable bearing capacity of 2 tsf and a coefficient of base sliding of 0.40 is recommended for design. Minimum footing widths of 18 in. for wall footings and 30 in. for any column footings are recommended to limit settlements.

Announcers Booth at baseball fields – this building's footings are expected to be founded on weathered or unweathered bedrock therefore footings may be designed using an allowable bearing capacity of 3 tsf and a coefficient of base sliding of 0.5. A minimum footing width of 18 in. for both wall and column footings is recommended for constructability.

Outbuilding northeast of little league fields – this building's footings are expected to be founded on structural fill above existing ground. Following clearing and grubbing operations, the building footprint should be compacted prior to placing new structural fill. An allowable bearing capacity of 2 tsf and a

coefficient of base sliding of 0.45 is recommended for design atop the structural fill. Minimum footing widths of 20 in. for wall footings and 30 in. for any column footings are recommended to limit settlements.

Announcers Booth at little league fields – this building's footings are expected to be founded on weathered or unweathered bedrock therefore footings may be designed using an allowable bearing capacity of 3 tsf and a coefficient of base sliding of 0.5. A minimum footing width of 18 in. for both wall and column footings is recommended for constructability.

Maintenance Shed – this building's footings are expected to be founded on weathered or unweathered bedrock therefore footings may be designed using an allowable bearing capacity of 3 tsf and a coefficient of base sliding of 0.5. A minimum footing width of 18 in. for both wall and column footings is recommended for constructability.

Announcers Booth at southern baseball stadium – this building's footings are expected to be founded on weathered or unweathered bedrock therefore footings may be designed using an allowable bearing capacity of 3 tsf and a coefficient of base sliding of 0.5. A minimum footing width of 18 in. for both wall and column footings is recommended for constructability.

Following the above recommendations, maximum post construction settlements are estimated to be ½ in., with ≤¼ in. differential settlement between adjacent columns at the Office/Training Building. These values are within generally accepted tolerance limits for these types of structures and use. Settlement will be elastic (instantaneous), with no long-term consolidation settlement occurring.

New first floor slabs in all buildings may be constructed as conventional slabs-on-grade following removal of the surficial topsoil, proof rolling and compaction of the subgrade, and placement and compaction of any structural fill and/or capillary break material. Where bedrock is present above the slab elevation, the bedrock should be removed to a minimum depth of 12 in. below the slab to allow for uniform support of the slab. The subgrade should be compacted using a 10 T vibratory roller away from building walls and footings, and a double-drum, vibratory padfoot trench compactor (ex., Rammax) adjacent to walls, footings, etc. A minimum of four (4) passes should be made with the compactor, and until no further settlement is visible. A modulus of subgrade reaction 150 pci is recommended for design of these slabs.

In accordance with the provisions of Section 1613.3.2 of the New York 2015 Building Code, and ASCE 7 Chapter 20, a seismic site class of B, rock, is recommended for design of buildings with footings located within 10 ft. of the top of bedrock. A seismic site class of C should be used for buildings with footings higher than 10 ft. above bedrock.

There is no evidence of past slope instability and none is expected under static or seismic loading.

The soils at this site are non-liquefiable based on their suitably high relative density, silt content, and lack of groundwater.

SITE WORK AND RETAINING WALLS

This site is underlain by stable deposits of sandy silt atop generally shallow bedrock, which are suitable for support of sports fields, roadways and parking lots, and proposed retaining walls. The site soils will likely be moisture sensitive however, due to their high silt content. Earthworks should be planned and scheduled to avoid construction during wet or rainy periods. All areas should be graded and rolled shut nightly to positively drain water and prevent infiltration and softening of the subgrade. meaning their moisture content should be controlled during stockpiling, placement and compaction operations. It is recommended to compact the in situ soils at, or slightly below, their optimum moisture content to prevent possible pumping during compaction, especially during wetter seasons.

Prior to pavement construction, all topsoil should be removed down to inorganic soil, the subgrade inspected for any soft or otherwise unsuitable material, and the subgrade proof-rolled and compacted to a uniform and stable condition. A vibratory roller having a minimum static weight of 10 tons is recommended for proof-rolling. While very soft, compressible soils, organic material, and otherwise deleterious materials were not encountered in the borings, should such material be encountered during construction, it should be removed and replaced with structural fill. Where fill will be placed against existing slopes, the existing slope shall be continuously benched as the new fill is brought up and compacted in generally-level lifts. Should fill be placed over any existing pavements, the existing pavement should either be removed or broken up and left in-place to allow for drainage. Following subgrade preparation, the use of full-depth asphalt pavement is recommended for circulation roadways and car parking lots, and reinforced concrete pavement is recommended for loading areas, dumpster pads, or similar areas.

Retaining walls may be designed and constructed as either cast-in-place concrete walls, or modular block/large modular block segmental retaining walls. The following design recommendations are suitable for these walls:

Moist unit weight of soil,	γ_t = 115 pcf (retained + foundation soils)
Angle of internal friction,	ϕ = 32° (retained + foundation soils)
Lateral earth pressure coefficients:	
Active,	K_a = 0.31
Passive,	K_p = 3.25
Coeff. of friction (sliding),	$\tan \delta$ = 0.40 (CIP concrete on compacted subgrade)
	= 0.30 (precast concrete on compacted subgrade)

Post construction walls settlements are expected to be ≤1 in. and complete at the end of construction.

CONSTRUCTION RECOMMENDATIONS

Footings should not be constructed on frozen or wet subgrade materials. All frozen or saturated subgrade soil should be removed and replaced with compacted structural fill, or clean crushed stone, as required.

All loosened soil present at the bottoms of building and wall footing excavations should be compacted using a double-drum vibratory trench compactor, or similar vibratory compactor. Such compaction should continue for a minimum of 4 passes and until all visible settlement is complete.

Organic soils were not encountered in the borings other than the surficial topsoil; however, if organic soils are encountered they should be removed completely from beneath the limits of the building and replaced with compacted structural fill. Organic soils should not be used as site or structural backfill, but should be removed offsite.

Cobbles and boulders are expected to be encountered throughout the horizontal and vertical extents of work. Any cobbles or boulders encountered during construction should be removed so that no part protrudes into the bottom or sides of foundation, retaining wall, or utility excavations.

Dewatering is not expected to be required during foundation construction since groundwater was not encountered within most of the borings. During periods of precipitation, standard construction trash pumps set in sumps should be sufficient to handle the expected inflows.

Structural fill material should consist of predominately well-graded, coarse to fine sand and/or gravel with a maximum 10% non-plastic fines (material passing a No. 200 sieve) and be free of organics and other deleterious materials. Aggregate size should be limited to no bigger than 1 in. in the largest dimension. Based on the findings of this subsurface investigation, it is estimated that very little to none of the in situ materials may be suitable for reuse as structural fill. The in situ soils should be suitable for reuse as general site fill, however. Representative samples of all proposed fill materials should be tested for gradation and moisture-density relationship prior to use to confirm its suitability.

Structural and general site fill should be placed in maximum 12 in. loose lifts and compacted to 95% of its maximum dry density at optimum moisture content as determined by the Modified Proctor Density Test (ASTM D 1557). These operations should be performed under full-time geotechnical inspection and testing by either the Sand Cone Method (ASTM D 1556), Nuclear Density Gauge (ASTM D6938) or other moisture/density test methods. These density tests should be performed by an experienced geotechnical inspector at sufficient frequency and spacing to ensure proper compaction, with the following criteria suggested as guidelines:

Location	Frequency of Testing
Structural fill beneath foundations, adjacent to structures & beneath slabs-on-grade	1 test every 2,500 SF min. 1 test per lift
Utility trenches	1 test every 50-100 LF per lift min. 3 tests per day
General site fill (beyond building limits)	1 test every 5,000 SF per lift min. 1 test per lift

Drying or wetting of the fill soils should be performed to ensure proper moisture contents during compaction. Overly wet soils may need to be disked and allowed to dry for a day or more, and as weather permits, in order to be usable. These operations should be scheduled to take advantage of dry, windy, and/or hot weather patterns to facilitate rapid moisture loss. These operations should not be scheduled for winter months (November through March).

For excavations that extend deeper than 5 ft., sheeting, shoring, sloping, or benching of the excavation sidewalls is required per OSHA standards. Considering the open space and variable depth to bedrock at this site, all the above-mentioned means may be suitable for use at this project. Based upon the material characteristics and estimated strength of the soils encountered during the subsurface exploration, the soil present on site may be assumed to be Type C and should be sloped at a 1.5H:1V (34°) per OSHA requirements. For the design of temporary sheeting or shoring, the soil properties listed above for retaining wall design are recommended. All sheeting, shoring and bracing shall be designed by a professional engineer licensed in the State of New York.

It is recommended that all foundation construction and subgrade preparation procedures, as well as earthworks for pavements, parking lots, retaining walls, etc. be inspected by a qualified geotechnical engineer experienced with these types of construction. Full time inspection is recommended during stripping and proof-rolling, and fill placement to ensure similar conditions as described in the borings and this report are encountered, adequate testing is performed, and moisture contents are maintained at suitable levels.

APPENDIX

RIDGELINE PROTECTION AREA

FORMER ZIMMER ROAD

PUGSLEY ROAD

FIELDS CORNER ROAD

REALIGNED PUGSLEY ROAD

24x48 Maint. Equip. Shed

C10 FL.EL. 657.5

C11

PROPOSED SYNTHETIC TURF BASEBALL FIELD WITH STADIUM SEATING

PROPOSED SUBSURFACE DETENTION SYSTEM

PROPOSED RETAINING WALL

PROPOSED STORMWATER BASIN

PROPOSED BATTING CAGES

NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' LIMITING DISTANCE. SEE NOTE #5.

EXISTING POND

TOWN WETLAND BUFFER

100' YARD SETBACK

100' TOWN WATERCOURSE BUFFER & NYCDEP 100' WATERCOURSE LIMITING DISTANCE

NYCDEP 100' LIMITING DISTANCE

PROPOSED SYNTHETIC TURF BATTING CAGES

POTENTIAL LOCATION FOR 14'x70' BATTING CAGE (QTY. 4)

PROPOSED BUILDING

C1 C2 C3 C4 C5 C6 C7 C8 C9 FL.EL. 706.5

PROPOSED SYNTHETIC TURF LITTLE LEAGUE FIELD

PROPOSED SYNTHETIC TURF BASEBALL FIELDS

PROPOSED SYNTHETIC TURF MULTI-SPORT FIELD (360' x 205')

PROPOSED SYNTHETIC TURF MULTI-SPORT FIELD (240' x 180')

PROPOSED CONCESSION AND RESTROOMS

150' YARD SETBACK

NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE

BP1 BP2 BP3 BP4 BP5 BP6 BP7 BP8 BP9 BP10 BP11 BP12

BE1 BE2 BE3 BE4 BE5 BE6

NOTES:
1. BASE PLAN AND BORING LOCATIONS PROVIDED BY SOILTESTING, INC.
2. BASE PLAN ALTERED BY EUGENE J. SCHWARZROCK, NY P.E. 0077007-1 OF SKYLANDS ENGINEERING, LLC, 124 MILTON ROAD, SPARTA, NJ 07871, CERTIFICATE OF AUTHORIZATION NO. 0013524 ON OCT. 20, 2021 TO SHOW BORING LOCATIONS, WALL LOCATIONS, AND/OR REMOVE EXTRANEOUS INFORMATION NOT RELEVANT TO THIS BORING LOCATION PLAN.

LEGEND

BP1	PROPOSED BORING 10' BELOW PROPOSED GRADE OR REFUSAL (12)
BE1	PROPOSED BORING 20' BELOW EXISTING GRADE OR REFUSAL (6)
C1	PROPOSED BORING 25' BELOW PROPOSED FIRST FLOOR ELEV OR REFUSAL (11)
	PROPOSED RETAINING WALL

LEGEND

	EXISTING PROPERTY LINE
	100' YARD SETBACK
	EXISTING EDGE OF PAVEMENT
	EXISTING STONE WALL
	EXISTING WETLAND WATERCOURSE
	EXISTING WETLAND SYMBOL
	EXISTING WETLAND LIMIT LINE
	EXISTING TOWN WETLAND/WATERCOURSE BUFFER
	NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE
	EXISTING NYCDEP 100' WATERCOURSE LIMITING DISTANCE
100	EXISTING 10' CONTOUR
	EXISTING 2' CONTOUR
698.6 X	EXISTING SPOT GRADE
	PROPOSED EDGE OF PAVEMENT
700	PROPOSED 10' CONTOUR
	PROPOSED 2' CONTOUR
100.5 100.5	PROPOSED SPOT ELEVATION

GRAPHIC SCALE

0 30 60 120

(IN FEET)

1 inch = 60 ft.

THIS IS A CONCEPTUAL SITE PLAN AND HAS BEEN PREPARED FOR INITIAL DISCUSSION ONLY. THE ELEVATION OF THE DEVELOPMENT PADS WILL BE ADJUSTED TO TRY AND BALANCE THE CUT/FILL FOR THE DEVELOPMENT. STORMWATER MANAGEMENT PRACTICE WILL BE INCORPORATED IN A SUBSEQUENT REVISION.

NO.	DATE	REVISION	BY

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:

PROSWING SPORTS

160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING:

BORING LOCATION MAP

PROJECT NUMBER	19249.100	PROJECT MANAGER	J.M.W.
DATE	REV. 4/30/21	DRAWN BY	J.F.R.
SCALE	1" = 60'	CHECKED BY	K.M.G.

DRAWING NO. BL-1 SHEET 1 / 1

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

Z:\DWG\19249\Proswing Sports\Plan Sets\Zoning Plan\Boring Location Map.dwg, 5/27/2021 9:03:28 AM, rachel_li1

Data Summary Table

ProSwing Sports
Southeast, NY

BORING DATA

Boring	Ground Elev., ft.	Topsoil Depth, in.	Possible Weathered Rock Depth, ft.	Possible Weathered Rock Elev., ft.	Auger Refusal Depth, ft.	Auger Refusal Elev., ft.	GWT Depth, ft.	GWT Elev., ft.	Notes
BE-1	634	6			11	623	-		
BE-2	639	2	12	627	14	625	-		
BE-3	678	3	11.5	666.5	13	665	-		
BE-4*	678	4	15.5	662.5	17	661	**10.7**	667.3	
BE-5	618	6	4.5	613.5	5	613	-		
BE-6	601	3			1	600	-		
BP-1	690	0			0		-		Bedrock at surface
BP-2	729	6	10	719	11	718	-		
BP-2A	729				10	719	-		
BP-3	721	3	5	716	5.5	715.5	-		
BP-3A	721		1.2	719.8	2	719	-		
BP-4	732	6	5.5	726.5	8	724	-		
BP-4A	732				7	725	-		
BP-5	721	6			2.5	718.5	-		
BP-5A	721				3.5	717.5	-		
BP-6	716	0			0		-		Bedrock at surface
BP-7	712	2			1.7	710.3	-		
BP-7A	712				2	710	-		
BP-8	710	0			0		-		Bedrock at surface
BP-9	648	6			0.5	647.5	-		
BP-9A	648	6			0.5	647.5	-		
BP-10	646	4	4.5	641.5	9	637	-		
BP-11	653	4			4	649	-		
BP-11A	653				4	649	-		
BP-12	649	6			1	648	-		
BP-12A	649				0.5	648.5	-		
C-1	690	3	4.2	685.8	6.5	683.5	-		
C-1A	690				6	684	-		
C-2	682	2	2	680	3.5	678.5	-		
C-2A	682		2	680	4	678	-		
C-3	685	6	5	680	6	679	-		
C-3A	685				4.5	680.5	-		

ProSwing Sports
Southeast, NY

BORING DATA

Boring	Ground Elev., ft.	Topsoil Depth, in.	Possible Weathered Rock Depth, ft.	Possible Weathered Rock Elev., ft.	Auger Refusal Depth, ft.	Auger Refusal Elev., ft.	GWT Depth, ft.	GWT Elev., ft.	Notes
C-4	693				1	692	-		
C-4A	693				1	692	-		
C-5	682	8			5.5	676.5	-		
C-5A	682				6.6	675.4	-		
C-6	688	2			14	674	-		
C-7	695	4			5	690	-		
C-7A	695				5.5	689.5	-		
C-8	686	4	9.5	676.5	10.2	675.8	-		
C-9*	693	3	10	683			**8.7**	684.3	Possible bedrock at 15.5 ft.
C-10	658	4	3.5	654.5	4.3	653.7	-		
C-11	662	0	0		4	658	-		Bedrock at surface

Notes:

* - temporary GW observation well installed

- - not encountered

GWT readings in bold indicate readings from a GW well

Boring Logs

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BE-1
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR	CASING / SAMPLER / CORE BAR	OFFSET
	TYPE: HSA / SS*	DATE START 6/17/21
GROUND WATER OBSERVATIONS	SIZE I.D.: 4 ¼" / 1 3/8"	DATE FINISH 6/17/21
AT None FT AFTER 0 HOURS	HAMMER WT.: 140# BIT	SURFACE ELEV. El. ±634
AT FT AFTER HOURS	HAMMER FALL: 30"	GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC.	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	22"	2'0"	1 / 2		soft / dry		6" Top soil Lt brn silt, some F-M sand, trace C sand
							2 / 2				
5		2	ss	18"	14"	6'6"	37 / 26		hard / dry		Lt brn silt, some F-M sand, lit F gravel, cobbles, trace C sand cobbles, boulders 5'-10'
							22				
10		3	ss	18"	15"	11'6"	21 / 14		hard	11'	Lt brn silt, some F-M sand, lit F gravel Auger Refusal
							26		moist		EOB 11'
15											
20											
25											
30											
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BE-1

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BE-2
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT __FT AFTER __HOURS	TYPE: CASING HSA, SAMPLER SS*, CORE BAR SIZE I.D.: 4 ¼", 1 3/8" HAMMER WT.: 140#, BIT HAMMER FALL: 30"	DATE START 6/17/21 DATE FINISH 6/17/21 SURFACE ELEV. El. ±639 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC.	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	13"	2'0"	1 / 2 2 / 3		soft dry		2" Top soil Lt brn silt, some F-M sand, trace F gravel, C sand
5		2	ss	18"	12"	6'6"	4 / 6 7		stiff moist		Lt brn silt, some F-C sand, trace F gravel
10		3	ss	18"	18"	11'6"	14 / 16 19		hard dry		Cobbles at 10'
										12'	Lt brn gry silt, some F- sand, lit F gravel, trace C sand
15										14'	Partly decomposed fractured Bedrock or Boulders Auger Refusal
											EOB 14'
20											
25											
30											
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BE-2

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

C = COARSE M = MEDIUM F = FINE

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BE-3
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR	CASING / SAMPLER / CORE BAR TYPE: HSA / SS* / SIZE I.D.: 4 ¼" / 1 3/8" / HAMMER WT.: / 140# / BIT HAMMER FALL: / 30" /	OFFSET DATE START 6/17/21 DATE FINISH 6/17/21 SURFACE ELEV. El. ±678 GROUND WATER ELEV.
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS		

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	13"	2'0"	2 / 2		soft		3" Top soil
							2 / 7		dry		Lt brn silt, some F-M sand, trace F gravel, C sand
5		2	ss	18"	14"	6'6"	5 / 5		stiff		
							5		dry		Lt brn silt some F-M sand, trace F gravel, C sand
											Boulder, cobble 6'-7'
											Boulder, cobble 8'-10'
10											Lt brn gry silt some F-M sand, lit F gravel, trace C sand
		3	ss	18"	18"	11'6"	7 / 10		harf		Boulders, cobbles 10'6"-13'
							27		dry		Possible fractured Bedrock from 11'6"
										13'	Auger Refusal
15											EOB 13'
20											
25											
30											
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BE-3

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS C = COARSE

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER M = MEDIUM

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50% F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BE-4
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR	CASING / SAMPLER / CORE BAR	OFFSET
	TYPE: HSA / SS*	DATE START 6/18/21
GROUND WATER OBSERVATIONS	SIZE I.D.: 4 ¼" / 1 3/8"	DATE FINISH 6/18/21
AT 15 FT AFTER 0 HOURS	HAMMER WT.: 140# BIT	SURFACE ELEV. El. ±678
AT 10'6 " FT on 6/21/21	HAMMER FALL: 30"	GROUND WATER ELEV.
AT 10'9" FT on 7/2/21		
AT 10'9" FT on 7/7/21		

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	18"	2'0"	2 / 2		stiff		4" Top soil
							3 / 3		moist		Brn silt some F-M sand, lit C sand
											Cobbles 2-5'
5		2	ss	24"	24"	7'0"	8 / 9		v stiff		
							13 / 33		dry		Lt brn silt some F-M sand, trace F gravel, lit C sand
											Cobbles, Boulders
											Boulders 8'-10'
10		3	ss	24"	20"	12'0"	19 / 29		hard		
							31 / 38		dry		Lt brn gry silt & F-M sand, lit C sand, lit C gravel
									v dense		Cobbles, Boulders 13'-15'
15											Blk F-M sand some silt
		4	ss	10"	4"	15'10"	25 / 50/4"		wet	15'6"	
										17'	Partly decomposed Bedrock or Boulder, Auger Refusal
20											EOB 17'
25											Installed 1" SCH 40 PVC observation well with 10' screen length to a depth of 17'.
30											
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BE-4

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BE-5
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS	TYPE: CASING HSA, SAMPLER SS*, CORE BAR SIZE I.D.: 4 ¼", 1 3/8" HAMMER WT.: 140#, BIT HAMMER FALL: 30"	DATE START 6/21/21 DATE FINISH 6/21/21 SURFACE ELEV. El. ±618 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC.	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	20"	2'0"	1 / 2		soft		6" Top soil
							2 / 2		dry		Lt brn silt, some F-M sand, trace C sand, F gravel
										4'6"	
5									hard	5'2"	Wht/gry silt, Bedrock or Boulder fragments, Auger Refusal @ 5'
		2	ss	2"	2"	5'2"	50/2"		dry		EOB 5'2"
10											
15											
20											
25											
30											
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BE-5

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE

M = MEDIUM

F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BE-6
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS	TYPE: CASING HSA; SAMPLER SS*; CORE BAR SIZE I.D.: 4 ¼"; 1 3/8" HAMMER WT.: 140#; BIT HAMMER FALL: 30"	DATE START 6/21/21 DATE FINISH 6/21/21 SURFACE ELEV. El. ±601 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	SAMPLE Type	SAMPLE PEN	SAMPLE REC.	SAMPLE DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
										1'	3" Top soil / Brn F-M sand & silt
									dry		EOB 1'0" Auger Refusal
5											
10											
15											
20											
25											
30											
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BE-6

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BP-1
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR	CASING / SAMPLER / CORE BAR	OFFSET
	TYPE: HSA / SS*	DATE START 6/17/21
GROUND WATER OBSERVATIONS	SIZE I.D.: 4 ¼" / 1 3/8"	DATE FINISH 6/17/21
AT None FT AFTER 0 HOURS	HAMMER WT.: 140# BIT	SURFACE ELEV. El. ±690
AT __FT AFTER __HOURS	HAMMER FALL: 30"	GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	SAMPLE Type	SAMPLE PEN	SAMPLE REC.	SAMPLE DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
											Bedrock Exposed at surface
5											
10											
15											
20											
25											
30											
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BP-1

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BP-2
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR	CASING / SAMPLER / CORE BAR	OFFSET
	TYPE: HSA / SS*	DATE START 6/16/21
GROUND WATER OBSERVATIONS	SIZE I.D.: 4 ¼" / 1 3/8"	DATE FINISH 6/16/21
AT None FT AFTER 0 HOURS	HAMMER WT.: 140# BIT	SURFACE ELEV. El. ±729
AT FT AFTER HOURS	HAMMER FALL: 30"	GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	11"	2'0"	2 / 5		compact		6" Top soil
							6 / 3		dry-moist	0'9"	Blk F-M sand, lit F gravel
											Lt red brn silt, lit F-M sand, lit cobbles 1'6"-2'6"
5											
		2	ss	18"	12"	6'6"	12 / 23		hard		Lt brn silt some F-M sand, trace C sand, F gravel
							50		dry-moist		Lit cobbles, Boulders 7'6"-10'
									v dense		
10		3	ss	2"	2"	10'2"	50/2"		dry		Partly decomposed bedrock or Boulder fragements
										11'	Bedrock or Boulder 10-11', Auger Refusal
											EOB 11'
15											Offset 10' North to BP-2A
20											
	BP-2A										
0											
									dry-moist		Cobbles 2-3"
5											Cobbles 5-10'
10										10'	Auger Refusal
											EOB 10'
15											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BP-2

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BP-3
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT __FT AFTER __HOURS		DATE START 6/16/21 DATE FINISH 6/16/21 SURFACE ELEV. El. ±721 GROUND WATER ELEV.

	CASING	SAMPLER	CORE BAR
TYPE	HSA	SS*	
SIZE I.D.	4 ¼"	1 3/8"	
HAMMER WT.		140#	BIT
HAMMER FALL		30"	

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	SAMPLE Type	SAMPLE PEN	SAMPLE REC.	SAMPLE DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	20"	2'0"	2 / 2		stiff		3" Top soil
							3 / 2		moist		Red brn silt lit F-M sand, trace gravel
										5'	Cobbles 0-5'
5		2	ss	2"	1/2"	5'2"	50/2"		v dense dry		Blk Bedrock or Boulder fragments
										5'6"	Auger Refusal
											EOB 5'6"
											Off set 20' South to BP-3A
10											
15											
20	BP-3A										
0											
											Cobbles, Boulders 1-2"
									dry-moist	2'	Auger Refusal
											EOB 2'
5											
10											
15											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BP-3

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BP-4
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR	CASING / SAMPLER / CORE BAR	OFFSET
	TYPE: HSA / SS*	DATE START 6/16/21
GROUND WATER OBSERVATIONS	SIZE I.D.: 4 ¼" / 1 3/8"	DATE FINISH 6/16/21
AT None FT AFTER 0 HOURS	HAMMER WT.: 140# BIT	SURFACE ELEV. El. ±732
AT FT AFTER HOURS	HAMMER FALL: 30"	GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	10"	2'0"	1 / 1		v soft		6" Top soil
							1 / 2				Lt brn silt some F-M sand, trace F gravel, C sand
											Cobbles, Boulders 3'6"-5'
5		2	ss	14"	10"	6'2"	6 / 37		v dense	5'6"	Blk gry F-M sand
							50/2"				(Possible partly decomposed Bedrock)
										8'	Auger Refusal
10											EOB 8'
											Offset 5' North to BP-4A
15											
	BP-4A										
0											
5											
										7'	Auger Refusal
											EOB 7'
10											
15											
20											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BP-4

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BP-5
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS		DATE START 6/16/21 DATE FINISH 6/16/21 SURFACE ELEV. El. ±721 GROUND WATER ELEV.

	CASING	SAMPLER	CORE BAR
TYPE	HSA	SS*	
SIZE I.D.	4 ¼"	1 3/8"	
HAMMER WT.		140#	BIT
HAMMER FALL		30"	

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6	6 - 12	12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	12"	2'0"	1	1			soft		6" Top soil
							2	2			moist-vmoist		Lt brn red silt some F-M sand trace F gravel, C sand
												2'6"	Auger Refusal
5													EOB 2' 6"
													Offset 10' South to BP-5A
0	BP-5A												
												3'6"	Auger Refusal
5													EOB 3'6"
10													
15													
20													
25													
30													

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BP-5

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BP-6
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT __FT AFTER __HOURS		DATE START 6/16/21 DATE FINISH 6/16/21 SURFACE ELEV. El. ±716 GROUND WATER ELEV.

	CASING	SAMPLER	CORE BAR
TYPE	HSA	SS*	
SIZE I.D.	4 ¼"	1 3/8"	
HAMMER WT.		140#	BIT
HAMMER FALL		30"	

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	SAMPLE Type	SAMPLE PEN	SAMPLE REC.	SAMPLE DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
											Bedrock at ground surface
5											
10											
15											
20											
25											
30											
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. **HOLE NO. BP-6**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE

M = MEDIUM

F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BP-7
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS	TYPE: CASING HSA, SAMPLER SS*, CORE BAR SIZE I.D.: 4 ¼", 1 3/8" HAMMER WT.: 140#, BIT HAMMER FALL: 30"	DATE START 6/16/21 DATE FINISH 6/16/21 SURFACE ELEV. El. ±712 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	12"	6"	1'0"	1 / 3 / 50/0"		dry-moist	1'9"	2" Top soil Drk brn silt some F-M sand, trace gravel, Auger Refusal
											EOB 1'9"
5											Offset 10' South to BP-7A
	BP-7A										
0										2'	Auger Refusal
											EOB 2'
5											
10											
15											
20											
25											
30											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BP-7

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE

M = MEDIUM

F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BP-8
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT __FT AFTER ___HOURS		DATE START 6/18/21 DATE FINISH 6/18/21 SURFACE ELEV. El. ±710 GROUND WATER ELEV.

	CASING	SAMPLER	CORE BAR
TYPE	HSA	SS*	
SIZE I.D.	4 ¼"	1 3/8"	
HAMMER WT.		140#	BIT
HAMMER FALL		30"	

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	SAMPLE Type	SAMPLE PEN	SAMPLE REC.	SAMPLE DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
											Bedrock exposed at surface
5											
10											
15											
20											
25											
30											
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BP-8

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BP-9
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR	CASING / SAMPLER / CORE BAR	OFFSET
	TYPE: HSA / SS*	DATE START 6/21/21
GROUND WATER OBSERVATIONS	SIZE I.D.: 4 ¼" / 1 3/8"	DATE FINISH 6/21/21
AT None FT AFTER 0 HOURS	HAMMER WT.: 140# BIT	SURFACE ELEV. El. ±648
AT FT AFTER HOURS	HAMMER FALL: 30"	GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC.	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	6"	6"	0'6"	2 / 50/0"		dry	0'6"	6" Top soil Auger Refusal
											EOB 0'6"
5											Offset 5" South tp BP-9A
10											
0	BP-9A									0'6"	6" Top soil Auger Refusal
											EOB 0'6"
5											
10											
15											
20											
25											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

***Cat Head & Rope**

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. **HOLE NO. BP-9**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BP-10
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS	TYPE: CASING HSA; SAMPLER SS*; CORE BAR SIZE I.D.: 4 ¼"; 1 3/8" HAMMER WT.: 140#; BIT HAMMER FALL: 30"	DATE START 6/18/21 DATE FINISH 6/18/21 SURFACE ELEV. El. ±646 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	15"	2'	2 / 1		v loose		4" Top soil
							2 / 2		dry		Lt rbn F-M sand & silt, trace C sand
											Cobbles 3-5'
									hard	4'	
5		2	ss	2"	2"	5'2"	50/2"		dry	4'6"	Blk gry silt & F-M sand, trace F gravel, C sand
											Partly decomposed Bedrock or Boulders
											Fractured Bedrock or Boulders from 5'
										9'	Auger Refusal
10											EOB 9'
15											
20											
25											
30											
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BP-10

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BP-11
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS	TYPE: CASING HSA, SAMPLER SS*, CORE BAR SIZE I.D.: 4 ¼", 1 3/8" HAMMER WT.: 140#, BIT HAMMER FALL: 30"	DATE START 6/21/21 DATE FINISH 6/21/21 SURFACE ELEV. El. ±653 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	20"		1 / 1		v soft / dry		4" Top soil
							1 / 2				Lt brn red silt some F-M sand, trace C sand
										4'	Auger Refusal
5											EOB 4'0"
											Offset 5' South to BP-11A
	BP-11A										
0											
										4'	Auger Refusal
5											EOB 4'
10											
15											
20											
25											
30											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BP-11

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. BP-12
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS	TYPE: CASING HSA, SAMPLER SS*, CORE BAR SIZE I.D.: 4 ¼", 1 3/8" HAMMER WT.: 140#, BIT HAMMER FALL: 30"	DATE START 6/21/21 DATE FINISH 6/21/21 SURFACE ELEV. El. ±649 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18			CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	7	7	0'7"	1	50/1"			dry	1'	6" Top soil, Partly decomposed Bedrock, Auger Refusal
													EOB 1'0"
5													Offset 5' North to BP-12A
	BP-12A												
0												0'6"	Auger Refusal
													EOB 1'
5													
10													
15													
20													
25													
30													

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. BP-12

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. C-1
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR	CASING / SAMPLER / CORE BAR	OFFSET
	TYPE: HSA / SS*	DATE START 6/17/21
GROUND WATER OBSERVATIONS	SIZE I.D.: 4 ¼" / 1 3/8"	DATE FINISH 6/17/21
AT None FT AFTER 0 HOURS	HAMMER WT.: 140# BIT	SURFACE ELEV. El. ±690
AT FT AFTER HOURS	HAMMER FALL: 30"	GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	10"	2'0"	2 / 2		soft		3" Top soil
							2 / 2		dry		Lt brn-brn silt, some F-M sand, trace C sand
		2	ss	24"	24"	4'0"	8 / 10		v stiff		
							8 / 11		dry		Lt brn silt, some F-M sand, lit F gravel, lit C sand
5		3	ss	7"	7"	4'7"	28 / 50/1"		hard		Lt brn silt, some F-M sand, trace gravel, C sand
									dry	4'3"	
										6'6"	Partly decomposed Bedrock or Boulder, Auger Refusal
											EOB 6'6"
											Offset 5' North to C-1A
10											
	C-1A										
0											
5											
										6'	Auger Refusal
											EOB 6'
10											
15											
20											
25											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. C-1

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. C-2
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS	TYPE: CASING HSA, SAMPLER SS*, CORE BAR SIZE I.D.: 4 ¼", 1 3/8" HAMMER WT.: 140#, BIT HAMMER FALL: 30"	DATE START 6/18/21 DATE FINISH 6/18/21 SURFACE ELEV. El. ±682 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	20"	2'0"	2 / 2		soft		2" Top soil
							1 / 3		dry-moist	2'	Lt brn silt, some F-M sand, trace F gravel, trace C sand
		2	ss	9"	9"	2'9"	6 / 50/3"			3'6"	Cobbles/boulders and/or fractured Bedrock, Auger Refusal
5											EOB 3'6"
	C-2A										Offset 10' South to C-2A
0											Cobbles/boulders 2'-4'
										4'	Auger Refusal
5											EOB 4'
10											
15											
20											
25											
30											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. C-2

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. C-3
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT __ FT AFTER __ HOURS	TYPE: CASING HSA, SAMPLER SS*, CORE BAR SIZE I.D.: 4 ¼", 1 3/8" HAMMER WT.: 140#, BIT HAMMER FALL: 30"	DATE START 6/17/21 DATE FINISH 6/17/21 SURFACE ELEV. El. ±685 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6	6 - 12	12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	12"	2'0"	1	2			soft		6" Top soil
							1	2			moist		Lt brn silt some F-M sand, trace F gravel
		2	ss	24"	24"	4'0"	2	12			v stiff		
							14	28			dry		Lt gry silt some F-M sand, lit F gravel, trace C sand
5		3	ss	13"	13"	5'1"	14	19			hard	5'	Lt gry silt some F-M sand, lit F gravel, trace F-C sand
							50/1"				dry	6'	Partly decomposed Bedrock or Boulder, Auger Refusal
													EOB 6'
	C-3A												
0													Offset 5' North to C-3A
												4'6"	Auger Refusal
5													
10													
15													
20													
25													
30													

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. C-3

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. C-4
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS	TYPE: CASING HSA; SAMPLER SS*; CORE BAR SIZE I.D.: 4 ¼"; 1 3/8" HAMMER WT.: 140#; BIT HAMMER FALL: 30"	DATE START 6/17/21 DATE FINISH 6/17/21 SURFACE ELEV. El. ±693 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	2"	0"	0'2"	50/2"		hard	1'	Brn sandy silt & cobbles, Auger Refusal
									dry		EOB 1'0"
5											Offset 5' North to C-4A
	C-4A										
0										1'	Auger Refusal
											EOB 1'0"
5											
10											
15											
20											
25											
30											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. **HOLE NO. C-4**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. C-5
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT __FT AFTER __HOURS	TYPE: CASING HSA; SAMPLER SS*; CORE BAR SIZE I.D.: 4 ¼"; 1 3/8" HAMMER WT.: 140#; BIT HAMMER FALL: 30"	DATE START 6/18/21 DATE FINISH 6/18/21 SURFACE ELEV. El. ±682 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC.	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	20"	2'0"	2 / 2		soft / dry-moist		8" Top soil Brn silt some F-M sand, Trace C sand, roots
		2	ss	24"	24"	4'0"	3 / 6		stiff / dry-moist		Lt brn silt some F-M sand, trace F gravel, C sand
5		3	ss	15"	8"	5'3"	6 / 26		hard / dry-moist	5'6"	Lt brn silt some F-M sand, trace F gravel, C sand, Auger Refusal
							50/3"				EOB 5'6"
10											Offset 5' North to C-5A
	C-5A										
0											
											Cobble/boulders 2'-4'
5											
										6'6"	Auger Refusal
											EOB 6'6"
10											
15											
20											
25											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. C-5

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE

M = MEDIUM

F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. C-6
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS	TYPE: CASING HSA; SAMPLER SS*; CORE BAR SIZE I.D.: 4 ¼"; 1 3/8" HAMMER WT.: 140#; BIT HAMMER FALL: 30"	DATE START 6/18/21 DATE FINISH 6/18/21 SURFACE ELEV. El. ±688 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18			CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	18"	2'0"	1	2			soft		2" Top soil
							2	2			dry		Lt brn silt some F-M snd, trace F gravel, trace C sand
		2	ss	24"	20"	4'0"	7	11			v stiff		
							18	26			dry		Lt brn-gry silt some F-M snd, lit C sand, trace F gravel
5													Cobbles/boulders 2'-4'
		3	ss	24"	20"	6'0"	9	10			v stiff		
							12	13			dry		Lt brn-gry silt some F-M sand, lit C sand, trace F gravel
		4	ss	24"	24"	8'0"	19	17			hard		
							15	16			dry-moist		Lt brn-gry silt some F-M sand, lit C sand, trace F gravel
10		5	ss	10"	8"	9'4"	26	32					
							50/4"				dry-moist		
													Cobbles, Boulders 9'-14'
												14'	Auger Refusal
15													EOB 14'
20													
25													
30													
35													
40													

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. C-6

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. C-7
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR	CASING / SAMPLER / CORE BAR	OFFSET
	TYPE: HSA / SS*	DATE START 6/18/21
GROUND WATER OBSERVATIONS	SIZE I.D.: 4 ¼" / 1 3/8"	DATE FINISH 6/18/21
AT None FT AFTER 0 HOURS	HAMMER WT.: 140# BIT	SURFACE ELEV. El. ±695
AT __ FT AFTER __ HOURS	HAMMER FALL: 30"	GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	SAMPLE Type	SAMPLE PEN	SAMPLE REC	SAMPLE DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
											4" Top soil Brn silt, lit sand, gravel
5		1	ss	0"	0"	5'0"	50/0"		v dense dry	5'	Cobbles, boulders 2'-4'6", Auger Refusal
											EOB 5'0"
	C-7A										Offset 5' North to C-7A
0											
5										5'6"	Auger Refusal
											EOB 5'6"
10											
25											
30											
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. **HOLE NO. C-7**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. C-8
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR	TYPE: CASING HSA; SAMPLER SS*; CORE BAR	OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS	SIZE I.D.: 4 ¼" / 1 3/8" HAMMER WT.: 140# BIT HAMMER FALL: 30"	DATE START 6/18/21 DATE FINISH 6/18/21 SURFACE ELEV. El. ±686 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6	6 - 12	12- 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	13"	2'0"	1	2			soft		4" Top soil
							2	2			dry		Brn silt some F-M sand, trace roots
		2	ss	24"	24"	4'0"	8	13			hard		
							18	26			dry		Lt brn silt some F-M sand, trace F gravel, trace C sand
5													Cobbles 3'6"-5'
		3	ss	24"	20"	6'0"	28	18			hard		
							12	13			moist		Lt brn-gry silt some F-M sand, trace F gravel, C sand
		4	ss	24"	20"	8'0"	13	13			v stiff		
							12	12			v moist	9'6"	Lt brn-gry silt some F-M sand, lit C sand, trace F gravel
10		5	ss	2"	0"	10'2"	50/2"				dry	10'2"	Fractured Bedrock or Boulders, Auger Refusal @ 10'
													EOB 10'2"
15													
20													
25													
30													
35													
40													

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. **HOLE NO. C-8**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. C-9
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT 15 FT AFTER 0 HOURS AT FT AFTER HOURS	TYPE: CASING HSA; SAMPLER SS* SIZE I.D.: 4 ¼"; 1 3/8" HAMMER WT.: 140#; CORE BAR BIT HAMMER FALL: 30"	DATE START 6/21/21 DATE FINISH 6/21/21 SURFACE ELEV. El. ±693 GROUND WATER ELEV.

AT 8'8" 7/2/21

AT 8'8" 7/7/21

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6	6 - 12	12- 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	18"	2'0"	2	3			stiff		3" Top soil
							4	5			dry		Lt brn silt some F-M sand, trace F gravel, trace C sand
		2	ss	24"	20"	4'0"	8	9			v stiff		
							9	11			moist		Lt brn silt some F-M sand, lit C sand, trace F gravel
5		3	ss	24"	24"	6'0"	5	8			v stiff		
							12	17			dry		Lt brn silt some F-M sand, lit C sand, lit F gravel
		4	ss	10"	6"	6'10"	28	50/4"			dry		Lt brn silt some F-M sand, Lit C sand, lit F gravel
											hard		Cobbles, Boulders 5'-8'6"
		5	ss	9"	4"	8'9"	14	50/3"			dry		Lt brn silt some F-M sand, lit C sand, lit F gravel, trace blk sand
10													
		6	ss	0"	0"	10'0"	54/0"						No recovery
													Cobbles, Boulders and/or fractured Bedrock from 10'
												14'6"	
15											v dense	15'6"	Bedrock or Boulder fragments
		7	ss	2"	2"	15'2"	50/2"				wet		EOB 15'6"
20													Installed 1" SCH 40 PVC observation well with 10' screen length to a depth of 15'.
25													
30													
35													
40													

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. HOLE NO. C-9

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE

M = MEDIUM

F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. C-10
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS		DATE START 6/21/21 DATE FINISH 6/21/21 SURFACE ELEV. El. ±658 GROUND WATER ELEV.

	CASING	SAMPLER	CORE BAR
TYPE	HSA	SS*	
SIZE I.D.	4 ¼"	1 3/8"	
HAMMER WT.		140#	BIT
HAMMER FALL		30"	

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	SAMPLE Type	SAMPLE PEN	SAMPLE REC	SAMPLE DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
		1	ss	24"	20"	2'0"	2 / 3		stiff		4" Top soil
							5 / 7		dry		Lt brn silt & F-M sand, lit C sand, trace F gravel
		2	ss	14"	18"	3'7"	5 / 5		stiff		
							7 / 50/1"		dry		Lt brn-gry silt & F-M sand, lit C sand, lit F gravel
5		3	ss	3"	3"	4'3"	50/3"		hard		Lt brn silt some F-M sand, lit c sand, trace F gravel
									dry		(possible decomposed boulder or bedrock from 3'6")
										4'3"	Auger Refusal @ 4'
											EOB 4'3"
10											
15											
20											
25											
30											
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT.

HOLE NO. C-10

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE

M = MEDIUM

F = FINE

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: KG&D Architects	SHEET 1 OF 1 HOLE NO. C-11
	PROJECT NO. G128-1831-21	
	PROJECT NAME ProSwing Sports	BORING LOCATIONS Per Plan
FOREMAN - DRILLER AK/ef	LOCATION #160 & 132 Pugsley Road Southeast NY	
INSPECTOR		OFFSET
GROUND WATER OBSERVATIONS AT None FT AFTER 0 HOURS AT FT AFTER HOURS	TYPE: CASING HSA; SAMPLER SS*; CORE BAR SIZE I.D.: 4 ¼"; 1 3/8" HAMMER WT.: 140# BIT HAMMER FALL: 30"	DATE START 6/21/21 DATE FINISH 6/21/21 SURFACE ELEV. El. ±662 GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	SAMPLE Type	SAMPLE PEN	SAMPLE REC	SAMPLE DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
											Bedrock from surface
										4'	Auger Refusal
5											EOB 4'
10											
15											
20											
25											
30											
35											
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

*Cat Head & Rope

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. **HOLE NO. C-11**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

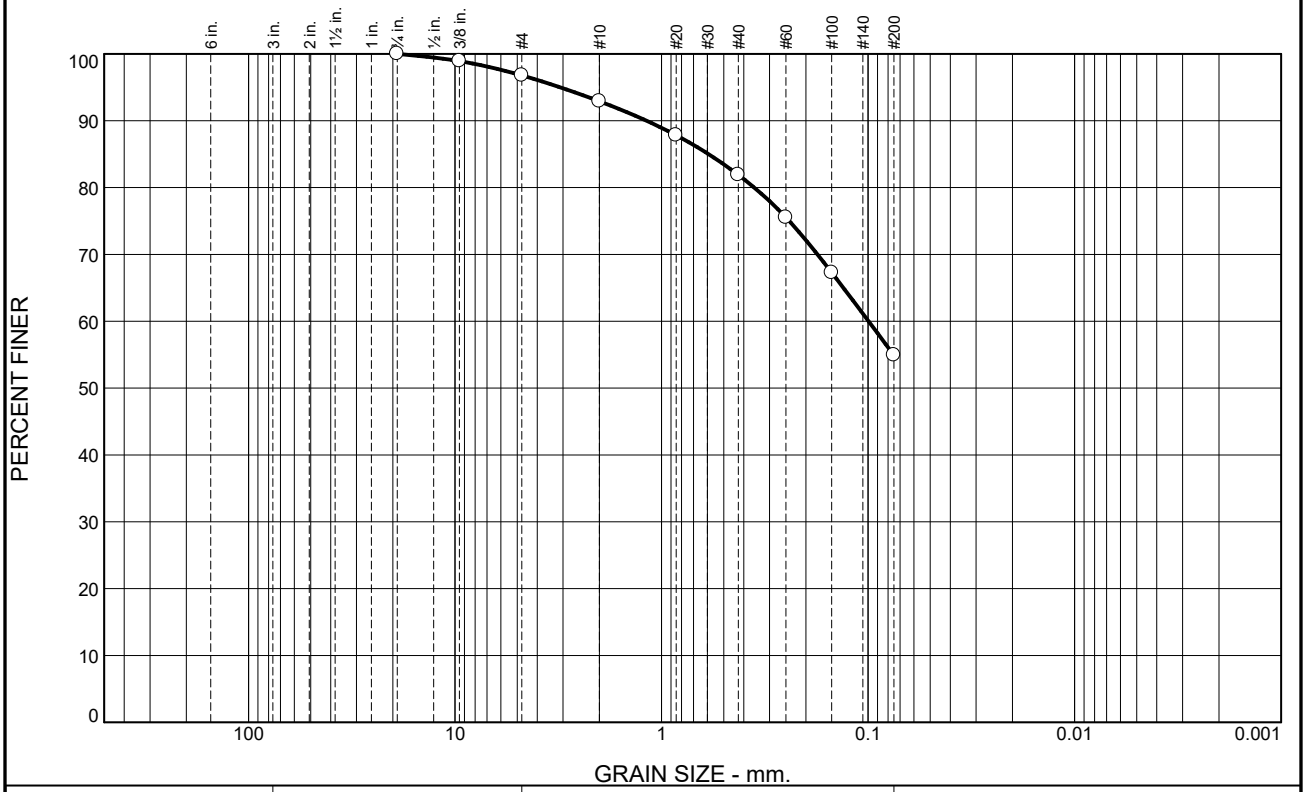
C = COARSE

M = MEDIUM

F = FINE

Laboratory Test Results

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.2	3.9	11.0	27.0	54.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.375	98.9		
#4	96.8		
#10	92.9		
#20	87.8		
#40	81.9		
#60	75.5		
#100	67.3		
#200	54.9		

* (no specification provided)

Material Description

Brown sandy silt

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.1820 D_{85}= 0.5922 D_{60}= 0.0994
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Sample washed on #200 sieve
USCS based on dilatancy & plasticity per ASTM D2488

Source of Sample: BE-4 **Depth:** 5-7 ft.
Sample Number: S-2 **Date:** 7-8-2021

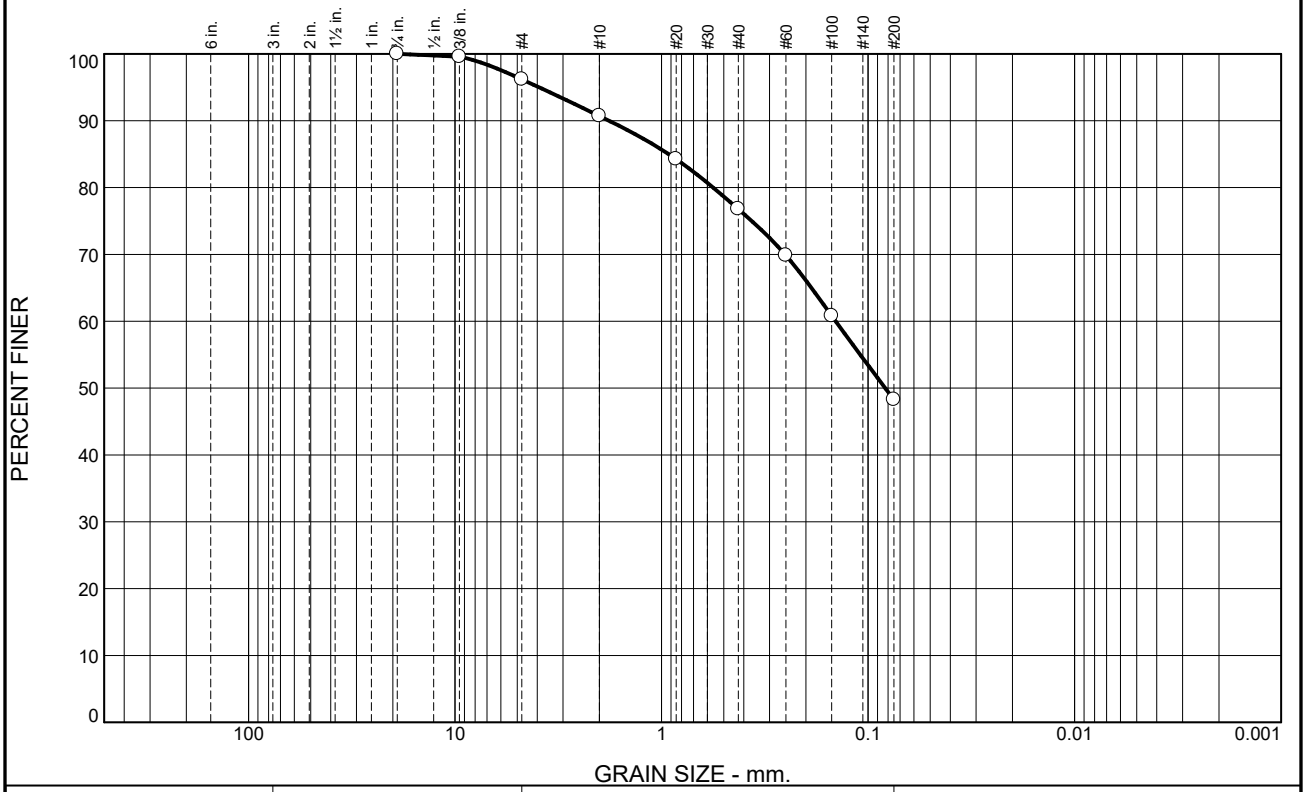
SKYLANDS TESTING, LLC

Sparta, NJ

Client: Soiltesting, Inc.
Project: Pugsley Road
Brewster, NY 10509
Project No: G-1831 **Figure**

Tested By: RS **Checked By:** VRS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.8	5.5	13.9	28.5	48.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.375	99.6		
#4	96.2		
#10	90.7		
#20	84.2		
#40	76.8		
#60	69.9		
#100	60.8		
#200	48.3		

* (no specification provided)

Material Description

Orange-brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.7967 D_{85}= 0.9234 D_{60}= 0.1435
D_{50}= 0.0826 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Sample washed on #200 sieve
USCS based on dilatancy & plasticity per ASTM D2488

Source of Sample: BP-2 **Depth:** 5-6.5 ft.
Sample Number: S-2

Date: 7-8-2021

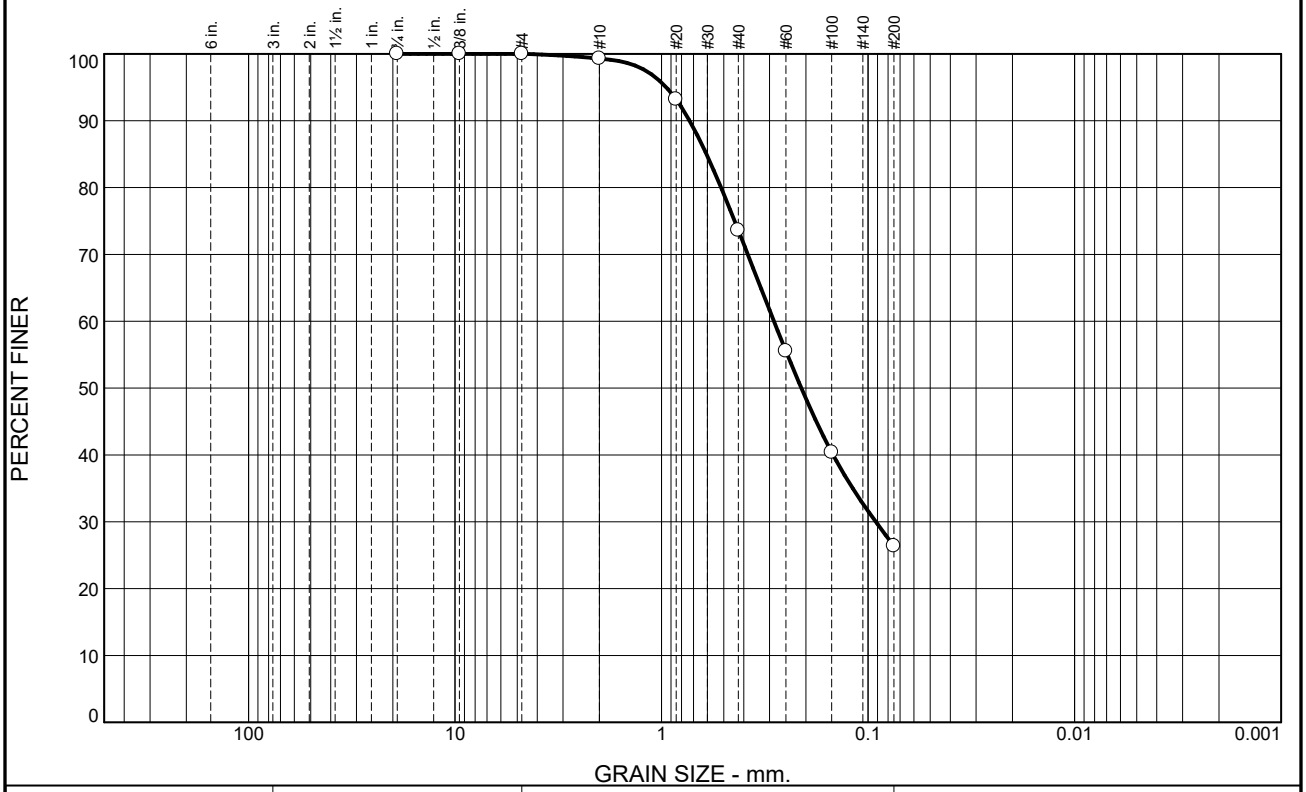
SKYLANDS TESTING, LLC

Sparta, NJ

Client: Soiltesting, Inc.
Project: Pugsley Road
Brewster, NY 10509
Project No: G-1831 **Figure**

Tested By: RS **Checked By:** VRS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.7	25.7	47.2	26.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.375	100.0		
#4	100.0		
#10	99.3		
#20	93.2		
#40	73.6		
#60	55.5		
#100	40.4		
#200	26.4		

* (no specification provided)

Material Description

Black-brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.7317 D_{85}= 0.6064 D_{60}= 0.2857
D_{50}= 0.2104 D_{30}= 0.0918 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Sample washed on #200 sieve
USCS based on dilatancy & plasticity per ASTM D2488

Source of Sample: BP-4 **Depth:** 5-7 ft.
Sample Number: S-2

Date: 7-8-2021

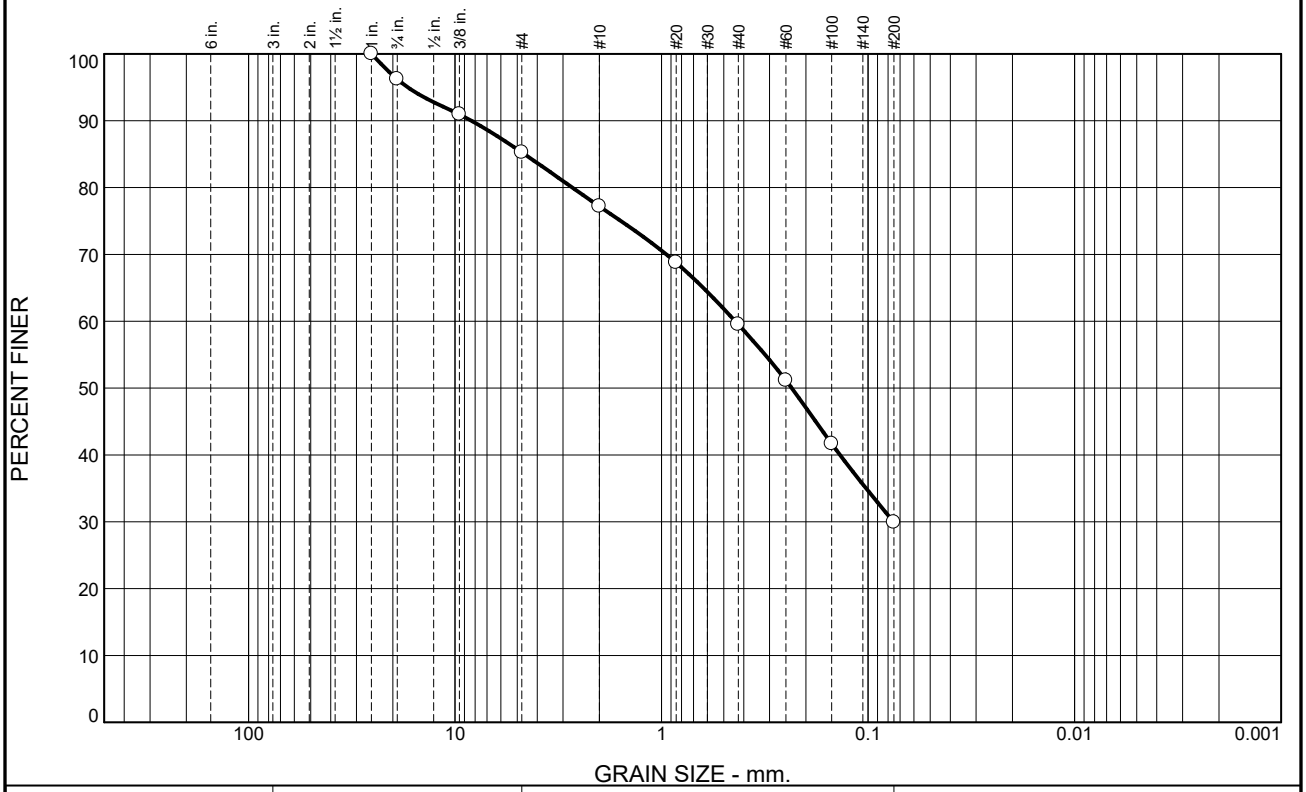
SKYLANDS TESTING, LLC

Sparta, NJ

Client: Soiltesting, Inc.
Project: Pugsley Road
Brewster, NY 10509
Project No: G-1831 **Figure**

Tested By: RS **Checked By:** VRS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.8	10.9	8.1	17.7	29.6	29.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	96.2		
.375	90.9		
#4	85.3		
#10	77.2		
#20	68.8		
#40	59.5		
#60	51.2		
#100	41.7		
#200	29.9		

* (no specification provided)

Material Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 8.3293 D_{85}= 4.6135 D_{60}= 0.4394
D_{50}= 0.2343 D_{30}= 0.0753 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Sample washed on #200 sieve
USCS based on dilatancy & plasticity per ASTM D2488

Source of Sample: C-4 **Depth:** 8-10 ft.
Sample Number: S-5

Date: 7-8-2021

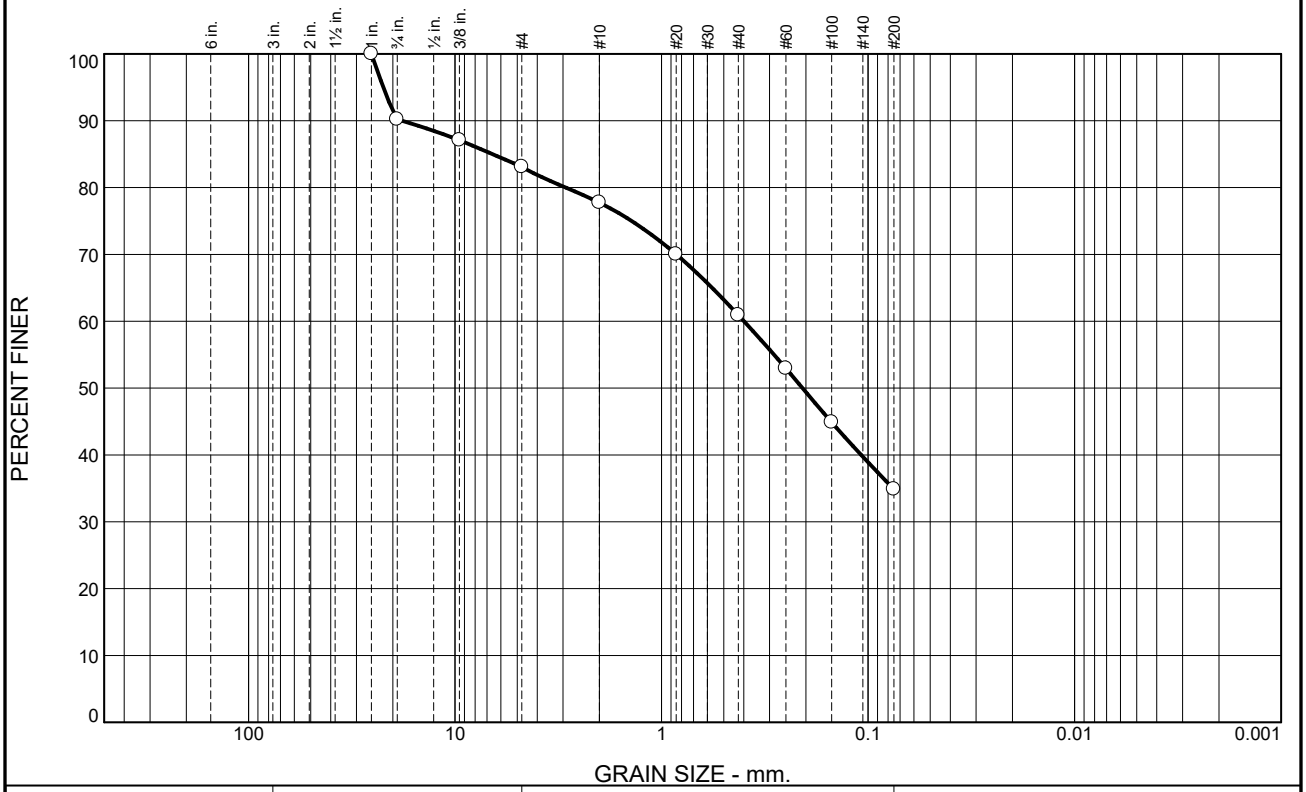
SKYLANDS TESTING, LLC

Sparta, NJ

Client: Soiltesting, Inc.
Project: Pugsley Road
Brewster, NY 10509
Project No: G-1831 **Figure**

Tested By: RS **Checked By:** VRS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	9.8	7.1	5.4	16.8	26.0	34.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	90.2		
.375	87.1		
#4	83.1		
#10	77.7		
#20	70.0		
#40	60.9		
#60	52.9		
#100	44.9		
#200	34.9		

* (no specification provided)

Material Description

Brown and white silty sand with gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 18.0777 D_{85}= 6.5810 D_{60}= 0.3988
D_{50}= 0.2077 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Sample washed on #200 sieve
USCS based on dilatancy & plasticity per ASTM D2488

Source of Sample: C-5 **Depth:** 2-4 ft.
Sample Number: S-2

Date: 7-8-2021

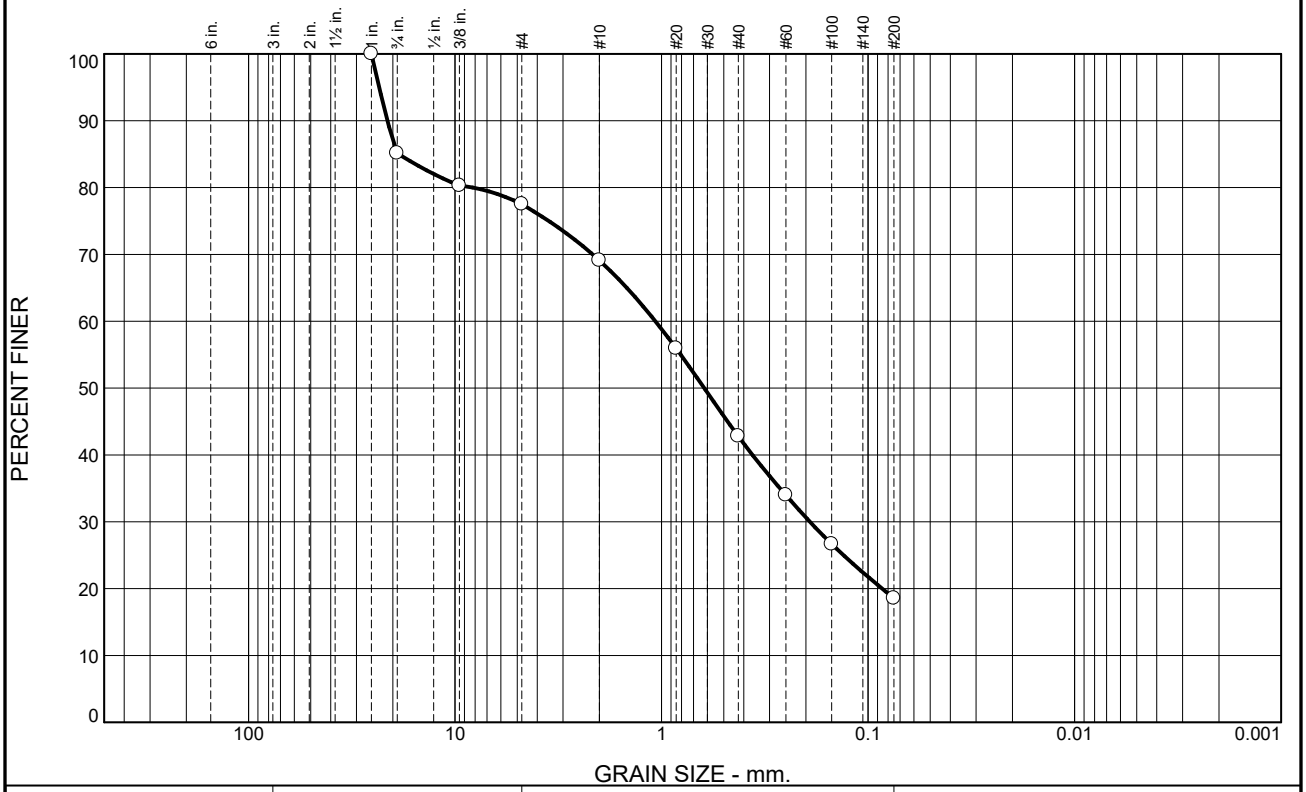
SKYLANDS TESTING, LLC

Sparta, NJ

Client: Soiltesting, Inc.
Project: Pugsley Road
Brewster, NY 10509
Project No: G-1831 **Figure**

Tested By: RS **Checked By:** VRS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	14.9	7.6	8.4	26.3	24.2	18.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	85.1		
.375	80.3		
#4	77.5		
#10	69.1		
#20	55.9		
#40	42.8		
#60	34.0		
#100	26.7		
#200	18.6		

* (no specification provided)

Material Description

Brown silty sand with gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 21.2485 D_{85}= 18.7614 D_{60}= 1.0709
D_{50}= 0.6214 D_{30}= 0.1913 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Sample washed on #200 sieve
USCS based on dilatancy & plasticity per ASTM D2488

Source of Sample: C-5 **Depth:** 4-5.25 ft.
Sample Number: S-3

Date: 7-8-2021

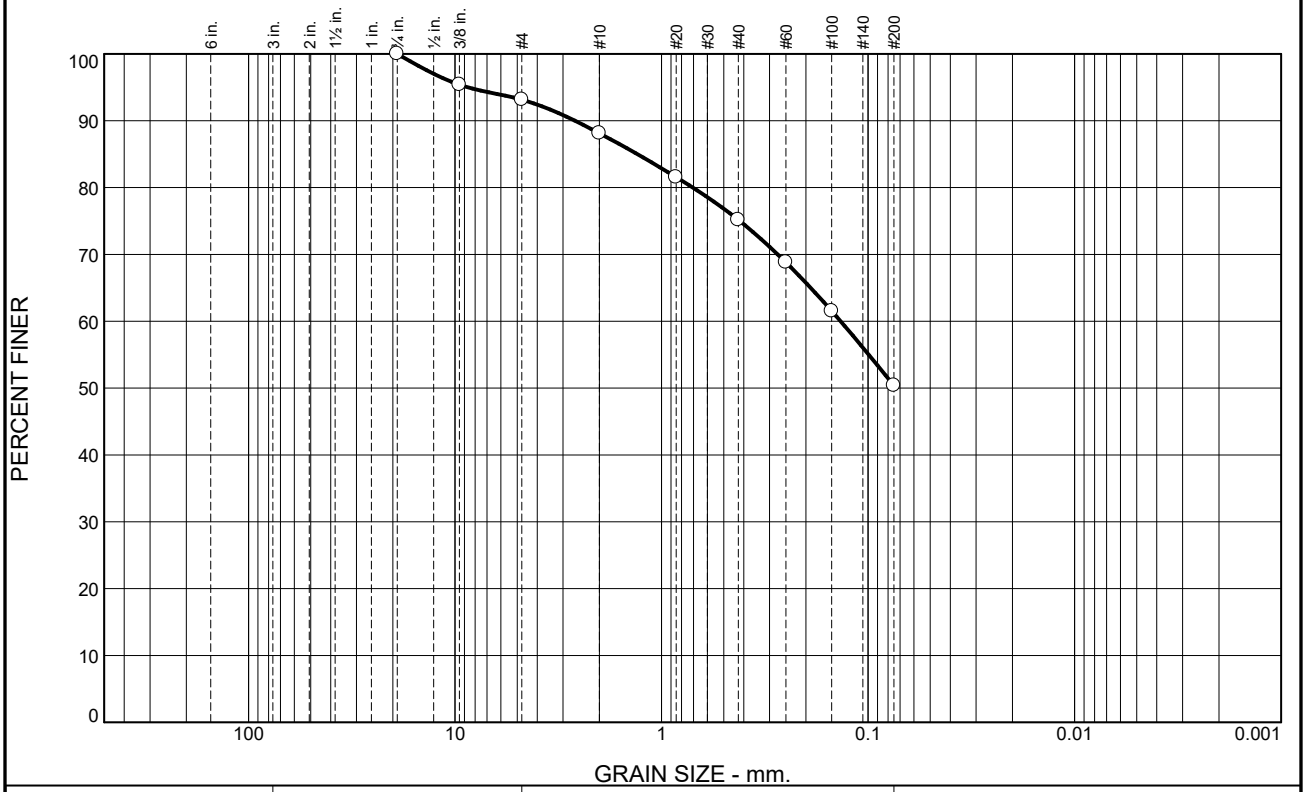
SKYLANDS TESTING, LLC

Sparta, NJ

Client: Soiltesting, Inc.
Project: Pugsley Road
Brewster, NY 10509
Project No: G-1831 **Figure**

Tested By: RS **Checked By:** VRS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	6.8	5.1	12.9	24.8	50.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.375	95.4		
#4	93.2		
#10	88.1		
#20	81.6		
#40	75.2		
#60	68.8		
#100	61.5		
#200	50.4		

* (no specification provided)

Material Description

Brown sandy silt

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 2.6265 D_{85}= 1.3101 D_{60}= 0.1358
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Sample washed on #200 sieve
USCS based on dilatancy & plasticity per ASTM D2488

Source of Sample: C-6 **Depth:** 4-6 ft.
Sample Number: S-3

Date: 7-8-2021

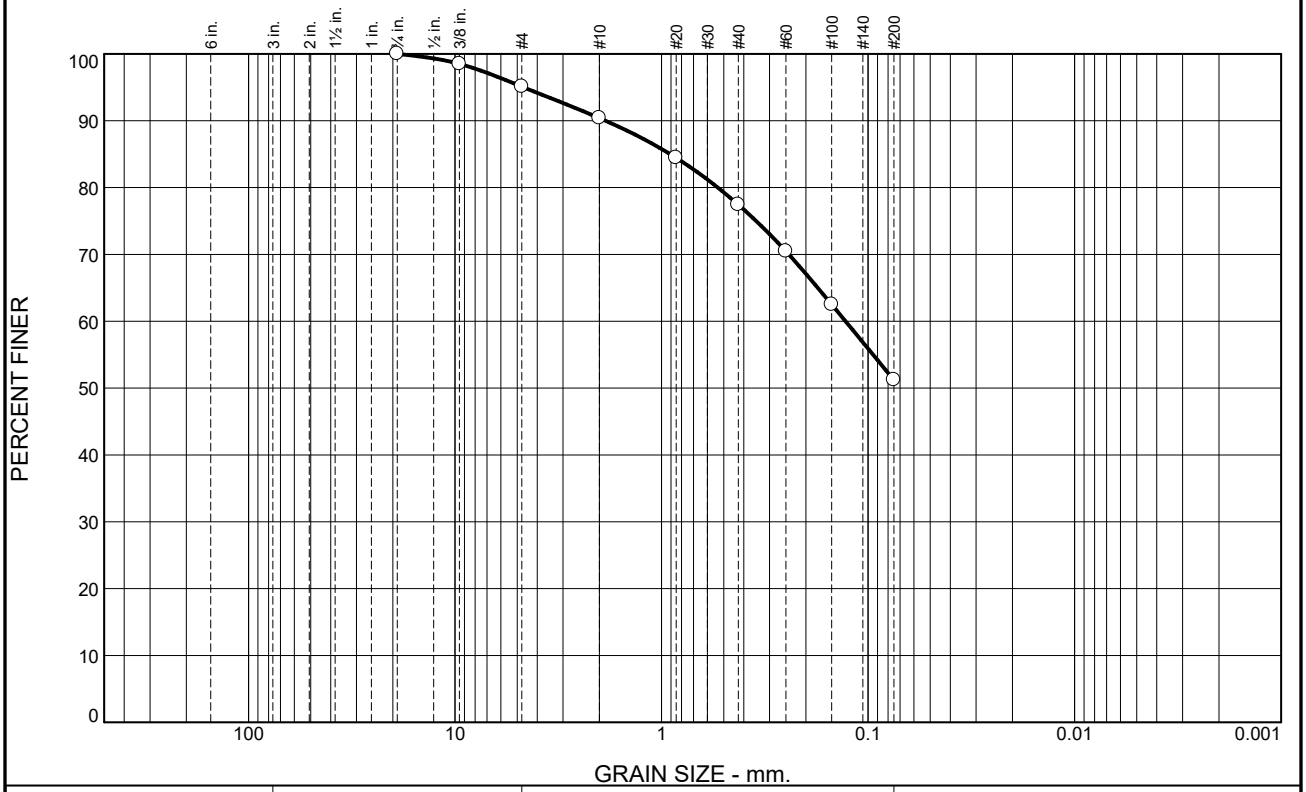
SKYLANDS TESTING, LLC

Sparta, NJ

Client: Soiltesting, Inc.
Project: Pugsley Road
Brewster, NY 10509
Project No: G-1831 **Figure**

Tested By: RS **Checked By:** VRS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	4.9	4.7	13.0	26.2	51.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.375	98.5		
#4	95.1		
#10	90.4		
#20	84.5		
#40	77.4		
#60	70.5		
#100	62.5		
#200	51.2		

* (no specification provided)

Material Description

Brown sandy silt

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 1.8676 D_{85}= 0.9076 D_{60}= 0.1286
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO=

Remarks

Sample washed on #200 sieve
USCS based on dilatancy & plasticity per ASTM D2488

Source of Sample: C-6 **Depth:** 6-8 ft.
Sample Number: S-4

Date: 7-8-2021

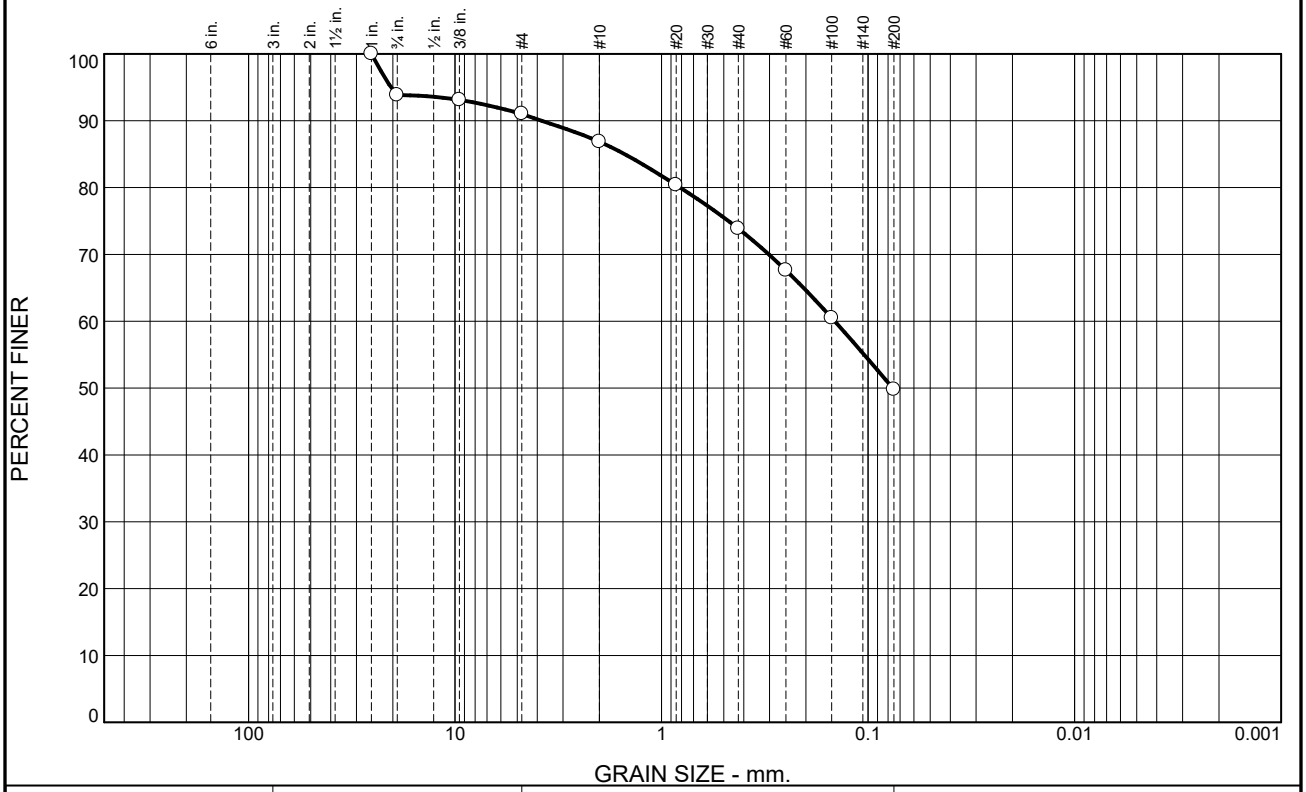
SKYLANDS TESTING, LLC

Sparta, NJ

Client: Soiltesting, Inc.
Project: Pugsley Road
Brewster, NY 10509
Project No: G-1831 **Figure**

Tested By: RS **Checked By:** VRS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	6.2	2.8	4.1	13.0	24.1	49.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	93.8		
.375	93.1		
#4	91.0		
#10	86.9		
#20	80.4		
#40	73.9		
#60	67.6		
#100	60.5		
#200	49.8		

* (no specification provided)

Material Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 3.8139 D_{85}= 1.5091 D_{60}= 0.1451
D_{50}= 0.0759 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Sample washed on #200 sieve
USCS based on dilatancy & plasticity per ASTM D2488

Source of Sample: C-8 **Depth:** 4-6 ft.
Sample Number: S-3

Date: 7-8-2021

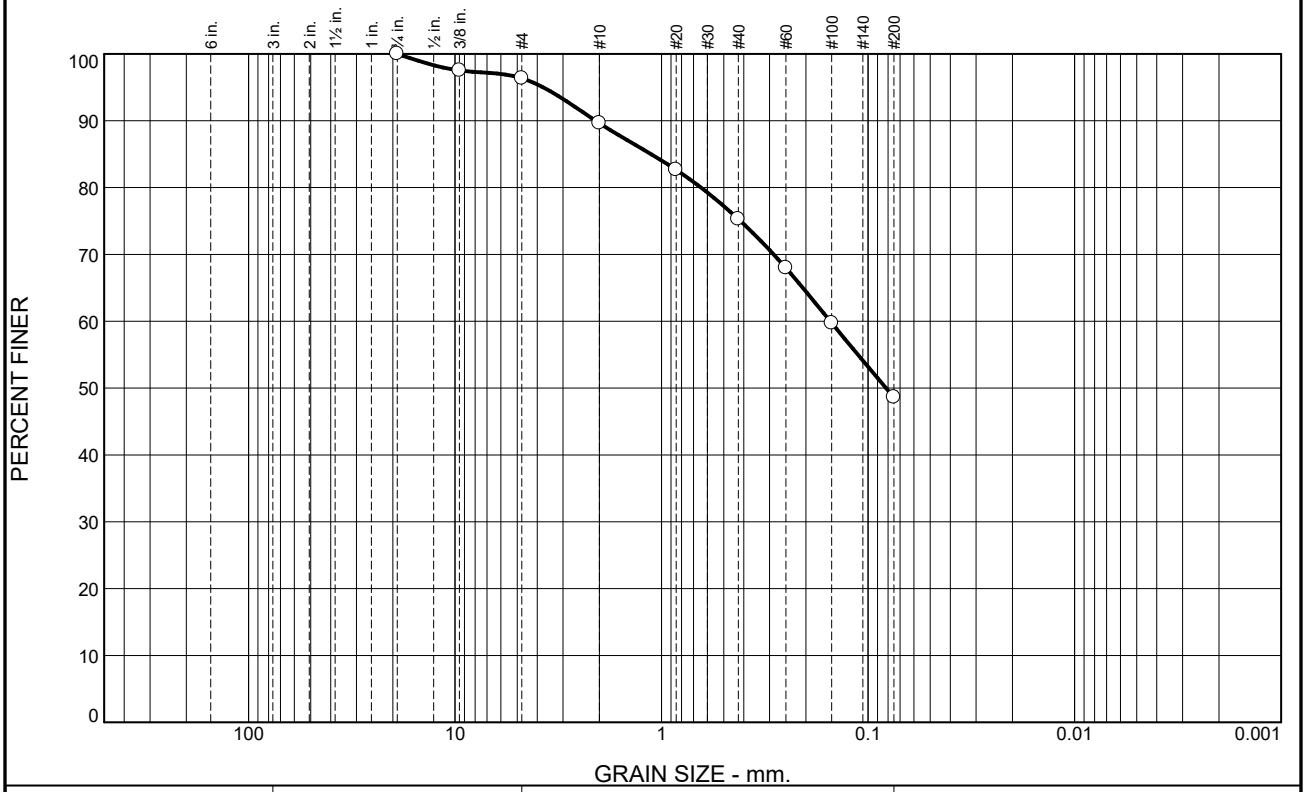
SKYLANDS TESTING, LLC

Sparta, NJ

Client: Soiltesting, Inc.
Project: Pugsley Road
Brewster, NY 10509
Project No: G-1831 **Figure**

Tested By: RS **Checked By:** VRS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	3.6	6.8	14.3	26.7	48.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.375	97.5		
#4	96.4		
#10	89.6		
#20	82.7		
#40	75.3		
#60	68.0		
#100	59.7		
#200	48.6		

* (no specification provided)

Material Description

Brown silty sand

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 2.0853 D_{85}= 1.1236 D_{60}= 0.1524
D_{50}= 0.0818 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Sample washed on #200 sieve
USCS based on dilatancy & plasticity per ASTM D2488

Source of Sample: C-8 **Depth:** 6-8 ft.
Sample Number: S-4

Date: 7-8-2021

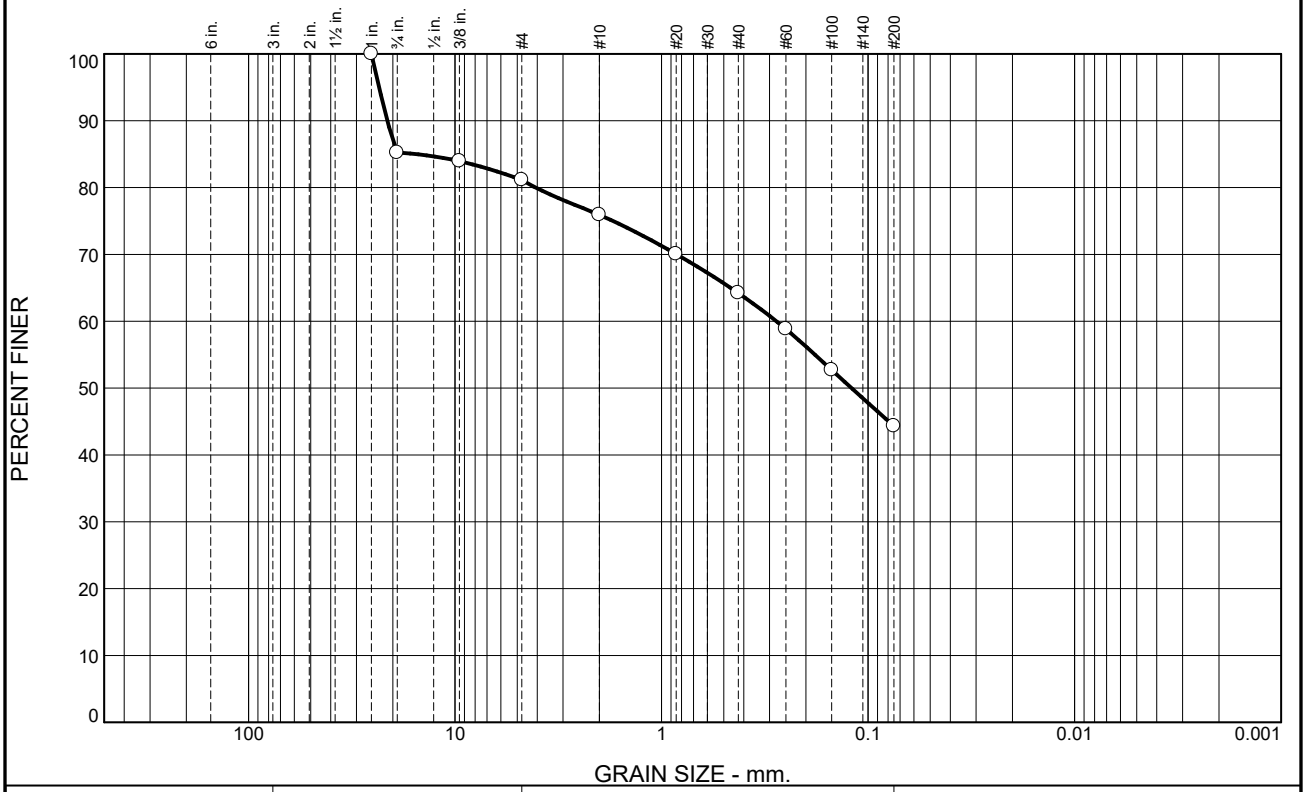
SKYLANDS TESTING, LLC

Sparta, NJ

Client: Soiltesting, Inc.
Project: Pugsley Road
Brewster, NY 10509
Project No: G-1831 **Figure**

Tested By: RS **Checked By:** VRS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	14.8	4.1	5.2	11.7	19.9	44.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	85.2		
.375	84.0		
#4	81.1		
#10	75.9		
#20	70.0		
#40	64.2		
#60	58.8		
#100	52.7		
#200	44.3		

* (no specification provided)

Material Description

Brown silty sand with gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 21.2699 D_{85}= 15.3646 D_{60}= 0.2781
D_{50}= 0.1202 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Sample washed on #200 sieve
USCS based on dilatancy & plasticity per ASTM D2488

Source of Sample: C-9 **Depth:** 4-6 ft.
Sample Number: S-3

Date: 7-8-2021

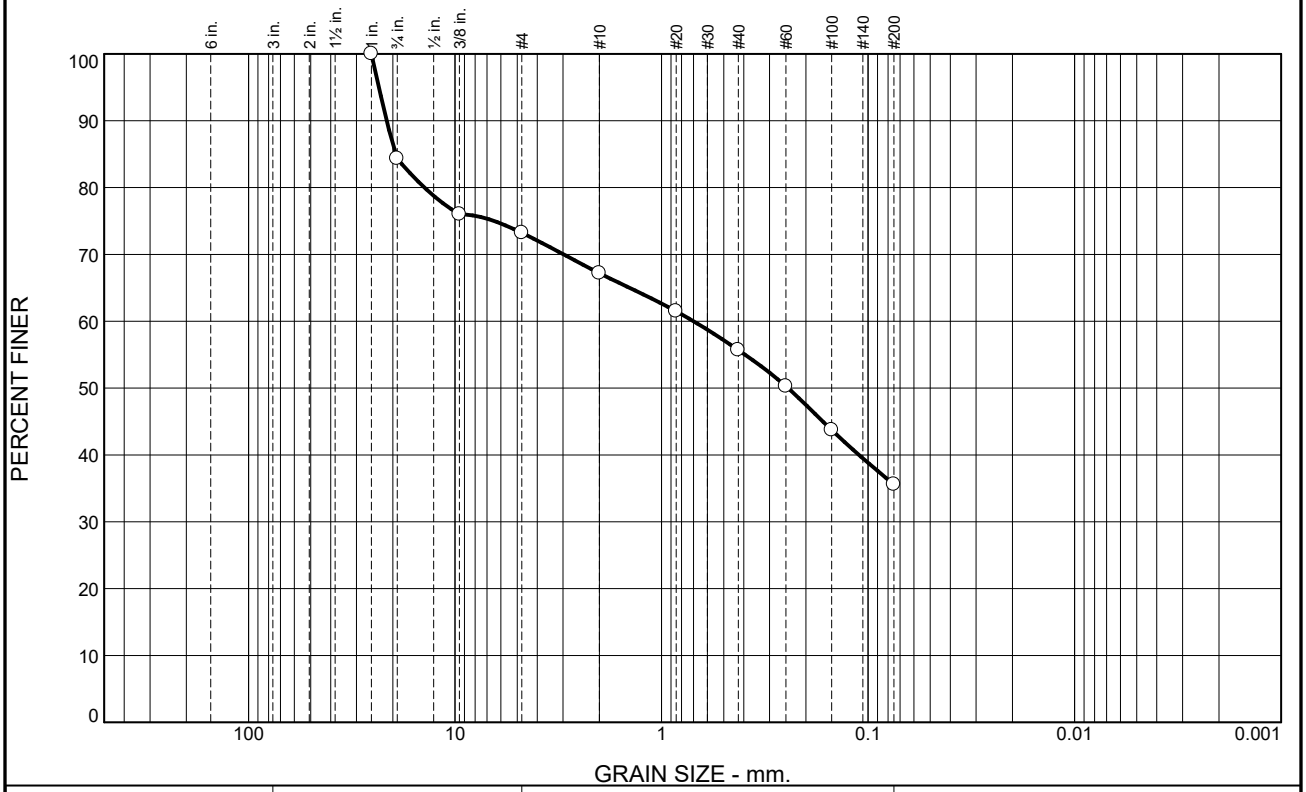
SKYLANDS TESTING, LLC

Sparta, NJ

Client: Soiltesting, Inc.
Project: Pugsley Road
Brewster, NY 10509
Project No: G-1831 **Figure**

Tested By: RS **Checked By:** VRS

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	15.7	11.1	6.0	11.5	20.1	35.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	84.3		
.375	76.0		
#4	73.2		
#10	67.2		
#20	61.5		
#40	55.7		
#60	50.3		
#100	43.7		
#200	35.6		

* (no specification provided)

Material Description

Brown and white silty sand with gravel

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 21.4205 D_{85}= 19.3525 D_{60}= 0.6997
D_{50}= 0.2442 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO=

Remarks

Sample washed on #200 sieveUSCS based on dilatancy & plasticity per ASTM D2488

Source of Sample: C-9 **Depth:** 6-8 ft.
Sample Number: S-4

Date: 7-8-2021

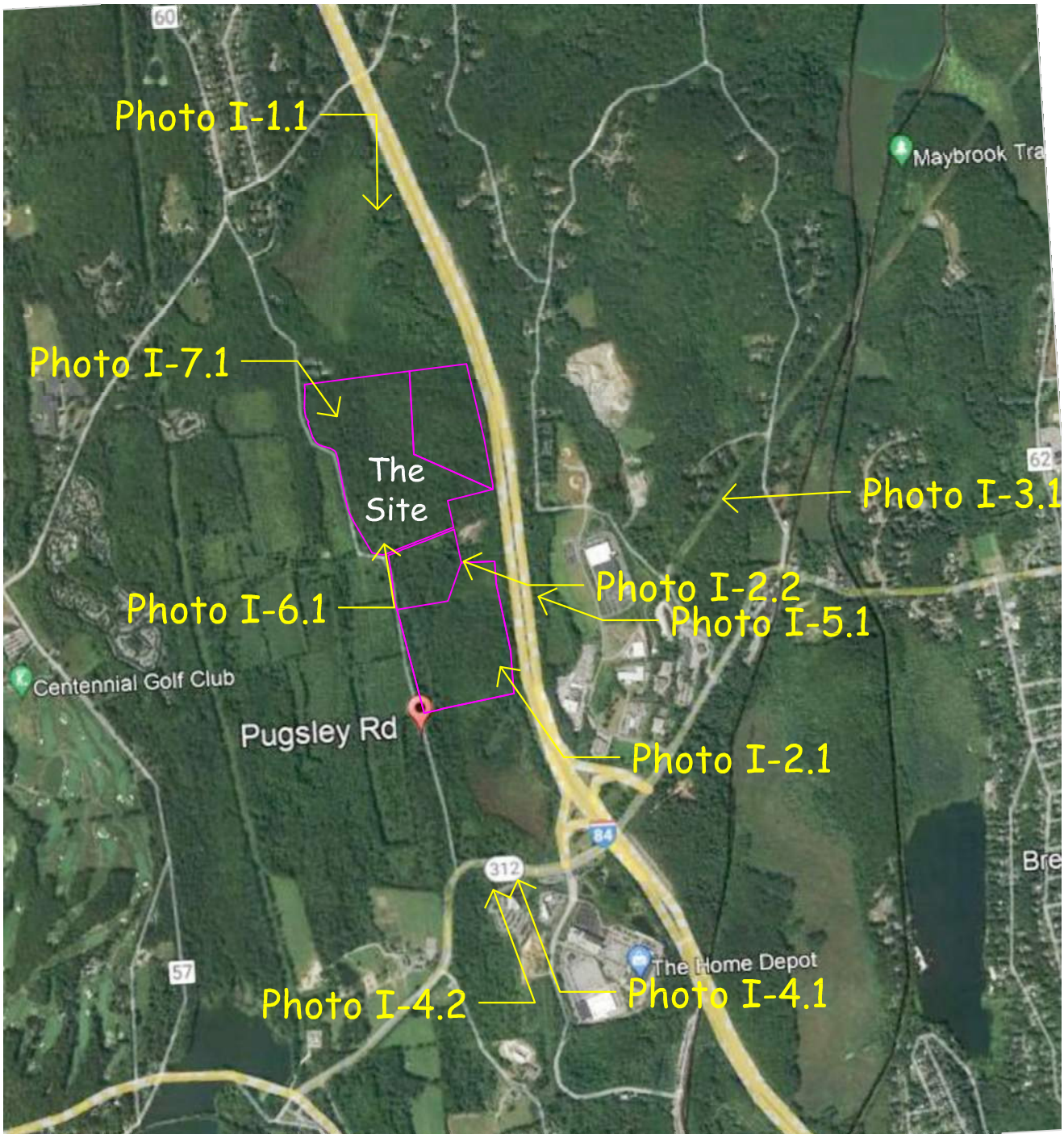
SKYLANDS TESTING, LLC

Sparta, NJ

Client: Soiltesting, Inc.
Project: Pugsley Road
Brewster, NY 10509
Project No: G-1831 **Figure**

Tested By: RS **Checked By:** VRS

Appendix I
PHOTOGRAPHS FROM STUDY VIEWPOINTS



North

Scale:

0 1/4mi. 1/2mi. 1 mi.

Key to Photographs from Study Viewpoints

BREWSTER YARDS DEIS

Town of Southeast, Putnam County, New York

Source: Google Earth Imagery

1/20/22

Scale: As Shown

KG+D 2020-1054

KG+D Architects, PC, 285 Main Street, Mount Kisco, NY 10549

Visual Character Photos

Frame 02.
I-1.1 View Looking South from I-84 Eastbound

Frame 263.
I-2.1 View Looking Northwest from I-84 Westbound at Ramp from Route 312

Frame 275.
I-2.2 View Looking Northwest from I-84 Westbound at Profile 5

Frames 253 & 254.
I-3.1 View Looking West from Garrity Boulevard

Frame 164.
I-4.1 View Looking North from Independent Way

Frame 195.
I-4.2 View Looking North from “Sunset Ridge” Town of Southeast Multiple Use Area

Frame 210.
I-5.1 View Looking Northwest from International Boulevard

Frame 10.
I-6.1 View Looking North from Pugsley Road

Frame 16.
I-7.1 View Looking South from Fields Lane / Fields Corner Road

Appendix J
TRAFFIC IMPACT STUDY

and Addendum

DTS • PROVIDENT
Intelligent Land Use

TRAFFIC IMPACT STUDY

BREWSTER YARDS

160 & 132 Pugsley Road
Town of Southeast, Putnam County, New York

Prepared by
DTS Provident Design Engineering, LLP
One North Broadway
White Plains, New York 10601

November 22, 2021
DTS Provident Project No. 21-076

TABLE OF CONTENTS

SECTION	DESCRIPTION	PAGE
SECTION 1 – EXECUTIVE SUMMARY		**2**
1.0	PROJECT DESCRIPTION	2
1.1	FINDINGS	2
1.2	RECOMMENDATIONS	4
1.3	CONCLUSIONS	4
SECTION 2 – TRAFFIC CONDITIONS AND PROJECTIONS		**5**
2.0	DESCRIPTION OF EXISTING ROADWAY NETWORK	5
2.1	2021 EXISTING TRAFFIC VOLUMES	6
2.2	2023 NO-BUILD TRAFFIC VOLUMES	7
2.3	ADJACENT DEVELOPMENTS	7
2.4	ARRIVAL/DEPARTURE	8
2.5	SITE-GENERATED TRAFFIC VOLUMES	8
2.6	2023 BUILD TRAFFIC VOLUMES	9
SECTION 3 – TRAFFIC ANALYSIS		**10**
3.0	DESCRIPTION OF ANALYSIS	10
3.1	LOCATION NO. 1 – US ROUTE 6 & NEW YORK STATE ROUTE 312	11
3.2	LOCATION NO. 2 – NEW YORK STATE ROUTE 312 & PUGSLEY ROAD	12
3.3	LOCATION NO. 3 – NEW YORK STATE ROUTE 312 & INTERSTATE ROUTE 84 EASTBOUND RAMPS/INDEPENDENT WAY	14
3.4	LOCATION NO. 4 – NEW YORK STATE ROUTE 312 & INTERSTATE ROUTE 84 WESTBOUND RAMPS	16
3.5	LOCATION NO. 5 – FAIR STREET & FIELDS CORNER ROAD	17
SECTION 4 – ACCIDENT DATA		**18**
4.0	ACCIDENT ANALYSIS	18
SECTION 5 – PARKING ANALYSIS		**19**
5.0	PARKING ANALYSIS	19
SECTION 6 – CIRCULATION		**20**
6.0	PASSENGER VEHICLE ACCESS	20
6.1	EMERGENCY AND DELIVERY VEHICLE ACCESS	20
6.2	PEDESTRIAN ACCESS	20
SECTION 7 – PUBLIC TRANSPORTATION		**21**
7.0	TRANSIT ANALYSIS	21
SECTION 8 – CONSTRUCTION TRAFFIC		**22**
8.0	CONSTRUCTION RELATED IMPACTS	22
SECTION 9 – CONCLUSIONS		**23**
9.0	CONCLUSIONS	23

LIST OF APPENDICES

Appendix A	Figures
Appendix B	Level of Service Standards
Appendix C	Level of Service Tables
Appendix D	Capacity Analysis
Appendix E	Accident Data
Appendix F	Turning Movement Diagrams

SECTION 1 – EXECUTIVE SUMMARY

1.0 PROJECT DESCRIPTION

The Applicant proposes to construct a commercial recreation complex (Proposed Project) for baseball and other sports consisting of five full-size baseball fields, four Little League baseball fields, one multi-sports field, a recreation building, and accessory facilities (i.e., food concession stands and pro shop). The Proposed Project is located along Pugsley Road and Fields Corner Road in the Town of Southeast, Putnam County, New York (see Figure No. 1 in Appendix A). The Site comprises two parcels of land separated by land owned by the Town of Southeast (formerly Zimmer Road).

DTS Provident Design Engineering, LLP (DTS Provident), has been retained to analyze the potential for any traffic impacts associated with the Proposed Project and to identify roadway improvements, if required, to mitigate any potential adverse environmental impacts. This Traffic Impact Study (Study) uses standard Traffic Engineering methodology and has been prepared to document the findings and conclusions of the analysis undertaken to measure the traffic impacts, if any, associated with the Proposed Project. For the purposes of this Study, it is anticipated that the Proposed Project will be completed and occupied by the Year 2023.

1.1 FINDINGS

Based on field observations and detailed analysis undertaken in preparation of this Study, the following findings are presented:

- The Proposed Project is provided good regional and local vehicular access via New York State Route 312, which ultimately connects to Interstate Route 84 to the east and US Route 6 to the west.
- The Proposed Project and associated parking areas will be accessed from two STOP-controlled access driveways, one along Pugsley Road and one along Zimmer Road. The Proposed Project will also seek to discourage drivers leaving the Site from making right-turns towards Fields Corner Road by installing No-Right-Turn traffic signs at their driveway approaches to Pugsley Road.
- Based upon Trip Generation rates obtained from an analysis of a similar type and size facility located in Connecticut, it is anticipated that the Proposed Project will generate approximately 46 entering vehicles and 6 exiting vehicles during the Peak Weekday AM Hour, 239 entering vehicles and 45 exiting vehicles during the Peak Weekday PM Hour, and 265 entering vehicles and 218 exiting vehicles during the Peak Saturday Hour.

- Table No. 1.1 below summarizes the results of the capacity analyses conducted for each intersection included in this Study. Average delay, expressed in seconds per vehicle, is listed below each Level of Service (LOS).

TABLE NO. 1.1
LEVEL OF SERVICE SUMMARY TABLE
2023 NO-BUILD VS. 2023 BUILD/BUILD WITH IMPROVEMENTS

	PEAK AM HOUR			PEAK PM HOUR			PEAK SAT HOUR		
	2023 NO-BUILD	2023 BUILD	2023 BUILD W/ IMPV.	2023 NO-BUILD	2023 BUILD	2023 BUILD W/ IMPV.	2023 NO-BUILD	2023 BUILD	2023 BUILD W/ IMPV.
INTERSECTION	LOS DELAY	LOS DELAY	LOS DELAY	LOS DELAY	LOS DELAY	LOS DELAY	LOS DELAY	LOS DELAY	LOS DELAY
US Rt. 6 & NY Rt. 312	C 28.0	C 29.0	-	D 41.1	D 52.3	D 46.7	D 41.8	E 57.1	D 46.9
NY Rt. 312 & Pugsley Rd. (Alternative A)	A 8.0	A 8.1	-	B 10.2	B 15.6	B 11.2	A 5.1	B 12.8	B 11.4
NY Rt. 312 & Pugsley Rd. (Alternative B)	A 4.8	A 6.2	-	A 7.1	B 10.4	-	A 2.5	B 11.6	-
NY Rt. 312 & I-84 EB Ramps/Independent Way	D 42.2	D 42.4	-	D 50.1	D 51.6	-	D 53.4	E 62.9	D 56.2
NY Rt. 312 & I-84 WB Ramps	C 20.4	C 21.5	-	D 54.2	E 76.6	D 42.9	D 36.8	E 57.9	C 33.6
Fair St. & Fields Corner Rd.	c 18.5	c 18.5	-	b 14.2	b 14.3	-	b 12.4	b 12.3	-

NOTES

- Unsignalized intersection Level of Service represented by lowercase letters.
- Signalized intersection Level of Service represented by UPPERCASE letters.
- Delays are provided for the most critical side street approach for unsignalized intersections.
- Delay is presented in Seconds per Vehicle.
- "Build w/ Impv." represents the Build with Improvements condition. This condition displays the Levels of Service results with the infrastructure improvements recommended herein for the respective intersections/time periods. A "-" indicates no improvements are recommended for the particular intersection during the respective time period.
- At the intersection of NY Rt. 312 & Pugsley Rd., Alternative A and Alternative B represent the two intersection geometry layouts as studied in the FEIS for the Northeast Interstate Logistics Center project and described in Section 3.2 below.

As can be seen in the Table 1.1 above, with the improvements recommended herein, all intersections will see only minor increases in average delay. Based on the foregoing, the

Proposed Project will have no significant traffic impacts on the adjacent roadway network with the recommended improvements.

1.2 RECOMMENDATIONS

Based upon the upon the traffic analysis, the following roadway improvements are recommended in association with the Proposed Project:

- Intersection of US Route 6 & New York State Route 312
  - Traffic signal timing adjustments during the Peak Weekday PM Hour and Peak Saturday Hour
- Intersection of New York State Route 312 & Pugsley Road (Alternative A)
  - Traffic signal timing adjustments during the Peak Weekday PM Hour and Peak Saturday Hour
- New York State Route 312 & Interstate Route 84 Eastbound Ramps/Independent Way
  - Traffic signal timing adjustments during the Peak Saturday Hour
- New York State Route 312 & Interstate Route 84 Westbound Ramps
  - Traffic signal timing adjustments during the Peak Weekday PM Hour and Peak Saturday Hour

1.3 CONCLUSIONS

It is the considered professional opinion of DTS Provident Design Engineering, LLP that the Proposed Project will not have a significant traffic impact on the adjacent roadway network. With the implementation of the improvements identified above, the Proposed Project will be adequately mitigated and no additional adverse environmental impacts with respect to traffic are anticipated.

Respectfully submitted,
DTS Provident DESIGN ENGINEERING, LLP

Carlito Holt, P.E., P.T.O.E.
Partner

SECTION 2 – TRAFFIC CONDITIONS AND PROJECTIONS

2.0 DESCRIPTION OF EXISTING ROADWAY NETWORK

The following are brief descriptions of the roadways located in the vicinity of the site:

Interstate Route 84 - I-84 is an Interstate highway that runs in an east-west direction from Pennsylvania to Massachusetts. In the vicinity of the Proposed Project, I-84 consists of two lanes per direction with a posted speed limit of 65 mph and is under the jurisdiction of the New York State Department of Transportation (NYSDOT).

US Route 6 (Carmel Avenue) – US Route 6 traverses in an east-west direction and runs from California to Massachusetts. In the vicinity of the Proposed Project, US Route 6 consists of one travel lane in each direction with turning lanes provided at some intersections and has a posted speed limit of 55 mph. US Route 6 is under the jurisdiction of the NYSDOT.

New York State Route 312 – New York State Route 312 is an east-west roadway which connects US Route 6 in the west to New York State Route 22 in the east. It generally provides one travel lane in each direction with turning lanes provided at some intersections and has a posted speed limit of 45 mph. New York State Route 312 is under the jurisdiction of the NYSDOT.

Pugsley Road – Pugsley Road is a narrow road which provides access to the Site from New York State Route 312. The majority of the road is paved until just south of the intersections with Zimmer Road and Barrett Road. There are no pavement markings on the existing road and the pavement is in poor condition. North of Barrett Road, the dirt road portion of Pugsley Road changes name to Fields Corner Road, which continues as a relatively narrow dirt road of varying widths to the Patterson Town line, where it changes name to Fields Lane and continues primarily as a dirt road until it intersects Fair Street. Pugsley Road and Fields Corner Road are seasonally maintained roads and are closed annually from December 1 to April 1.

As part of the Northeast Interstate Logistics Center project recently approved by the Town of Southeast, Pugsley Road will be reconstructed and upgraded to provide proper lane widths, grades and turning radii from New York State Route 312 in the south to Barret Road in the north, as well as allow for all-season vehicular access up to Barrett Road. Fields Corner Road will remain a seasonal road that is closed north of Barrett Road annually from December to April. The Proposed Project will also seek to discourage drivers leaving the Site from making right-turns towards Fields Corner Road by installing No-Right-Turn traffic signs at their driveway approaches to Pugsley Road.

Barret Road – Barret Road is currently an unimproved Right-of-Way under the jurisdiction of the Town of Southeast. As part of the proposed Northeast Interstate Logistics Center project, Barret Road will be reconstructed to provide proper lane widths, grades and turning radii and will become a private roadway.

Zimmer Road – Zimmer Road is an unimproved Right-of-Way in the Town of Southeast that bifurcates the Proposed Project. Zimmer Road is used occasionally by the Putnam County Highway Department to access County-owned land next to Interstate Route 84. Improvements to a portion of Zimmer Road by the Proposed Project will not hinder continued access to the County's parcel.

2.1 2021 EXISTING TRAFFIC VOLUMES

The following study locations were identified for the Study based upon the adopted Scoping Document:

1. US Route 6 and New York State Route 312
2. New York State Route 312 and Pugsley Road
3. New York State Route 312 and Interstate Route 84 Eastbound Ramps/Independent Way
4. New York State Route 312 and Interstate Route 84 Westbound Ramps
5. Fair Street and Fields Corner Road

Due to the COVID-19 pandemic, current traffic patterns are not representative of typical conditions. Therefore, in coordination with the Town's Traffic Consultant, DTS Provident utilized traffic volumes contained in the Final Environmental Impact Statement (FEIS) prepared by JMC for the Commercial Campus at Fields Corner project (aka Northeast Interstate Logistics Center) and as adopted by the Town in 2020, which is located on the opposite side of Pugsley Road from the Proposed Project. For this particular Study, the 2017/18 Existing Traffic Volumes developed in JMC's FEIS were utilized as a base. These volumes were grown by 1.0 percent per year for four years to obtain representative 2021 Existing Traffic Volumes.

For traffic volume verification purposes, DTS Provident conducted Automatic Traffic Recorder (ATR) counts for one week from Tuesday, October 12, 2021 to Monday, October 18, 2021. The ATR was located along New York State Route 312, approximately 400 feet west of Pugsley Road. The results of the ATR counts indicated that the 2021 traffic volumes were approximately 15% lower in the Peak Weekday AM Hour, 17% lower in the Peak Weekday PM Hour and 16% lower in the Peak Saturday Hour when compared to the 2017/18 Existing Traffic Volumes contained in JMC's FEIS. Therefore, utilization of the 2017/18 Existing Traffic Volumes as a base for this Study provides a conservative analysis.

Based on the traffic volumes for this Study, the following Peak Roadway Hours were determined:

- Peak Weekday AM Roadway Hour: 7:30 – 8:30 AM
- Peak Weekday PM Roadway Hour: 5:00 – 6:00 PM
- Peak Saturday Roadway Hour: 12:15 – 1:15 PM

The 2021 Existing Traffic Volumes are illustrated on Figure No. 2 in Appendix A.

These Peak Hours represent the time periods when traffic impacts would be at their greatest. The combination of existing background traffic and Proposed Project-generated traffic would be highest during these time periods. Any potential traffic impacts from the Proposed Project would be incrementally less throughout the rest of the day.

2.2 2023 NO-BUILD TRAFFIC VOLUMES

DTS Provident utilized traffic volumes contained in the Commercial Campus at Fields Corner FEIS to form a base for the 2023 No-Build Traffic Volumes. The Commercial Campus at Fields Corner FEIS utilized a build year of 2023, the same year as the anticipated Build year for the Proposed Project. Therefore, the 2023 Build Traffic Volumes from the Commercial Campus at Fields Corner FEIS were used to establish the base 2023 No-Build Traffic Volumes for this Study. The 2023 Build Traffic Volumes from the Commercial Campus at Fields Corner FEIS included the following background traffic growth and adjacent development traffic volumes:

- Background traffic volumes were grown by 1.0 percent per year to obtain representative 2023 background traffic volumes
- Traffic volumes associated with the Commercial Campus at Fields Corner development project
- Traffic volumes associated with the Barrett Hill development project
- Traffic volumes associated with the Prospect Hill Office Park development project

2.3 ADJACENT DEVELOPMENTS

Based on discussions with the Town's Traffic Consultant, it was determined that traffic volumes generated by the following developments should be included in the 2023 No-Build Traffic Volumes in addition to the general background traffic growth:

- Ace Endico Expansion development project
- Terravest Senior Housing development project

DTS Provident also coordinated with the Town of Patterson's Planning Department to determine if there were any proposed development projects within the Town that would need to be included in the 2023 No-Build Traffic Volumes. The Town's Planning Department identified one potential development project, a proposed 100,000 square-foot warehouse project along New York State Route 22. However, based on the location of the proposed warehouse development project and its relation to surrounding regional access highways, as well as the amount of traffic the project would generate, it was determined that the proposed warehouse development project would not significantly increase the background traffic volumes in the area beyond the general background growth rate. Therefore, it was assumed that traffic volumes associated with the proposed warehouse development project in the Town of Patterson will be captured in the general background traffic volume growth noted above.

The 2023 Build Traffic Volumes from the Commercial Campus at Fields Corner FEIS, which included general background traffic volume growth and traffic volumes associated with several proposed adjacent developments, as noted above, was combined with traffic from the additional proposed adjacent developments identified by the Town's Traffic Consultant to form the 2023 No-Build Traffic Volumes. The 2023 No-Build Traffic Volumes are illustrated on Figure No. 3 in Appendix A.

2.4 ARRIVAL/DEPARTURE

Based on a review of the existing traffic volumes, potential destinations, and the existing roadway network, as well as a review of the arrival and departure patterns developed for the Commercial Campus at Fields Corner FEIS, DTS Provident developed arrival and departure patterns for the Proposed Project. The arrival and departure distributions for the Proposed Project are illustrated on Figures No. 4 and 5 in Appendix A. As noted previously, the Proposed Project will also seek to discourage drivers leaving the Site from making right-turns towards Fields Corner Road by installing No-Right-Turn traffic signs at their driveway approaches to Pugsley Road. However, in order to determine any impacts to the intersection of Fair Street and Fields Corner Road from the Proposed Project's Site-generated traffic, DTS Provident assumed 1% of the traffic volumes exiting the Site would head towards Fair Street via Fields Corner Road.

2.5 SITE-GENERATED TRAFFIC VOLUMES

The ability of any roadway network to accommodate anticipated traffic volumes is measured by comparing Peak Hour Traffic Volumes to roadway capacities. Thus, it is essential to determine the hourly traffic volumes to be generated by the Proposed Project and add them to the No-Build Traffic Volumes to determine the Build Traffic Volumes.

DTS Provident consulted the Institute of Transportation Engineers (ITE) Trip Generation Manual to estimate Site-generated traffic volumes attributable to the Proposed Project. Due to the unique makeup of the Proposed Project, standard traffic engineering procedures using the Manual's existing land uses to determine trip generation are not suitable. According to the Manual, "When practical, the user is encouraged to supplement the data in the Manual with local data that have been collected at similar sites".

Therefore, the Site-generated traffic volumes attributable to the Proposed Project were determined based upon a survey of a similar facility utilizing StreetLight Data. This facility is the Connecticut Sportsplex located in North Branford, CT. Similar to the Proposed Project, the Connecticut Sportsplex facility contains a comparable mix of recreational fields and an indoor facility as the Proposed Project. DTS Provident surveyed the traffic volumes for both the summer months and non-summer months at the Connecticut Sportsplex and used the highest hour of trip generation to provide a conservative analysis. Based upon data obtained from this facility, the following Table No. 2.1 summarizes the trip generation anticipated for the Proposed Project:

TABLE NO. 2.1
TRIP GENERATION TABLE

Peak Weekday AM Hour		Peak Weekday PM Hour		Peak Saturday Hour	
Enter	**Exit**	**Enter**	**Exit**	**Enter**	**Exit**
46	6	239	45	265	218

NOTES

(1) Trip Generation based upon actual count data obtained from a survey of the Connecticut Sportsplex located in North Branford, CT.

The estimated traffic volumes listed in the Trip Generation table above were assigned to the roadway network with the Arrival and Departure Distributions to form the Site-generated Traffic Volumes, which are illustrated on Figure No. 6 in Appendix A.

2.6 2023 BUILD TRAFFIC VOLUMES

The Site-generated Traffic Volumes were combined with the 2023 No-Build Traffic Volumes to form the 2023 Build Traffic Volumes, which are illustrated on Figure No. 7 in Appendix A.

SECTION 3 – TRAFFIC ANALYSIS

3.0 DESCRIPTION OF ANALYSIS

Capacity analyses were conducted at the key intersections to identify the traffic impact associated with the Proposed. The following is a brief description of the procedure utilized in the preparation of this analysis for all the study locations listed:

- Capacity analysis is a method by which traffic volumes are compared to calculated roadway and intersection capacities to evaluate future traffic conditions. The methodology utilized is described in the 2010 Highway Capacity Manual published by the Transportation Research Board. In general, the term "Level of Service" is used to provide a qualitative evaluation based on certain quantitative calculations related to empirical values. The definitions of Level of Service as contained in the 2010 Highway Capacity Manual appear in Appendix B of this Report.
- In general, Level of Service "A" represents the best traffic operating condition. Levels of Service for signalized and unsignalized intersections are defined in terms of average delay. Delay is used as a measure of driver discomfort, frustration, efficiency, etc.

Capacity analyses were performed for the key locations with the 2021 Existing, 2023 No-Build and 2023 Build Traffic Volumes utilizing Highway Capacity Software (Synchro) developed for the Federal Highway Administration (FHWA). Where the analysis showed a significant impact due to the addition of Proposed Project's traffic volumes to the roadway system, an improvement was recommended and implemented within the analysis resulting in the 2023 Build with Improvements analysis. The capacity analyses worksheets are contained in Appendix D of this Report.

3.1 LOCATION NO. 1 – US ROUTE 6 & NEW YORK STATE ROUTE 312

Existing Conditions

US Route 6 forms the northbound and southbound approaches to this four-way intersection with New York State Route 312. The northbound US Route 6 approach consists of one exclusive 11-foot left-turn lane, one exclusive 12-foot through lane and one exclusive 13-foot right-turn lane, while the southbound approach consists of one exclusive 11-foot left-turn lane and one shared 12-foot through/right-turn lane. The eastbound New York State Route 312 approach consists of one shared 12-foot left-turn/through/right-turn lane, while the westbound approach consists of one shared left-turn/through lane and one exclusive right-turn lane, with both lanes measuring 11 feet in width. The intersection is controlled by a three-phase traffic signal which includes a protected lag phase for the southbound New York State Route 312 approach. Pedestrian facilities (i.e., sidewalks, crosswalks, curb ramps) do not exist at the intersection.

Capacity Analysis and Level of Service Results

Capacity analyses were conducted with the 2021 Existing, 2023 No-Build and 2023 Build (Proposed Project) Traffic Volumes for the Peak Weekday AM, Peak Weekday PM and Peak Saturday Hours. The results are presented in Table No. C–1 in Appendix C.

As shown in Table No. C–1, for the Existing condition, the overall intersection operates at a Level of Service "C" during all Peak Hours. For the No-Build condition, the overall intersection will operate at a Level of Service "C" during the Peak Weekday AM Hour, and a Level of Service "D" during the Peak Weekday PM and Peak Saturday Hours. For the Build condition, the Level of Service grade does not change during the Peak Weekday AM and PM Hours but will increase to a Level of Service "E" during the Peak Saturday Hour.

To reduce the delay attributable to the addition of the Proposed Project's Site-generated traffic volumes during the Peak Weekday PM and Peak Saturday Hours, it is recommended that the traffic signal timings be adjusted. Capacity analyses performed with the 2023 Build traffic volumes and the traffic signal timing modifications indicate the overall intersection will continue to operate at a Level of Service "D" during the Peak Weekday PM and Peak Saturday Hours and the overall intersection delay will increase no more than a nominal six seconds above the No-Build condition, as shown in Table No. C–1. Therefore, the Proposed Project's traffic impacts will be satisfactorily mitigated with the recommended improvement.

3.2 LOCATION NO. 2 – NEW YORK STATE ROUTE 312 & PUGSLEY ROAD

Existing Conditions

Pugsley Road forms the southbound approach to this T-intersection with New York State Route 312 and consists of one shared left-turn/right-turn lane and one receiving lane, with a combined total width of 18 feet. The eastbound New York State Route 312 approach consists of one shared 12-foot left-turn/through lane, while the westbound approach consists of one shared 12-foot through/right-turn lane. The intersection is controlled by a Stop sign on the Pugsley Road approach. Pedestrian facilities (i.e., sidewalks, crosswalks, curb ramps) do not exist at the intersection.

Proposed Conditions

As part of the Northeast Interstate Logistics Center project, this intersection will be upgraded with additional through lanes, turn lanes and a traffic signal to accommodate traffic volumes associated with that project. The Commercial Campus at Fields Corner FEIS presented two options for improvements to the intersection identified as Alternative A and Alternative B. The NYSDOT will ultimately decide on which improvement option will be constructed, which is unknown at this time. Therefore, this Study analyzes both improvement Alternatives.

Under Alternative A, the southbound Pugsley Road approach would consist of two exclusive left-turn lanes and one exclusive right-turn lane. The eastbound New York State Route 312 approach would consist of one exclusive left-turn lane and two exclusive through lanes while the westbound approach would consist of one exclusive through lane and one exclusive right-turn lane. The intersection would be controlled by a two-phase traffic signal.

Under Alternative B, the southbound Pugsley Road approach would consist of one exclusive left-turn lane and one shared left-turn/right-turn lane. The eastbound New York State Route 312 approach would consist of one exclusive left-turn lane and two exclusive through lanes while the westbound approach would consist of one exclusive through lane and one shared through/right-turn lane. The intersection would be controlled by a three-phase traffic signal which includes a protected lead phase for the eastbound New York State Route 312 approach.

Capacity Analysis and Level of Service Results

Capacity analyses were conducted with the 2021 Existing, 2023 No-Build and 2023 Build (Proposed Project) Traffic Volumes for the Peak Weekday AM, Peak Weekday PM and Peak Saturday Hours. The results are presented in Table No. C–2 in Appendix C.

As shown in Table No. C–2, for the Existing condition, the overall intersection operates at a Level of Service "A" during all Peak Hours; however, the southbound Pugsley Road

approach operates at a Level of Service "F" during all Peak Hours under the current Stop traffic control. For the Alternative A No-Build condition, the overall intersection will operate at a Level of Service "A" during the Peak Weekday AM and Peak Saturday Hours, and a Level of Service "B" during the Peak Weekday PM Hour. For the Alternative A Build condition, the Level of Service grade does not change during the Peak Weekday AM and PM Hours but will increase to a Level of Service "B" during the Peak Saturday Hour. Although the overall intersection delay is acceptable during all Peak Hours, the eastbound New York State Route 312 left-turn movement will operate at an unsatisfactory Level of Service during the Peak Weekday PM and Peak Saturday Hours.

To reduce the delay attributable to the addition of the Proposed Project's Site-generated traffic volumes during the Peak Weekday PM and Peak Saturday Hours, it is recommended that the traffic signal timings be adjusted. Capacity analyses performed with the 2023 Build traffic volumes and the traffic signal timing modifications indicate the overall intersection will continue to operate at a Level of Service "B" during the Peak Weekday PM and Peak Saturday Hours and the overall intersection delay will increase no more than a nominal six seconds above the No-Build condition, as shown in Table No. C–2. In addition, the eastbound New York State Route 312 left-turn movement will operate at an acceptable Level of Service. Therefore, the Proposed Project's traffic impacts will be satisfactorily mitigated with the recommended improvement for Alternative A.

Also shown in Table No. C–2, for the Alternative B No-Build condition, the overall intersection will operate at a Level of Service "A" during all Peak Hours. For the Alternative B Build condition, the Level of Service grade does not change during the Peak Weekday AM Hour but will increase to a Level of Service "B" during the Peak Weekday PM and Peak Saturday Hours. No improvements are recommended for Alternative B as all movements will continue to operate satisfactorily during all Peak Hours.

3.3 LOCATION NO. 3 – NEW YORK STATE ROUTE 312 & INTERSTATE ROUTE 84 EASTBOUND RAMPS/INDEPENDENT WAY

Existing Conditions

New York State Route 312 forms the eastbound and westbound approaches to this four-way intersection with the Interstate Route 84 Eastbound Ramps and Independent Way. The eastbound New York State Route 312 approach consists of two exclusive left-turn lanes, one exclusive through lane and one exclusive right-turn lane, while the westbound approach consists of two exclusive left-turn lanes, one exclusive through lane and one shared through/right-turn lane. All lanes along New York State Route 312 measure 12 feet in width. The northbound Independent Way approach consists of one exclusive left-turn lane, one shared left-turn/through lane, one exclusive through lane and one exclusive right-turn lane, with all lanes measuring 12 feet in width, while the southbound Interstate Route 84 Ramp approach consists of one exclusive 11-foot left-turn lane, one exclusive 12-foot through lane and one exclusive 12-foot right-turn lane. The intersection is controlled by a four-phase traffic signal which includes a protected lead phase for the eastbound and westbound New York State Route 312 left-turn movements and split phasing for the northbound and southbound movements. Pedestrian facilities (i.e., sidewalks, crosswalks, curb ramps) do not exist at the intersection.

Capacity Analysis and Level of Service Results

Capacity analyses were conducted with the 2021 Existing, 2023 No-Build and 2023 Build (Proposed Project) Traffic Volumes for the Peak Weekday AM, Peak Weekday PM and Peak Saturday Hours. The results are presented in Table No. C–3 in Appendix C.

As shown in Table No. C–3, for the Existing condition, the overall intersection operates at a Level of Service "D" during all Peak Hours. For the No-Build condition, the overall intersection will continue to operate at a Level of Service "D" during all Peak Hours. For the Build condition, the Level of Service grade does not change during the Peak Weekday AM and PM Hours but will increase to a Level of Service "E" during the Peak Saturday Hour.

To reduce the delay attributable to the addition of the Proposed Project's Site-generated traffic volumes during the Peak Saturday Hour, it is recommended that the traffic signal timings be adjusted. Capacity analyses performed with the 2023 Build traffic volumes and the traffic signal timing modifications indicate the overall intersection will operate at a Level of Service "E" during the Peak Saturday Hour and the overall intersection delay will increase no more than a nominal three seconds above the No-Build condition, as shown in Table No. C–3. Therefore, the Proposed Project's traffic impacts will be satisfactorily mitigated with the recommended improvement.

3.4 LOCATION NO. 4 – NEW YORK STATE ROUTE 312 & INTERSTATE ROUTE 84 WESTBOUND RAMPS

Existing Conditions

New York State Route 312 forms the eastbound and westbound approaches to this T-intersection with the Interstate Route 84 Westbound Ramps. The eastbound New York State Route 312 approach consists of one exclusive left-turn lane and one exclusive through lane, with both lanes measuring 12 feet in width, while the westbound approach consists of one exclusive 11-foot through lane and one exclusive 12-foot right-turn lane. The southbound Interstate Route 84 Ramp approach consists of one exclusive left-turn lane and one exclusive right-turn lane, with both lanes measuring 13 feet in width. The intersection is controlled by a three-phase traffic signal which includes a protected lead phase for the eastbound New York State Route 312 approach. Pedestrian facilities (i.e., sidewalks, crosswalks, curb ramps) do not exist at the intersection.

Capacity Analysis and Level of Service Results

Capacity analyses were conducted with the 2021 Existing, 2023 No-Build and 2023 Build (Proposed Project) Traffic Volumes for the Peak Weekday AM, Peak Weekday PM and Peak Saturday Hours. The results are presented in Table No. C–4 in Appendix C.

As shown in Table No. C–4, for the Existing condition, the overall intersection operates at a Level of Service "B" during the Peak Weekday AM Hour and a Level of Service "C" during the Peak Weekday PM and Peak Saturday Hours. For the No-Build condition, the overall intersection will increase to a Level of Service "C" during the Peak Weekday AM Hour and a Level of Service "D" during the Peak Weekday PM and Peak Saturday Hours. For the Build condition, the overall intersection will remain a Level of Service "C" during the Peak Weekday AM Hour but increase to a Level of Service "E" during the Peak Weekday PM and Peak Saturday Hours.

To reduce the delay attributable to the addition of the Proposed Project's Site-generated traffic volumes during the Peak Weekday PM and Peak Saturday Hours, it is recommended that the traffic signal timings be adjusted. Capacity analyses performed with the 2023 Build traffic volumes and the traffic signal timing modifications indicate the overall intersection will operate at a Level of Service "D" during the Peak Weekday PM Hour and a Level of Service "C" during the Peak Saturday Hour, as shown in Table No. C–4. Therefore, the Proposed Project's traffic impacts will be satisfactorily mitigated with the recommended improvement.

3.5 LOCATION NO. 5 – FAIR STREET & FIELDS CORNER ROAD

Existing Conditions

Fields Corner Road forms the northbound approach to this T-intersection with Fair Street and consists of one shared left-turn/right-turn lane and one receiving lane, with a combined total width of 24 feet. The eastbound Fair Street approach consists of one shared through/right-turn lane, while the westbound approach consists of one shared left-turn/through lane. Both lanes along Fair Street measure 11 feet in width. The intersection is controlled by a Stop sign on the Fields Corner Road approach. Pedestrian facilities (i.e., sidewalks, crosswalks, curb ramps) do not exist at the intersection.

As noted previously, the Proposed Project will seek to discourage drivers leaving the Site from making right-turns towards Fields Corner Road by installing No-Right-Turn traffic signs at their driveway approaches to Pugsley Road. However, in order to determine any impacts to the intersection of Fair Street and Fields Corner Road from the Proposed Project's Site-generated traffic, DTS Provident assumed a small percentage of the traffic volumes exiting the Site would head towards Fair Street via Fields Corner Road.

Capacity Analysis and Level of Service Results

Capacity analyses were conducted with the 2021 Existing, 2023 No-Build and 2023 Build (Proposed Project) Traffic Volumes for the Peak Weekday AM, Peak Weekday PM and Peak Saturday Hours. The results are presented in Table No. C–5 in Appendix C.

As shown in Table No. C–5, for the Existing condition, the overall intersection operates at a Level of Service "A" during all Peak Hours while the critical northbound Fields Corner Road approach operates at a Level of Service "C" during the Peak Weekday AM Hour and a Level of Service "B" during the Peak Weekday PM and Peak Saturday Hours. For the No-Build and Build conditions, the overall intersection will continue to operate at a Level of Service "A" during all Peak Hours and the critical northbound Fields Corner Road approach will continue to operate at a Level of Service "C" during the Peak Weekday AM Hour and a Level of Service "B" during the Peak Weekday PM and Peak Saturday Hours. Therefore, no improvements are recommended for this intersection as all movements will continue to operate satisfactorily during all Peak Hours.

SECTION 4 – ACCIDENT DATA

4.0 ACCIDENT ANALYSIS

Accident data was requested and obtained from the NYSDOT for the segment of New York State Route 312 from its intersection with US Route 6 to its intersection with the Interstate 84 Westbound Ramps, including the intersections contained in this Study, as well as Pugsley Road/Fields Corner Road from its intersection with New York State Route 312 to its intersection with Fair Street. The data received is for the latest available three-year period from April 2018 to March 2021. Copies of the accident data is contained in Appendix E.

At the intersection of US Route 6 and New York State Route 312, there were 15 accidents reported during the three-year period. At the intersection of New York State Route 312 and Pugsley Road, there were four accidents reported during the three-year period. At the intersection of New York State Route 312 and the Interstate Route 84 Eastbound Ramps/Independent Way, there were 37 accidents reported during the three-year period. At the intersection of New York State Route 312 and the Interstate Route 84 Westbound Ramps, there were two accidents reported during the three-year period.

Along the segment of New York State Route 312 between US Route 6 and Pugsley Road, there were 27 accidents reported during the three-year period. Along the segment of New York State Route 312 between Pugsley Road and the Interstate Route 84 Eastbound Ramps/Independent Way, there were 12 accidents reported during the three-year period. Along the segment of New York State Route 312 between the Interstate Route 84 Eastbound Ramps/Independent Way and the Interstate Route 84 Westbound Ramps, there were 13 accidents reported during the three-year period.

The recommended improvements identified herein, combined with the roadway improvements being implemented by adjacent developments and NYSDOT, will provide an overall safety benefit to the study intersections and New York State Route 312 corridor.

SECTION 5 – PARKING ANALYSIS

5.0 PARKING ANALYSIS

The Town Zoning regulations do not appear to have a comparable parking ratio for the recreation building use so the Applicant has applied a parking multiplier from the ITE's Parking Generation Manual. Based upon the ITE's Parking Generation Manual and the Town's Zoning Code, the following parking ratios are required for each associated use:

- Recreation in Building - 1 parking space per 250 square feet[1]
- Athletic Field Seating - 1 space per 5 spectator seats[2]

Based on the foregoing, the total number of parking spaces required for the Proposed Project would be 336 parking spaces. The Applicant's plan proposes a total of 449 parking spaces exceeding the parking requirement and based on the Applicant's expected peak parking need.

[1] Source: ITE Parking Generation Manual, 5th Edition – Land Use 495 (Recreational Community Center)
[2] Source: Town of Southeast Zoning Regulations (§138-67.G)

SECTION 6 – CIRCULATION

6.0 PASSENGER VEHICLE ACCESS

As noted previously, the Proposed Project and associated parking areas will be accessed from two STOP-controlled access driveways, one along Pugsley Road and one along Zimmer Road. The driveways and internal roadways will generally measure 24 feet in width to allow for two-way vehicular traffic flow.

6.1 EMERGENCY AND DELIVERY VEHICLE ACCESS

Buses, emergency vehicles and delivery vehicles will utilize the same travel ways as noted above for Passenger Vehicle Access. Turning path diagrams for the buses and emergency vehicles anticipated on the Site are illustrated on Figures No. F-1, F-2 and F-3 contained in Appendix F.

6.2 PEDESTRIAN ACCESS

Pedestrian facilities, such as sidewalks, crosswalks and curb ramps, will be provided throughout the Site linking the parking areas with the recreation facility areas. For pedestrians that may need to cross Zimmer Road from the main parking area to the baseball field on the south side of the Proposed Project, a marked and signed pedestrian crosswalk will be installed in conjunction with the Proposed Project.

SECTION 7 – PUBLIC TRANSPORTATION

7.0 TRANSIT ANALYSIS

The Putnam Area Rapid Transit (PART) system currently runs a weekly bus route, Route No. 3, along New York State Route 312 and Fair Street. This route runs hourly on Monday through Friday, starting at 8:00 AM to 5:00 PM. Requests can be made to PART to determine if potential usage will warrant a service route change. Procedures for changes to a PART service route are outlined in the PART System's Policy & Procedures Manual. Once the Proposed Project is operational, the Applicant may solicit PART to determine if the Proposed Project meets the requirements to be added as a regular or on-call stop along this route.

SECTION 8 – CONSTRUCTION TRAFFIC

8.0 CONSTRUCTION RELATED IMPACTS

The vast majority of construction employees will arrive and depart the Proposed Project's Site out of phase with the Peak Weekday AM and Peak Weekday PM Hours. Construction truck traffic is anticipated to access the Site mainly from nearby Interstate Route 84. Access to and from Interstate Route 84 is within 1.5 miles of the Site via New York State Route 312. This access route is in a commercial area and therefore significant impacts to surrounding residential neighborhoods and local roads will be minimal. In addition, no construction traffic will be allowed to utilize Fields Corner Road to Fair Street.

SECTION 9 – CONCLUSIONS

9.0 CONCLUSIONS

Based upon the information obtained from this study, it is the considered professional opinion of DTS Provident Design Engineering, LLP that the Proposed Project and associated mitigation will adequately offset any significant impacts with respect to traffic. The nominal increase in traffic will not result in any noticeable change to traffic operations and safety in the area. The Site Plan provides for safe and efficient vehicular and pedestrian circulation.

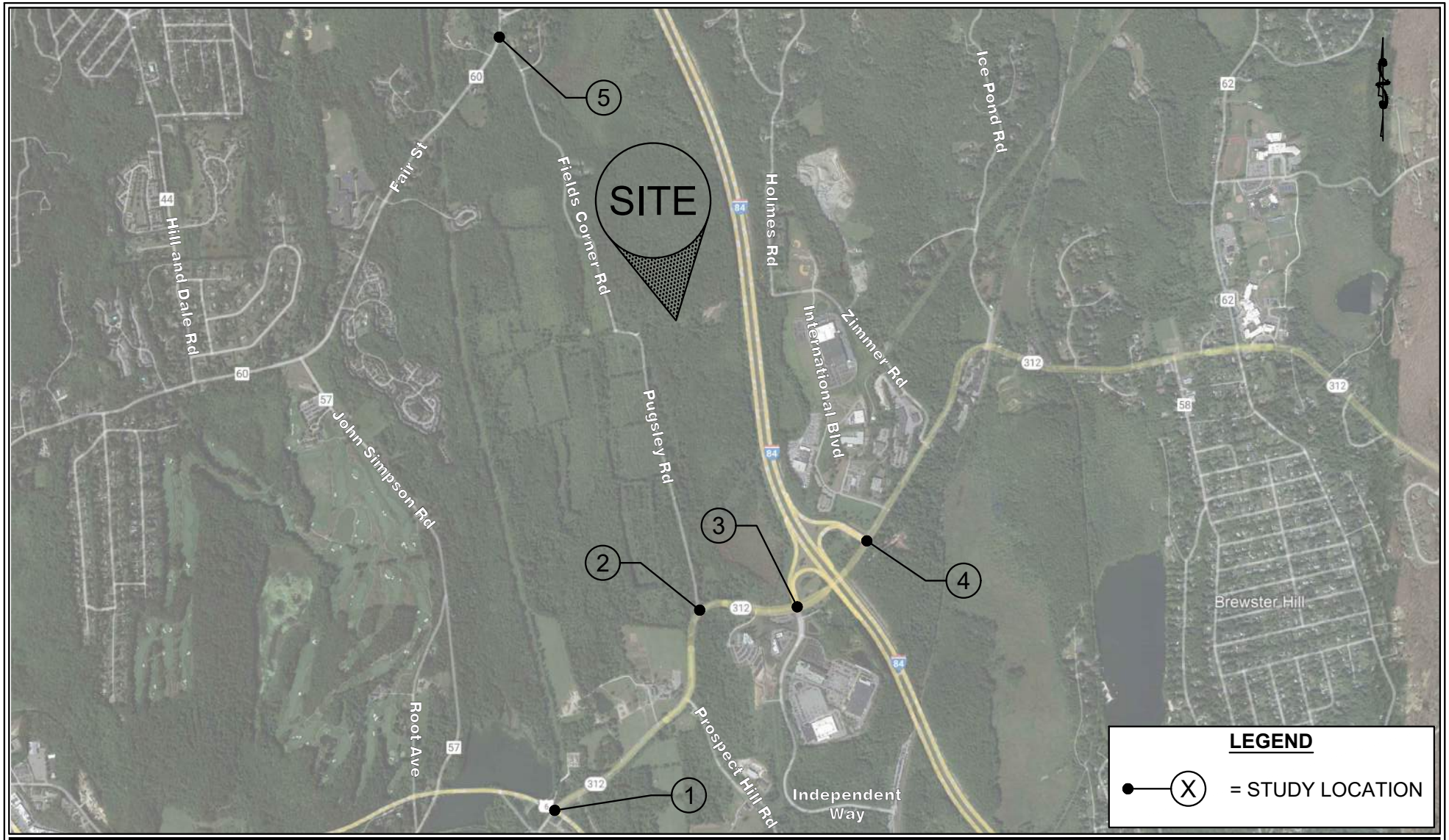
Q:\PROJECTS-21\21-076 Proswing Traffic Study - Brewster\Reports\Traffic Impact Study\Traffic Impact Study_2021-11-22_REV1.docx

APPENDICES

APPENDIX A

FIGURES

Q:\PROJECTS-21\21-076 Proswing Traffic Study - Brewster\AutoCAD\Traffic\TrafficFigures_8.5x11 Landscape_Site Location Map.dwg



DTS • PROVIDENT
Intelligent Land Use

DTS Provident Design Engineering, LLP
One North Broadway
White Plains, NY 10601
P: 914.428.0010
F: 914.428.0017

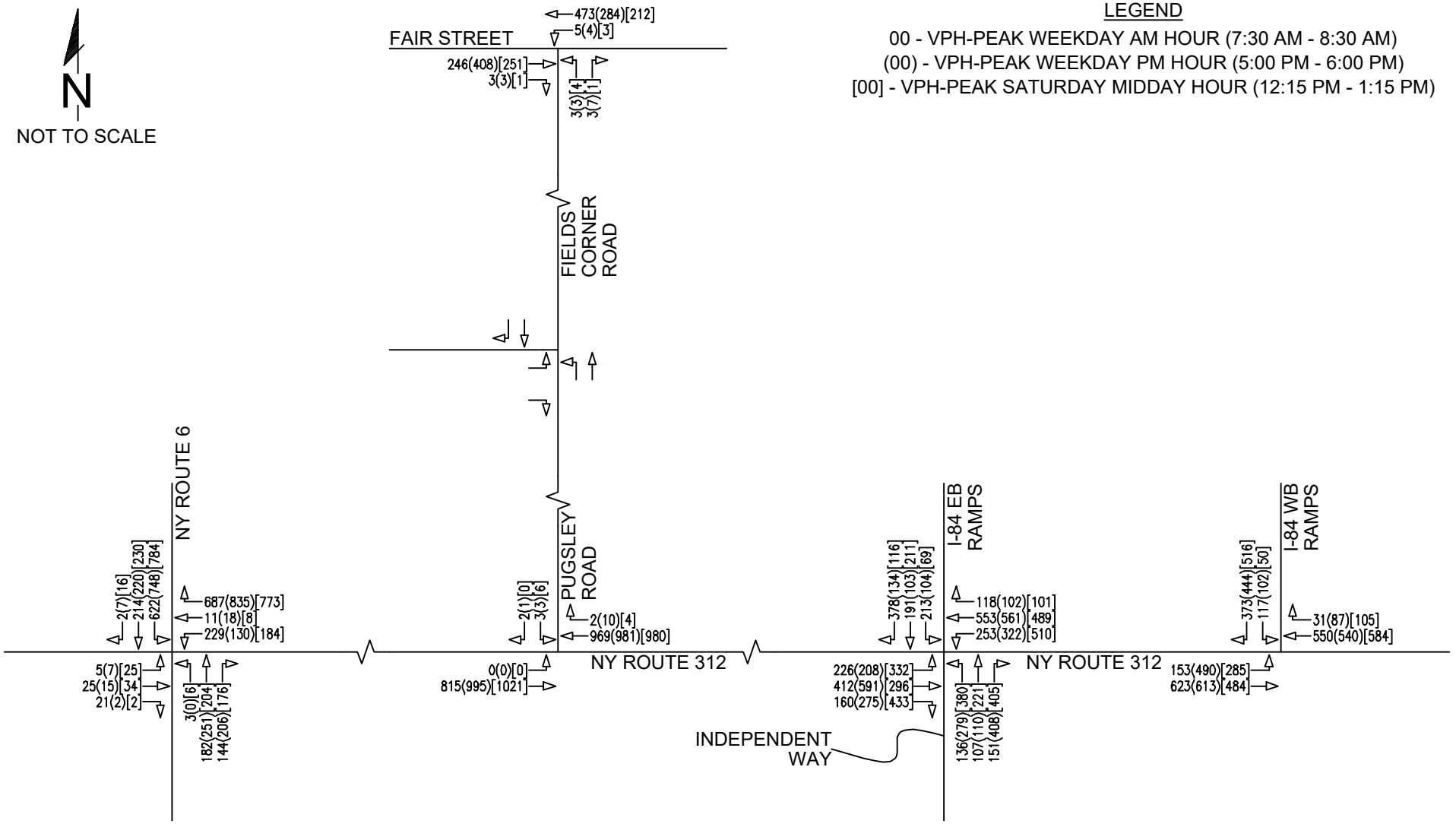
Site & Study Location Map

Brewster Yards
Town of Southeast, Putnam County, New York

Project No. 21-076
Not To Scale
November 2021

Figure No. 01

Q:\PROJECTS-21\21-076 Proswing Traffic Study - Brewster\AutoCAD\Traffic\TrafficFigures_8.5x11 Landscape.dwg



DTS • PROVIDENT
Intelligent Land Use

DTS Provident Design Engineering, LLP
One North Broadway
White Plains, NY 10601
P: 914.428.0010
F: 914.428.0017

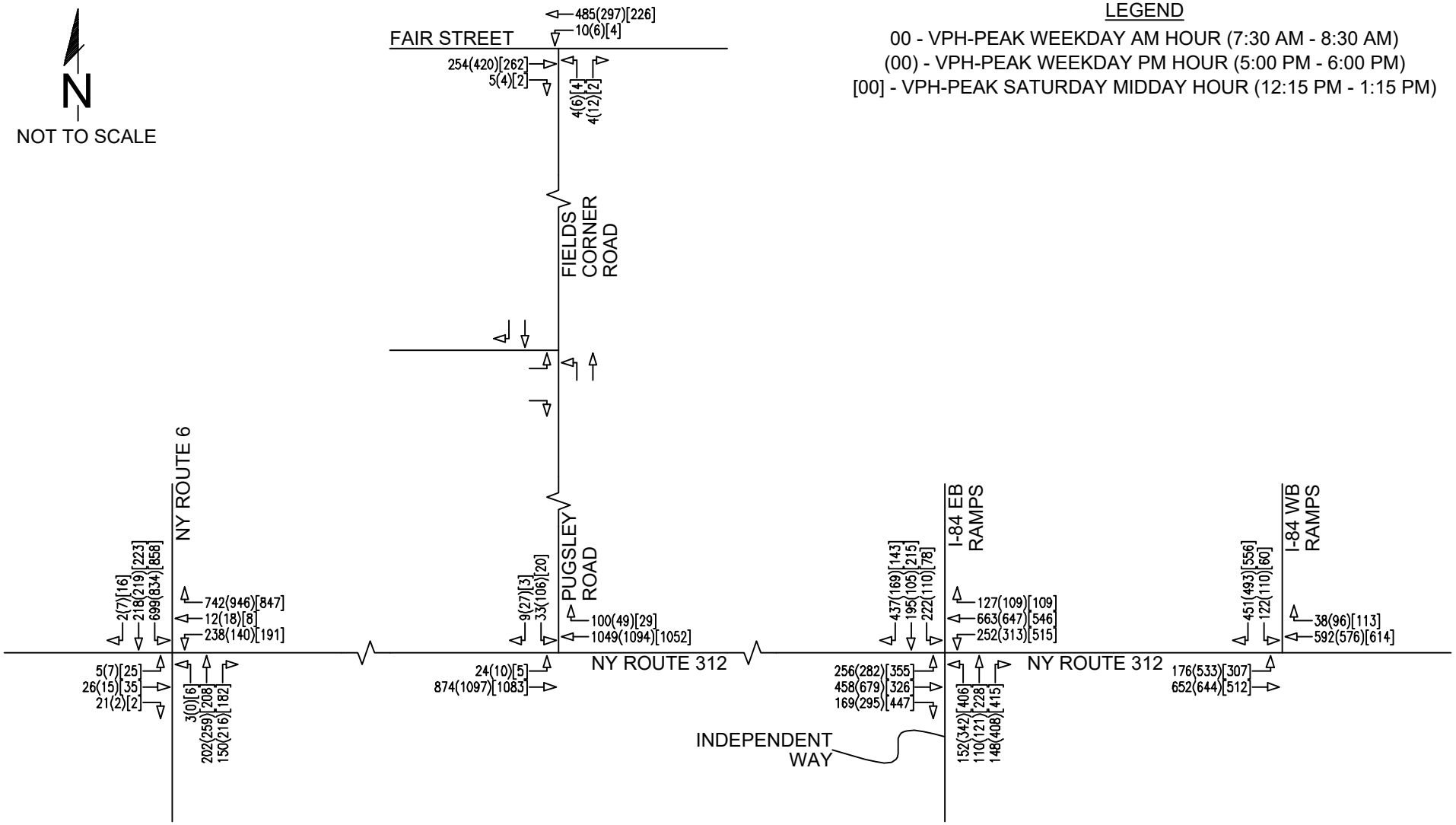
2021 Existing Traffic Volumes

Brewster Yards
Town of Southeast, Putnam County, New York

Project No. 21-076
Not To Scale
November 2021

Figure No. 02

Q:\PROJECTS-21\21-076 Proswing Traffic Study - Brewster\AutoCAD\Traffic\TrafficFigures_8.5x11 Landscape.dwg



DTS • PROVIDENT
Intelligent Land Use

DTS Provident Design Engineering, LLP
One North Broadway
White Plains, NY 10601
P: 914.428.0010
F: 914.428.0017

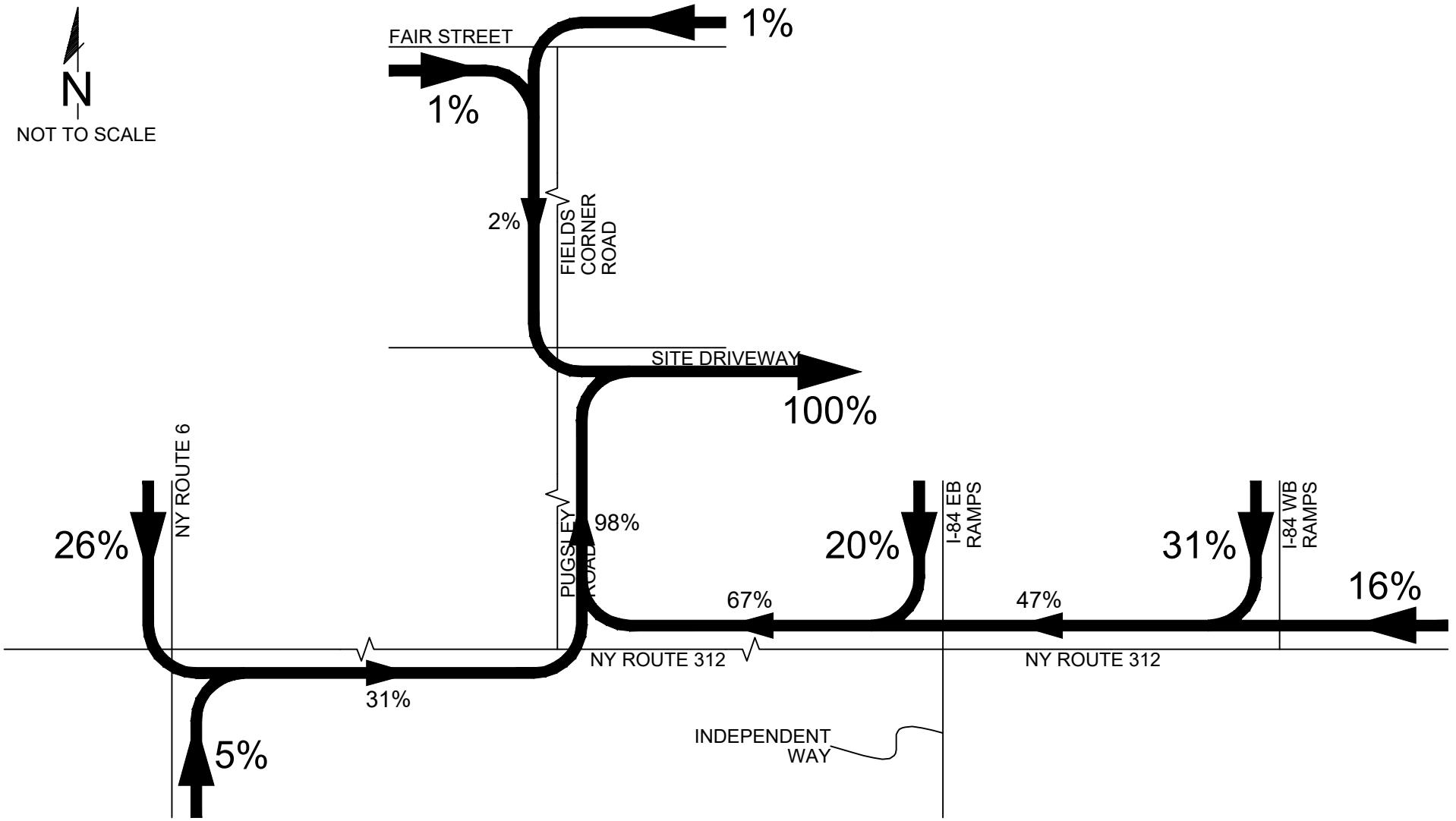
2023 No-Build Traffic Volumes

Brewster Yards
Town of Southeast, Putnam County, New York

Project No. 21-076
Not To Scale
November 2021

Figure No. 03

Q:\PROJECTS-21\21-076 Proswing Traffic Study - Brewster\AutoCAD\Traffic\TrafficFigures_8.5x11 Landscape.dwg



DTS • PROVIDENT
Intelligent Land Use

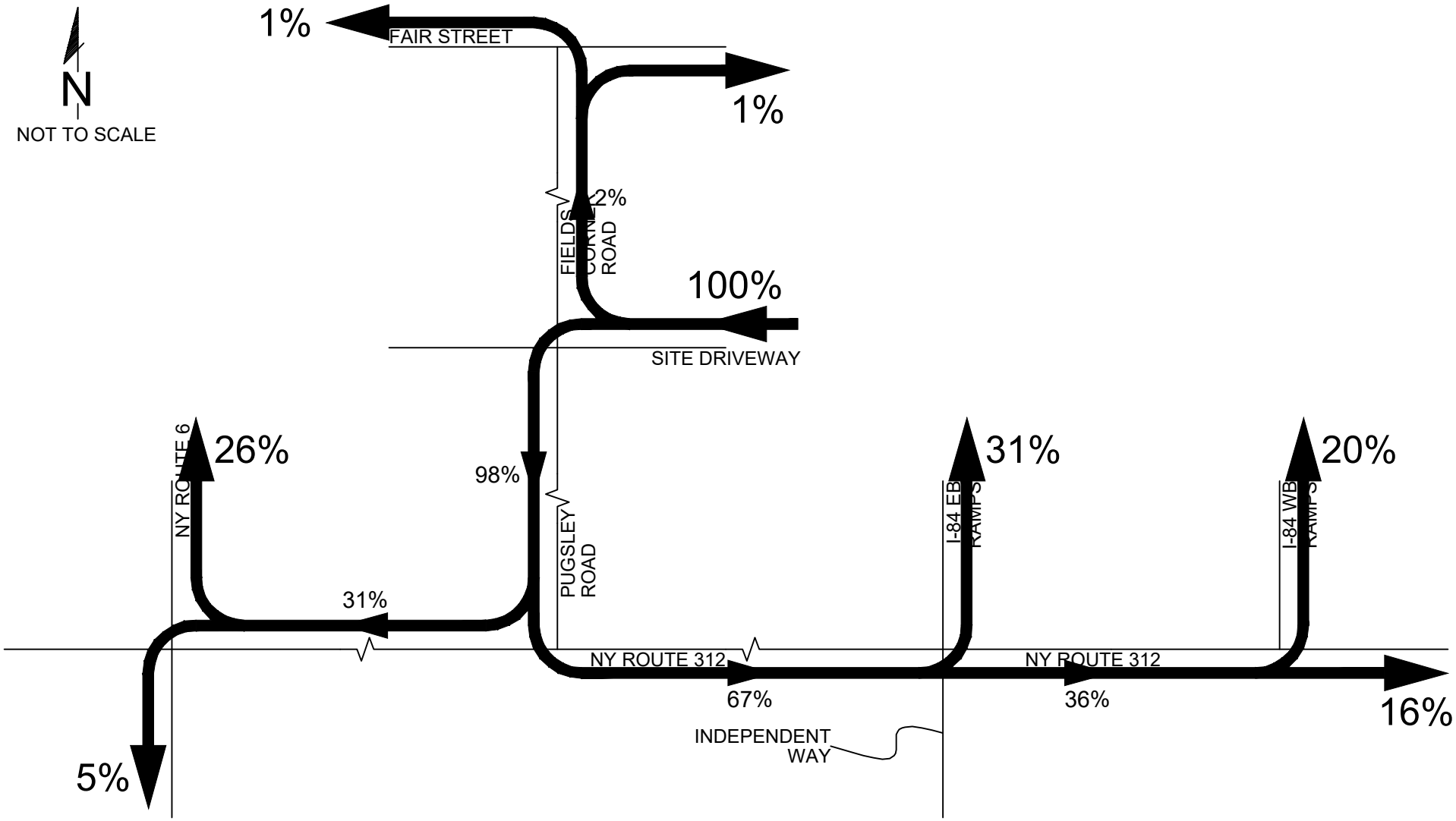
DTS Provident Design Engineering, LLP
One North Broadway
White Plains, NY 10601
P: 914.428.0010
F: 914.428.0017

Arrival Distribution
Brewster Yards
Town of Southeast, Putnam County, New York

Project No. 21-076
Not To Scale
November 2021

Figure No. 04

Q:\PROJECTS-21\21-076 Proswing Traffic Study - Brewster\AutoCAD\Traffic\TrafficFigures_8.5x11 Landscape.dwg



DTS • PROVIDENT
Intelligent Land Use

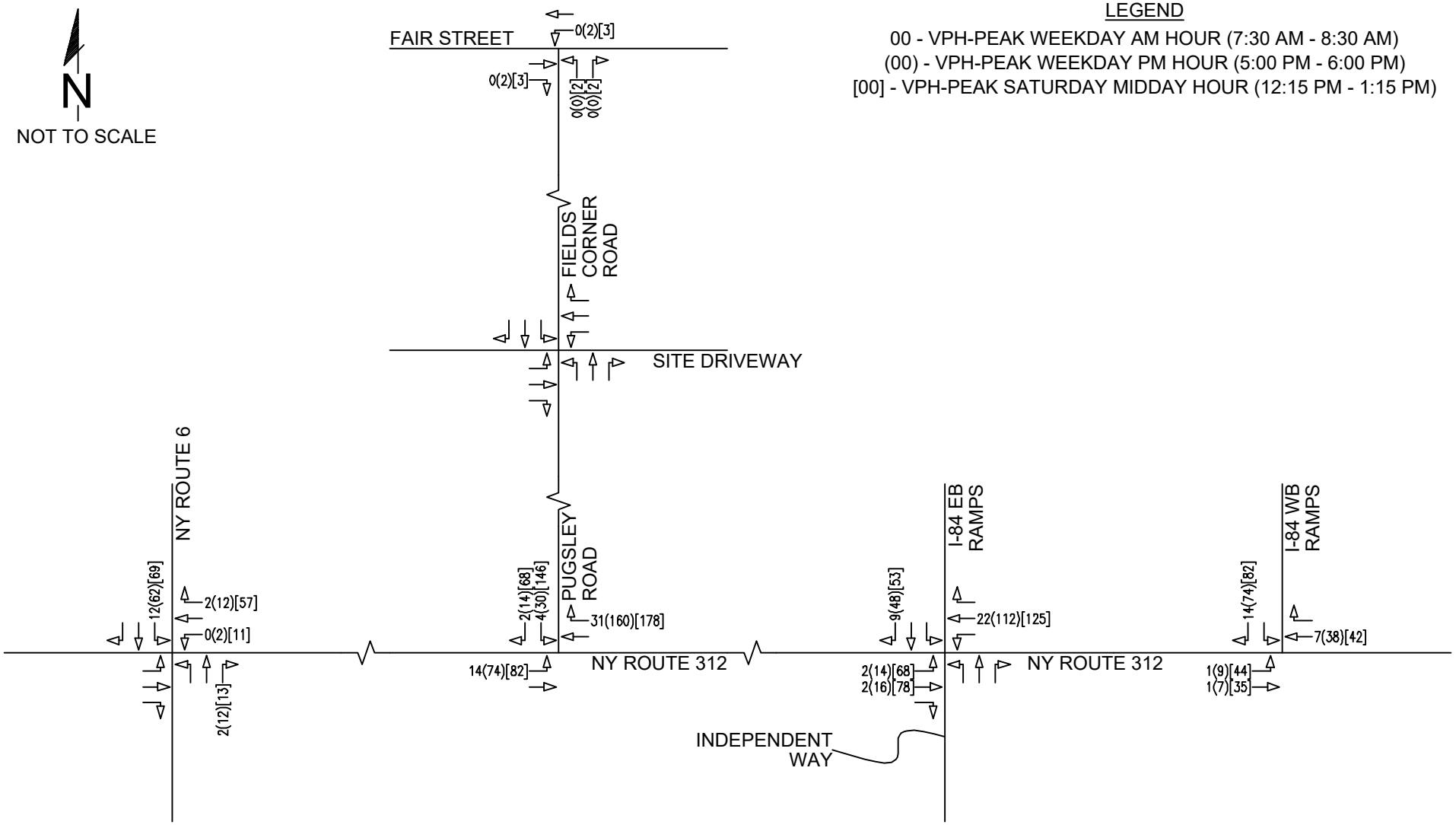
DTS Provident Design Engineering, LLP
One North Broadway
White Plains, NY 10601
P: 914.428.0010
F: 914.428.0017

Departure Distribution
Brewster Yards
Town of Southeast, Putnam County, New York

Project No. 21-076
Not To Scale
November 2021

Figure No. 05

Q:\PROJECTS-21\21-076 Proswing Traffic Study - Brewster\AutoCAD\Traffic\TrafficFigures_8.5x11 Landscape.dwg



DTS • PROVIDENT
Intelligent Land Use

DTS Provident Design Engineering, LLP
One North Broadway
White Plains, NY 10601
P: 914.428.0010
F: 914.428.0017

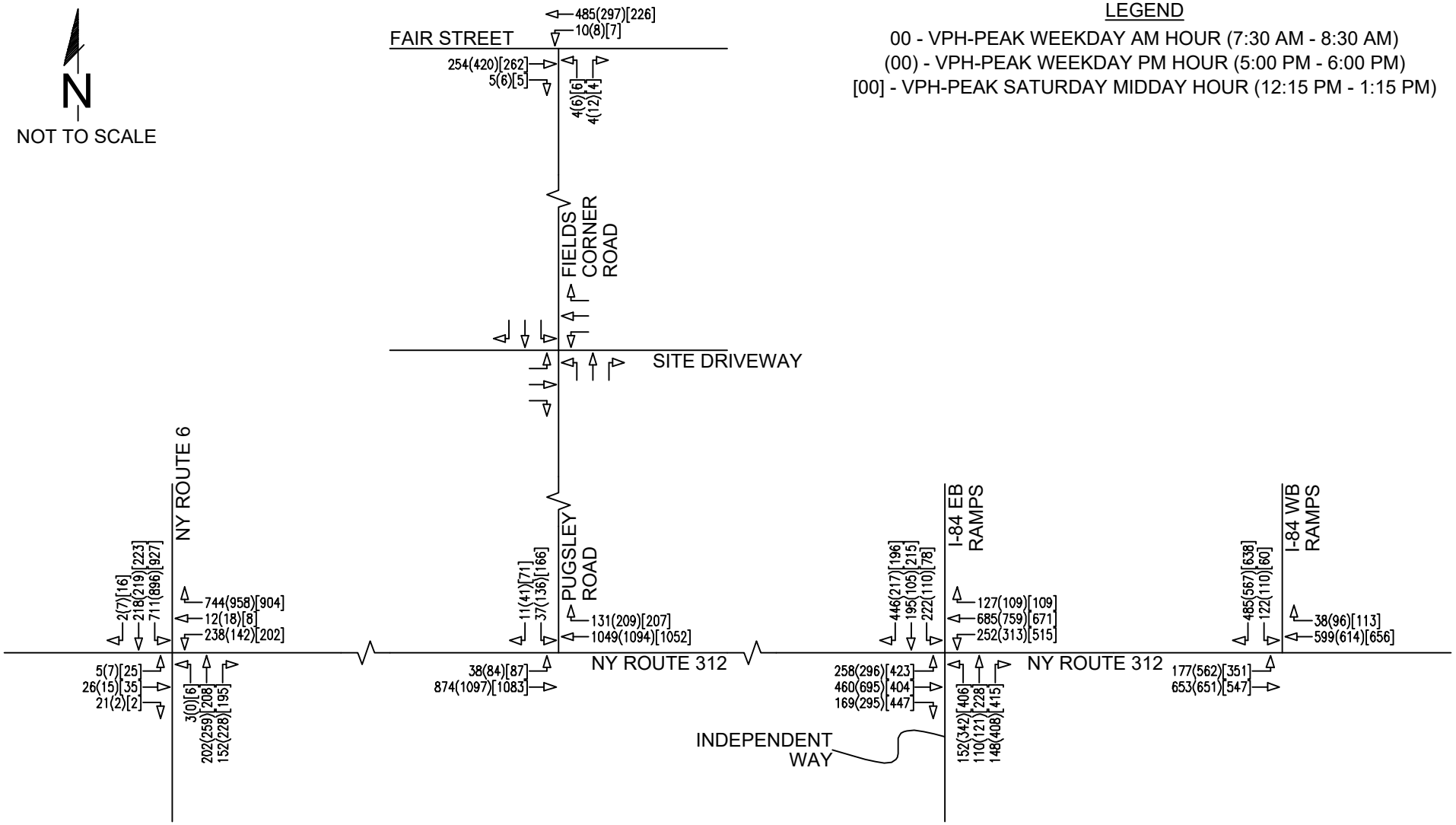
Site-Generated Traffic Volumes

Brewster Yards
Town of Southeast, Putnam County, New York

Project No. 21-076
Not To Scale
November 2021

Figure No. 06

Q:\PROJECTS-21\21-076 Proswing Traffic Study - Brewster\AutoCAD\Traffic\TrafficFigures_8.5x11 Landscape.dwg



DTS • PROVIDENT
Intelligent Land Use

DTS Provident Design Engineering, LLP
One North Broadway
White Plains, NY 10601
P: 914.428.0010
F: 914.428.0017

2023 Build Traffic Volumes

Brewster Yards
Town of Southeast, Putnam County, New York

Project No. 21-076
Not To Scale
November 2021

Figure No. 07

APPENDIX B

LEVEL OF SERVICE STANDARDS

1. LEVEL OF SERVICE

CONCEPT

The Highway Capacity Manual, published by the Transportation Research Board of the U.S. Government, established a system by which highway facilities are examined for their adequacy to handle traffic volumes. The terminology "Level of Service" is used to provide a "qualitative" evaluation based on certain "quantitative" calculations which are related to empirical values.

Intersection Capacity, Delay and resultant Levels of Service are dependent upon a number of factors, including the following:

- Area Type
- Intersection geometrics
- Traffic volumes
- Parking conditions
- Pedestrian activity
- Vehicle Mix
- Bus Stop location and activity
- Peak Hour Factor
- Traffic Signal operation, if applicable

Ramp and weaving area Densities and resultant Levels of Service are dependent upon a number of factors, including the following:

- Number of lanes
- Configuration of weaving area
- Length of acceleration/deceleration lanes
- Vehicle speeds
- Traffic volumes
- Vehicle Mix
- Peak Hour Factor

FACTORS

SIGNALIZED INTERSECTIONS

Level of Service for Signalized Intersections is defined in terms of Delay, which is a measure of driver discomfort, frustration, fuel consumption, and loss of travel time. Specifically, Level of Service criteria are stated in terms of the Average Control Delay per vehicle for the peak 15-minute period within the hour analyzed.

Delay is a complex measure and is dependent upon a number of variables, including:

- Cycle length
- Ratio of Green time to Cycle length (G/C)

- Ratio of Volume to Capacity (V/C) for lane group or approach
- Traffic signal progression

UNSIGNALIZED INTERSECTIONS

Level of Service for Unsignalized Intersections is also defined in terms of Delay. The amount of Delay is based upon the availability of "gaps" in the mainline traffic stream and the acceptance of these gaps by motorists waiting on the side street to enter the main street traffic flow.

RAMP AND RAMP JUNCTIONS

Level of Service for ramp freeway junctions and the ramp proper are defined in terms of Density (passenger cars per mile per lane). Density is related to the traffic flow in the area of influence.

WEAVING AREAS

Level of Service for weaving areas is defined in terms of Density (passenger cars per mile per lane). Density is based on the ratio of weaving vehicles to non-weaving vehicles and on vehicle speeds in the weaving area of influence

CRITERIA

The criteria for the various Level of Service designations are as follows:

	SIGNALIZED	UNSIGNALIZED
LEVEL OF SERVICE	**Average Control Delay per Vehicle (Seconds)**	**Average Control Delay per Vehicle (Seconds)**
A	10.0 or less	10.0 or less
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	80.1 or greater	50.1 or greater

Level of Service	Ramp-Freeway Junction	Ramp Proper	Weaving Areas	
	Maximum Density pc/mi/ln	Density Range pc/mi/ln	Maximum Density pc/mi/ln	
			Freeway Weaving Area	Multi-lane + C-D Weaving Area
A	≤10	≤11	≤10	≤12
B	>10 - 20	>11 – 18	>10 - 20	>12 - 24
C	>20 - 28	>18 – 26	> 20 - 28	>24 - 32
D	>28 - 35	>26 – 35	>28 - 35	>32 - 36
E	>35	>35 – 45	>35 - 43	>36 - 40
F	Demand exceeds capacity	>45	>43	>40

DESCRIPTION

The following is a brief description of each of the six Level of Service designations as defined by the Highway Capacity Manual:

SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE A

Average Control Delay - 10.0 secs. or less

Describes operations with very low delay. Occurs when progression is extremely favorable and most vehicles arrive during the Green Phase and do not stop at all. Short cycle lengths may also contribute to low delay.

LEVEL OF SERVICE B

Average Control Delay - 10.1 to 20.0 secs.

Generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing higher levels of average delay.

LEVEL OF SERVICE C

Average Control Delay - 20.1 to 35.0 secs.

Higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this Level of Service. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.

LEVEL OF SERVICE D

Average Control Delay - 35.1 to 55.0 secs.

The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high Volume/Capacity (V/C) Ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LEVEL OF SERVICE E

Average Control Delay - 55.1 to 80.0 secs.

The limit of acceptable delay.

Higher delay values generally indicate poor progression, long cycle lengths, and high V/C Ratios. Individual cycle failures are frequent occurrences.

LEVEL OF SERVICE F

Average Control Delay - in excess of 80.0 secs.

Unacceptable to most drivers.

Occurs with oversaturation, i.e., arrival flow rates exceed the capacity of the intersection. May also occur at high V/C Ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.

UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE A
Average Control Delay - 10.0 secs. or less
Operations with little or no delay to minor turning movements.

LEVEL OF SERVICE B
Average Control Delay - 10.1 to 15.0 secs.
Operations with short delays on minor turning movements.

LEVEL OF SERVICE C
Average Control Delay - 15.1 to 25.0 secs.
Operations with average delays on minor turning movements.

LEVEL OF SERVICE D
Average Control Delay - 25.1 to 35.0 secs.
Operations with some delays on minor turning movements.

LEVEL OF SERVICE E
Average Control Delay - 35.1 to 50.0 secs.
Operations with long delays on minor turning movements.

LEVEL OF SERVICE F
Average Control Delay - In excess of 50.0 secs.
Operations where demand exceeds capacity. Very long delays with queuing may be experienced on the minor street approach.

RAMPS AND RAMP JUNCTIONS

LEVEL OF SERVICE A

Maximum Density - 10 pc/mi/ln

Unrestricted operations with no noticeable turbulence in the ramp influence area.

LEVEL OF SERVICE B

Maximum Density - 20 pc/mi/ln

Minimal levels of turbulence exist and speeds of vehicles in the influence area begin to decline.

LEVEL OF SERVICE C

Maximum Density - 28 pc/mi/ln

Level of turbulence becomes noticeable as average speed within the influence area declines. Driving conditions are still relatively comfortable at this level.

LEVEL OF SERVICE D

Maximum Density - 35 pc/mi/ln

.

Turbulence levels become intrusive. Queues may form on some high volume on-ramps but freeway operation remains stable.

LEVEL OF SERVICE E

Maximum Density - >35 pc/mi/ln

.

Conditions approaching and reaching capacity. Speeds are reduced and turbulence of merging/diverging vehicles becomes intrusive to all vehicles in the influence area. Flow levels approach capacity limits and minor changes in demand can cause ramp and freeway queues to occur.

LEVEL OF SERVICE F

Maximum Density – Demand flow exceeds limits

Unstable, or breakdown, operation. Approaching demand flows exceed the discharge capacity of the downstream freeway or ramp. Queues are visibly formed on the freeway and on-ramps and will continue to grow as long as the approaching demand exceeds the discharge capacity.

APPENDIX C

LEVEL OF SERVICE TABLES

Job No.: 21-076
Project: Brewster Yards
Location: Town of Southeast, Putnam County, NY

DTS • PROVIDENT
Intelligent Land Use

TABLE NO. C-1
PEAK HOUR LEVEL OF SERVICE SUMMARY TABLE
US Route 6 & NY Route 312

APPROACH		PEAK AM HOUR (7:30 - 8:30 AM)			PEAK PM HOUR (5:15 - 6:15 PM)				PEAK SAT HOUR (1:30 - 2:30 PM)			
		2021 EXISTING	2023 NO-BUILD	2023 BUILD	2021 EXISTING	2023 NO-BUILD	2023 BUILD	2023 BUILD W/ IMPV	2021 EXISTING	2023 NO-BUILD	2023 BUILD	2023 BUILD W/ IMPV
		LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)
US ROUTE 6												
NB	L	C 34.3	C 34.7	C 34.7	A 0.0	A 0.0	A 0.0	A 0.0	C 31.8	C 32.2	C 32.8	D 43.0
	T	D 44.6	D 48.9	D 48.9	D 43.7	D 44.1	D 44.3	E 69.4	D 44.8	D 45.4	D 46.2	E 71.1
	R	A 9.1	A 8.9	A 8.9	A 7.3	A 7.2	A 7.2	A 9.1	A 8.3	A 8.3	A 8.4	B 10.8
	OVERALL	***C 29.0***	***C 31.9***	***C 31.7***	***C 27.3***	***C 27.3***	***C 26.9***	***D 41.2***	***C 28.0***	***C 28.2***	***C 28.0***	***D 42.0***
SB	L	C 31.7	D 45.1	D 48.0	D 40.4	E 75.1	F 106.0	E 74.0	D 51.8	F 85.8	F 127.0	F 84.7
	TR	A 10.0	B 10.3	B 10.3	A 6.5	A 6.8	A 6.9	A 5.3	A 8.2	A 8.4	A 8.9	A 8.0
	OVERALL	***C 26.1***	***D 36.8***	***D 39.1***	***C 32.5***	***E 60.5***	***F 86.0***	***E 60.1***	***D 41.4***	***E 68.9***	***F 102.7***	***E 69.0***
NY ROUTE 312												
EB	***OVERALL***	***B 18.7***	***B 19.3***	***B 19.3***	***C 31.0***	***C 31.1***	***C 31.0***	***C 31.0***	***C 32.3***	***C 32.2***	***C 31.8***	***D 39.3***
WB	LT	D 49.7	E 55.8	E 55.8	D 48.9	D 50.2	D 50.2	E 63.1	D 52.9	D 53.4	D 54.1	E 64.4
	R	A 4.8	A 6.6	A 6.7	B 14.2	C 25.0	C 26.6	C 31.5	A 7.9	B 10.9	B 13.7	B 17.0
	OVERALL	***B 16.4***	***B 19.0***	***B 19.0***	***B 19.4***	***C 28.6***	***C 30.0***	***D 36.0***	***B 16.8***	***B 19.0***	***C 21.4***	***C 25.9***
INTERSECTION		**C 22.2**	**C 28.0**	**C 29.0**	**C 26.2**	**D 41.1**	**D 52.3**	**D 46.7**	**C 29.3**	**D 41.8**	**E 57.1**	**D 46.9**

Job No.: 21-076
Project: Brewster Yards
Location: Town of Southeast, Putnam County, NY

DTS • PROVIDENT
Intelligent Land Use

TABLE NO. C-2
PEAK HOUR LEVEL OF SERVICE SUMMARY TABLE
NY ROUTE 312 & PUGSLEY ROAD

APPROACH		PEAK AM HOUR (7:30 - 8:30 AM)					PEAK PM HOUR (5:15 - 6:15 PM)						PEAK SAT HOUR (1:30 - 2:30 PM)					
		2021 EXISTING	2023 NO-BUILD ALT. A	2023 BUILD ALT. A	2023 NO-BUILD ALT. B	2023 BUILD ALT. B	2021 EXISTING	2023 NO-BUILD ALT. A	2023 BUILD ALT. A	2023 BUILD W/IMPV ALT. A	2023 NO-BUILD ALT. B	2023 BUILD ALT. B	2021 EXISTING	2023 NO-BUILD ALT. A	2023 BUILD ALT. A	2023 BUILD W/IMPV ALT. A	2023 NO-BUILD ALT. B	2023 BUILD ALT. B
		LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)
PUGSLEY ROAD																		
SB	LR/L	f 57.3	E 77.0	E 77.3	C 32.4	C 32.2	f 60.9	D 35.9	D 36.7	D 46.8	C 29.0	C 28.9	f 65.2	C 33.3	C 30.7	C 33.9	B 19.0	C 21.7
	R	N/A	C 34.2	C 32.3	N/A	N/A	N/A	B 14.4	B 13.0	B 16.3	N/A	N/A	N/A	C 24.0	B 11.0	B 11.9	N/A	N/A
	OVERALL	***f 57.3***	***E 68.0***	***E 66.8***	***C 32.4***	***C 32.2***	***f 60.9***	***C 31.5***	***C 31.2***	***D 39.7***	***C 29.0***	***C 28.9***	***f 65.2***	***C 32.1***	***C 24.8***	***C 27.3***	***B 19.0***	***C 21.7***
NY ROUTE 312																		
EB	L	N/A	A 2.5	A 3.5	A 2.4	A 3.2	N/A	A 4.9	F 129.3	D 42.6	A 3.2	A 9.4	N/A	A 2.6	D 45.2	C 30.0	A 1.8	A 6.7
	LT/T	a 0.0	A 2.1	A 2.2	A 2.3	A 2.8	a 0.0	A 4.2	A 4.9	A 3.7	A 4.9	A 5.3	a 0.0	A 2.8	A 5.7	A 4.8	A 1.5	A 6.0
	OVERALL	***a 0.0***	***A 2.2***	***A 2.2***	***A 2.3***	***A 2.8***	***a 0.0***	***A 4.2***	***B 13.8***	***A 6.5***	***A 4.9***	***A 5.6***	***a 0.0***	***A 2.8***	***A 8.6***	***A 6.7***	***A 1.5***	***A 6.1***
WB	TR/T	a 0.0	B 11.2	B 11.4	A 5.7	A 7.7	a 0.0	B 14.1	B 18.0	B 13.7	A 6.7	B 12.3	a 0.0	A 7.0	B 17.3	B 15.2	A 3.2	B 14.8
	R	N/A	A 0.1	A 0.1	N/A	N/A	N/A	A 0.0	A 0.2	A 0.2	N/A	N/A	N/A	A 0.0	A 0.2	A 0.2	N/A	N/A
	OVERALL	***a 0.0***	***B 10.3***	***B 10.2***	***A 5.7***	***A 7.7***	***a 0.0***	***B 13.5***	***B 15.1***	***B 11.5***	***A 6.7***	***B 12.3***	***a 0.0***	***A 6.8***	***B 14.5***	***B 12.8***	***A 3.2***	***B 14.8***
INTERSECTION		**a 0.2**	**A 8.0**	**A 8.1**	**A 4.8**	**A 6.2**	**a 0.1**	**B 10.2**	**B 15.6**	**B 11.2**	**A 7.1**	**B 10.4**	**a 0.2**	**A 5.1**	**B 12.8**	**B 11.4**	**A 2.5**	**B 11.6**

DTS • PROVIDENT
Intelligent Land Use

TABLE NO. C-3
PEAK HOUR LEVEL OF SERVICE SUMMARY TABLE
NY ROUTE 312 & I-84 EASTBOUND RAMPS/INDEPENDENT WAY

APPROACH		PEAK AM HOUR (7:30 - 8:30 AM)			PEAK PM HOUR (5:15 - 6:15 PM)			PEAK SAT HOUR (1:30 - 2:30 PM)			
		2021 EXISTING	2023 NO-BUILD	2023 BUILD	2021 EXISTING	2023 NO-BUILD	2023 BUILD	2021 EXISTING	2023 NO-BUILD	2023 BUILD	2023 BUILD W/ IMPV
		LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)
I-84 EASTBOUND RAMPS/INDEPENDENT WAY											
NB	L	E 71.3	E 71.3	E 71.3	E 68.3	E 69.8	E 69.8	E 58.1	E 60.9	E 66.2	E 69.3
	T	E 63.6	E 63.6	E 63.6	E 57.4	E 55.8	E 55.8	D 51.2	D 54.1	E 58.8	E 61.5
	R	A 5.6	A 6.7	A 6.8	B 16.8	B 16.5	B 16.6	A 4.4	A 6.1	A 8.3	A 7.5
	OVERALL	***D 42.9***	***D 44.7***	***D 44.7***	***D 38.5***	***D 40.1***	***D 40.2***	***C 33.7***	***D 36.4***	***D 40.3***	***D 41.7***
SB	L	E 75.8	E 76.4	E 76.4	E 74.2	E 74.1	E 74.1	D 48.8	D 51.7	D 54.8	E 55.8
	T	E 60.8	E 59.8	E 59.8	E 67.7	E 66.2	E 66.2	E 63.7	E 67.8	E 73.9	E 77.5
	R	B 19.3	C 26.9	C 27.9	B 16.3	C 22.6	C 27.7	B 12.5	B 19.0	C 25.4	C 23.8
	OVERALL	***D 44.8***	***D 47.2***	***D 47.6***	***D 49.5***	***D 49.3***	***D 48.9***	***D 46.1***	***D 48.9***	***D 51.4***	***D 52.6***
NY ROUTE 312											
EB	L	E 63.3	E 63.7	E 63.9	E 65.8	E 66.4	E 66.5	E 60.7	E 65.4	F 90.3	E 75.1
	T	D 36.4	D 40.3	D 40.4	D 51.1	F 92.8	F 101.0	E 59.6	E 61.7	E 64.7	E 72.1
	R	A 2.9	A 2.8	A 2.8	A 2.9	A 4.0	A 4.2	B 15.5	B 16.0	B 15.1	B 17.8
	OVERALL	***D 37.3***	***D 39.9***	***D 40.1***	***D 41.6***	***E 66.1***	***E 70.9***	***D 42.0***	***D 44.7***	***E 55.8***	***D 54.0***
WB	L	E 58.0	E 57.3	E 57.0	E 58.9	E 58.3	E 56.1	F 86.8	F 108.1	F 143.1	F 88.4
	TR	C 29.6	C 33.3	C 33.7	C 26.1	C 32.1	C 34.1	D 49.4	E 55.5	E 59.0	E 60.1
	OVERALL	***D 37.4***	***D 39.1***	***D 39.2***	***D 36.8***	***D 39.8***	***D 39.9***	***E 66.7***	***E 78.6***	***F 92.4***	***E 71.3***
INTERSECTION		**D 40.1**	**D 42.2**	**D 42.4**	**D 40.2**	**D 50.1**	**D 51.6**	**D 47.7**	**D 53.4**	**E 62.9**	**E 56.2**

Job No.: 21-076
Project: Brewster Yards
Location: Town of Southeast, Putnam County, NY

DTS • PROVIDENT
Intelligent Land Use

TABLE NO. C-4
PEAK HOUR LEVEL OF SERVICE SUMMARY TABLE
NY ROUTE 312 & I-84 WESTBOUND RAMPS

APPROACH		PEAK AM HOUR (7:30 - 8:30 AM)			PEAK PM HOUR (5:15 - 6:15 PM)				PEAK SAT HOUR (1:30 - 2:30 PM)			
		2021 EXISTING	2023 NO-BUILD	2023 BUILD	2021 EXISTING	2023 NO-BUILD	2023 BUILD	2023 BUILD W/ IMPV	2021 EXISTING	2023 NO-BUILD	2023 BUILD	2023 BUILD W/ IMPV
		LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)
I-84 WESTBOUND RAMPS												
SB	L	C 32.5	C 32.6	C 32.6	C 32.3	C 32.6	C 32.6	D 53.1	C 25.1	C 25.6	C 25.6	D 51.9
	R	C 21.9	C 32.9	D 36.5	C 32.3	D 48.3	F 95.6	C 34.5	C 34.4	D 46.9	F 94.0	D 45.8
	OVERALL	***C 24.4***	***C 32.8***	***D 35.7***	***C 32.3***	***D 45.4***	***F 85.4***	***D 37.5***	***C 33.6***	***D 44.8***	***F 88.1***	***D 46.3***
NY ROUTE 312												
EB	L	A 6.3	A 8.6	A 8.8	E 65.6	F 156.6	F 210.1	F 107.5	B 18.7	C 22.6	C 33.0	C 26.6
	T	A 5.3	A 6.1	A 6.1	A 6.1	A 7.2	A 7.3	A 6.5	A 5.6	A 6.0	A 6.3	A 4.2
	OVERALL	***A 5.5***	***A 6.6***	***A 6.7***	***C 32.5***	***E 76.2***	***F 101.3***	***D 53.3***	***B 10.4***	***B 12.2***	***B 16.8***	***B 13.0***
WB	T	C 24.8	C 28.8	C 29.6	C 23.0	C 26.1	C 29.6	C 34.7	D 52.4	E 68.0	F 91.5	D 53.7
	R	A 1.5	A 1.4	A 1.4	A 2.2	A 3.1	A 3.3	A 2.7	A 1.6	A 2.2	A 3.0	A 2.0
	OVERALL	***C 23.5***	***C 27.1***	***C 27.9***	***C 20.1***	***C 22.8***	***C 26.1***	***C 30.4***	***D 44.6***	***E 57.8***	***E 78.5***	***D 46.1***
INTERSECTION		**B 16.2**	**C 20.4**	**C 21.5**	**C 29.1**	**D 54.2**	**E 76.6**	**D 42.9**	**C 28.6**	**D 36.8**	**E 57.9**	**C 33.6**

Job No.: 21-076
Project: Brewster Yards
Location: Town of Southeast, Putnam County, NY

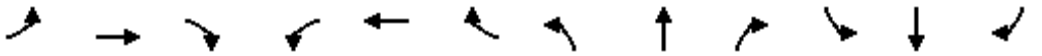
DTS • PROVIDENT
Intelligent Land Use

TABLE NO. C-5
PEAK HOUR LEVEL OF SERVICE SUMMARY TABLE
FAIR STREET & FIELDS CORNER ROAD

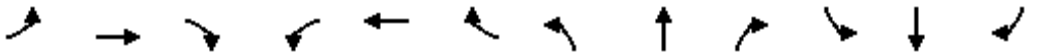
APPROACH		PEAK AM HOUR (7:30 - 8:30 AM)			PEAK PM HOUR (5:15 - 6:15 PM)			PEAK SAT HOUR (1:30 - 2:30 PM)		
		2021 EXISTING	2023 NO-BUILD	2023 BUILD	2021 EXISTING	2023 NO-BUILD	2023 BUILD	2021 EXISTING	2023 NO-BUILD	2023 BUILD
		LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)	LOS DELAY (sec)
FIELDS CORNER ROAD										
NB	***OVERALL***	***c 17.5***	***c 18.5***	***c 18.5***	***b 13.5***	***b 14.2***	***b 14.3***	***b 12.4***	***b 12.4***	***b 12.3***
FAIR STREET										
EB	***OVERALL***	***a 0.0***	***a 0.0***	***a 0.0***	***a 0.0***	***a 0.0***	***a 0.0***	***a 0.0***	***a 0.0***	***a 0.0***
WB	L	a 8.7	a 8.8	a 8.8	a 8.3	a 8.3	a 8.3	a 7.8	a 7.8	a 7.9
	OVERALL	***a 0.1***	***a 0.2***	***a 0.2***	***a 0.1***	***a 0.2***	***a 0.2***	***a 0.1***	***a 0.1***	***a 0.2***
INTERSECTION		**a 0.2**	**a 0.3**	**a 0.3**	**a 0.2**	**a 0.4**	**a 0.4**	**a 0.2**	**a 0.2**	**a 0.3**

APPENDIX D

CAPACITY ANALYSIS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	25	21	229	11	687	3	182	144	622	214	2
Future Volume (vph)	5	25	21	229	11	687	3	182	144	622	214	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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				0.850			0.850		0.999	
Flt Protected		0.995			0.954		0.950			0.950		
Satd. Flow (prot)	0	1549	0	0	1735	1546	1762	1761	1479	1661	1725	0
Flt Permitted		0.968			0.696		0.611			0.548		
Satd. Flow (perm)	0	1507	0	0	1266	1546	1133	1761	1479	958	1725	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				523			158		1	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	5	27	23	252	12	755	3	200	158	684	235	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	0	0	264	755	3	200	158	684	237	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	

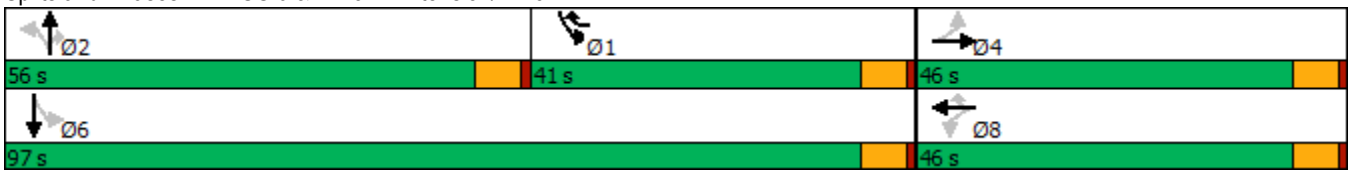


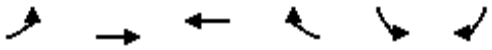
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		23.7			23.7	60.1	16.7	16.7	16.7	53.1	53.1	
Actuated g/C Ratio		0.27			0.27	0.67	0.19	0.19	0.19	0.59	0.59	
v/c Ratio		0.13			0.79	0.62	0.01	0.61	0.39	0.85	0.23	
Control Delay		18.7			49.7	4.8	34.3	44.6	9.1	31.7	10.0	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		18.7			49.7	4.8	34.3	44.6	9.1	31.7	10.0	
LOS		B			D	A	C	D	A	C	B	
Approach Delay		18.7			16.4			29.0			26.1	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)		15			148	43	2	111	0	240	56	
Queue Length 95th (ft)		47			263	146	10	207	55	#583	125	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)							105		260	390		
Base Capacity (vph)		721			596	1210	666	1036	935	931	1612	
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		0.08			0.44	0.62	0.00	0.19	0.17	0.73	0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 89.4			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 22.2		Intersection LOS: C	
Intersection Capacity Utilization 79.0%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

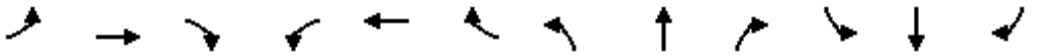
Splits and Phases: 2: US 6 & NY 312 Extension/NY 312



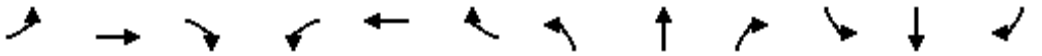


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	815	969	2	3	2
Future Volume (vph)	0	815	969	2	3	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	9	9
Grade (%)		2%	-2%		-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.955	
Flt Protected					0.968	
Satd. Flow (prot)	0	1775	1776	0	1309	0
Flt Permitted					0.968	
Satd. Flow (perm)	0	1775	1776	0	1309	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	6%	8%	50%	33%	0%
Adj. Flow (vph)	0	1006	1196	2	4	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1006	1198	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		9	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	1.13	1.13
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	226	412	160	253	553	118	136	107	151	213	191	378
Future Volume (vph)	226	412	160	253	553	118	136	107	151	213	191	378
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.974				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.983		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3226	0	1580	3250	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.983		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3226	0	1580	3250	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180		18				163			225
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	254	463	180	284	621	133	153	120	170	239	215	425
Shared Lane Traffic (%)							42%					
Lane Group Flow (vph)	254	463	180	284	754	0	89	184	170	239	215	425
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	36.0	34.0	26.0	36.0		34.0	34.0	26.0	34.0	34.0	26.0
Total Split (%)	20.0%	27.7%	26.2%	20.0%	27.7%		26.2%	26.2%	20.0%	26.2%	26.2%	20.0%
Maximum Green (s)	20.0	30.0	28.0	20.0	30.0		28.0	28.0	20.0	28.0	28.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	None	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	15.1	55.4	73.9	15.5	55.8		12.5	12.5	28.0	22.6	22.6	43.7
Actuated g/C Ratio	0.12	0.43	0.57	0.12	0.43		0.10	0.10	0.22	0.17	0.17	0.34
v/c Ratio	0.66	0.62	0.18	0.72	0.54		0.59	0.59	0.38	0.84	0.68	0.62
Control Delay	63.3	36.4	2.9	58.0	29.6		71.3	63.6	5.6	75.8	60.8	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.3	36.4	2.9	58.0	29.6		71.3	63.6	5.6	75.8	60.8	19.3
LOS	E	D	A	E	C		E	E	A	E	E	B
Approach Delay		37.3			37.4			42.9			44.8	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	107	301	0	112	228		80	83	3	196	170	138
Queue Length 95th (ft)	145	#541	37	m164	340		136	118	30	277	243	215
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	505	746	1140	510	1396		340	700	496	354	393	732
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.62	0.16	0.56	0.54		0.26	0.26	0.34	0.68	0.55	0.58

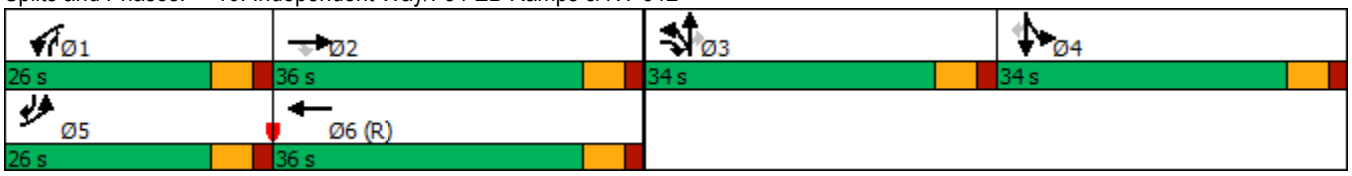
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Green, Master Intersection			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 40.1		Intersection LOS: D	
Intersection Capacity Utilization 65.3%		ICU Level of Service C	
Analysis Period (min) 15			

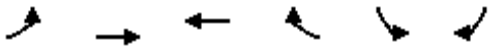
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

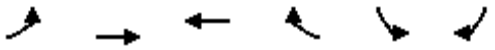
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	153	623	550	31	117	373
Future Volume (vph)	153	623	550	31	117	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.269				0.950	
Satd. Flow (perm)	489	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				36		60
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	176	716	632	36	134	429
Shared Lane Traffic (%)						
Lane Group Flow (vph)	176	716	632	36	134	429
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



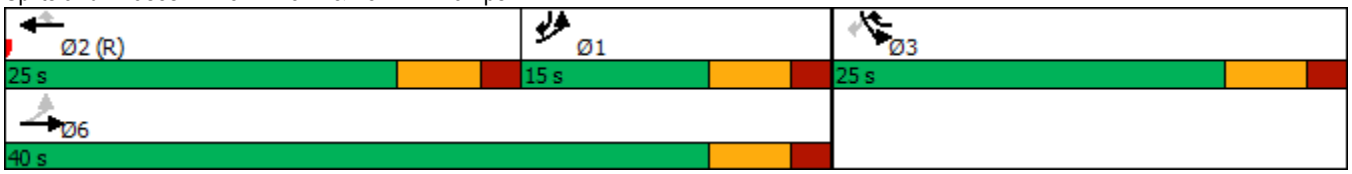
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	15.0	40.0	25.0	25.0	25.0	15.0
Total Split (%)	23.1%	61.5%	38.5%	38.5%	38.5%	23.1%
Maximum Green (s)	9.0	34.0	19.0	19.0	19.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	C-Max	None	None	None
Act Effct Green (s)	45.9	47.1	30.9	44.0	9.4	22.1
Actuated g/C Ratio	0.71	0.72	0.48	0.68	0.14	0.34
v/c Ratio	0.34	0.53	0.76	0.04	0.53	0.71
Control Delay	6.3	5.3	24.8	1.5	32.5	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.3	5.3	24.8	1.5	32.5	21.9
LOS	A	A	C	A	C	C
Approach Delay		5.5	23.5		24.4	
Approach LOS		A	C		C	
Queue Length 50th (ft)	15	66	208	0	50	116
Queue Length 95th (ft)	60	225	#410	6	88	173
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	516	1342	837	993	514	602
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.53	0.76	0.04	0.26	0.71

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 16.2		Intersection LOS: B	
Intersection Capacity Utilization 62.0%		ICU Level of Service B	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 13: NY 312 & I-84 WB Ramps



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	246	3	5	473	3	3
Future Volume (vph)	246	3	5	473	3	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998				0.932	
Flt Protected				0.999	0.976	
Satd. Flow (prot)	1515	0	0	1749	1129	0
Flt Permitted				0.999	0.976	
Satd. Flow (perm)	1515	0	0	1749	1129	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	19%	33%	60%	8%	33%	67%
Adj. Flow (vph)	324	4	7	622	4	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	328	0	0	629	8	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	38.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	815	969	2	3	2
Future Vol, veh/h	0	815	969	2	3	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	2	-2	-	-2	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	6	8	50	33	0
Mvmt Flow	0	1006	1196	2	4	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1198	0	-	0	2203	1197
Stage 1	-	-	-	-	1197	-
Stage 2	-	-	-	-	1006	-
Critical Hdwy	4.1	-	-	-	6.33	6
Critical Hdwy Stg 1	-	-	-	-	5.33	-
Critical Hdwy Stg 2	-	-	-	-	5.33	-
Follow-up Hdwy	2.2	-	-	-	3.797	3.3
Pot Cap-1 Maneuver	590	-	-	-	51	244
Stage 1	-	-	-	-	284	-
Stage 2	-	-	-	-	347	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	590	-	-	-	51	244
Mov Cap-2 Maneuver	-	-	-	-	51	-
Stage 1	-	-	-	-	284	-
Stage 2	-	-	-	-	347	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	57.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	590	-	-	-	75
HCM Lane V/C Ratio	-	-	-	-	0.082
HCM Control Delay (s)	0	-	-	-	57.3
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

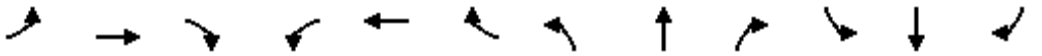
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	246	3	5	473	3	3
Future Vol, veh/h	246	3	5	473	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	19	33	60	8	33	67
Mvmt Flow	324	4	7	622	4	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	328	0	962	326
Stage 1	-	-	-	-	326	-
Stage 2	-	-	-	-	636	-
Critical Hdwy	-	-	4.7	-	7.53	7.27
Critical Hdwy Stg 1	-	-	-	-	6.53	-
Critical Hdwy Stg 2	-	-	-	-	6.53	-
Follow-up Hdwy	-	-	2.74	-	3.797	3.903
Pot Cap-1 Maneuver	-	-	968	-	202	567
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	411	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	968	-	200	567
Mov Cap-2 Maneuver	-	-	-	-	200	-
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	406	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	296	-	-	968	-
HCM Lane V/C Ratio	0.027	-	-	0.007	-
HCM Control Delay (s)	17.5	-	-	8.7	0
HCM Lane LOS	C	-	-	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)	5	26	21	238	12	742	3	202	150	699	218	2
Future Volume (vph)	5	26	21	238	12	742	3	202	150	699	218	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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				0.850			0.850		0.999	
Flt Protected		0.996			0.955		0.950			0.950		
Satd. Flow (prot)	0	1549	0	0	1737	1546	1762	1761	1479	1661	1725	0
Flt Permitted		0.969			0.695		0.608			0.488		
Satd. Flow (perm)	0	1507	0	0	1264	1546	1128	1761	1479	853	1725	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				481			165		1	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	5	29	23	262	13	815	3	222	165	768	240	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	275	815	3	222	165	768	242	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	

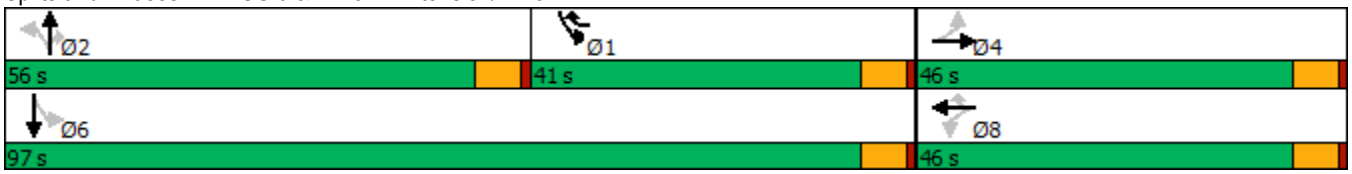


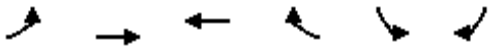
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		25.7			25.7	67.5	18.4	18.4	18.4	60.1	60.1	
Actuated g/C Ratio		0.26			0.26	0.69	0.19	0.19	0.19	0.61	0.61	
v/c Ratio		0.14			0.83	0.67	0.01	0.67	0.40	0.94	0.23	
Control Delay		19.3			55.8	6.6	34.7	48.9	8.9	45.1	10.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		19.3			55.8	6.6	34.7	48.9	8.9	45.1	10.3	
LOS		B			E	A	C	D	A	D	B	
Approach Delay		19.3			19.0			31.9			36.8	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)		16			160	78	2	128	0	313	61	
Queue Length 95th (ft)		49			281	241	10	234	56	#692	133	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)							105		260	390		
Base Capacity (vph)		639			524	1213	585	913	847	816	1577	
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		0.09			0.52	0.67	0.01	0.24	0.19	0.94	0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 98.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 28.0		Intersection LOS: C	
Intersection Capacity Utilization 84.8%		ICU Level of Service E	
Analysis Period (min) 15			

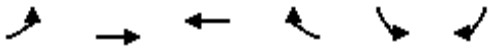
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312





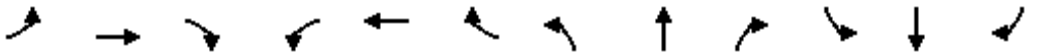
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	874	1049	100	33	9
Future Volume (vph)	24	874	1049	100	33	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	95	80
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1718	3372	1777	1539	3461	1740
Flt Permitted	0.157				0.950	
Satd. Flow (perm)	284	3372	1777	1539	3461	1740
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						11
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	4%	6%	8%	6%	9%	0%
Adj. Flow (vph)	30	1079	1295	123	41	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	1079	1295	123	41	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0	0	2	2
Detector Template					NYSDOT	NYSDOT
Leading Detector (ft)	0	0	0	0	83	83
Trailing Detector (ft)	0	0	0	0	-5	-5
Detector 1 Position(ft)	0	0	0	0	-5	-5
Detector 1 Size(ft)	20	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)					43	43
Detector 2 Size(ft)					40	40
Detector 2 Type					Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)					0.0	0.0



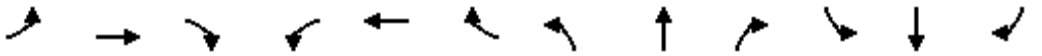
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	Perm	NA	NA	pm+ov	Prot	Perm
Protected Phases		6	2	3	3	
Permitted Phases	6			2		3
Detector Phase	6	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	140.0	140.0	140.0	20.0	20.0	20.0
Total Split (%)	87.5%	87.5%	87.5%	12.5%	12.5%	12.5%
Maximum Green (s)	134.0	134.0	134.0	14.0	14.0	14.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	140.6	140.6	140.6	160.0	7.4	7.4
Actuated g/C Ratio	0.88	0.88	0.88	1.00	0.05	0.05
v/c Ratio	0.12	0.36	0.83	0.08	0.25	0.12
Control Delay	2.5	2.1	10.6	0.1	77.0	34.2
Queue Delay	0.0	0.0	0.6	0.0	0.0	0.0
Total Delay	2.5	2.1	11.2	0.1	77.0	34.2
LOS	A	A	B	A	E	C
Approach Delay		2.2	10.3		68.0	
Approach LOS		A	B		E	
Queue Length 50th (ft)	3	77	446	0	21	0
Queue Length 95th (ft)	8	88	480	0	39	19
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100				95	80
Base Capacity (vph)	249	2962	1561	1536	302	162
Starvation Cap Reductn	0	0	68	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.36	0.87	0.08	0.14	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 8.0		Intersection LOS: A	
Intersection Capacity Utilization 69.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: NY 312 & Pugsley Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	256	458	169	252	663	127	152	110	148	222	195	437
Future Volume (vph)	256	458	169	252	663	127	152	110	148	222	195	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.976				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.982		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3234	0	1580	3247	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.982		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3234	0	1580	3247	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			190		16				145			196
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	288	515	190	283	745	143	171	124	166	249	219	491
Shared Lane Traffic (%)							44%					
Lane Group Flow (vph)	288	515	190	283	888	0	96	199	166	249	219	491
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	36.0	34.0	26.0	36.0		34.0	34.0	26.0	34.0	34.0	26.0
Total Split (%)	20.0%	27.7%	26.2%	20.0%	27.7%		26.2%	26.2%	20.0%	26.2%	26.2%	20.0%
Maximum Green (s)	20.0	30.0	28.0	20.0	30.0		28.0	28.0	20.0	28.0	28.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	None	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	16.3	54.2	73.3	15.5	53.5		13.1	13.1	28.6	23.2	23.2	45.5
Actuated g/C Ratio	0.13	0.42	0.56	0.12	0.41		0.10	0.10	0.22	0.18	0.18	0.35
v/c Ratio	0.70	0.71	0.20	0.71	0.66		0.61	0.61	0.38	0.85	0.67	0.72
Control Delay	63.7	40.3	2.8	57.3	33.3		71.3	63.6	6.7	76.4	59.8	26.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	40.3	2.8	57.3	33.3		71.3	63.6	6.7	76.4	59.8	26.9
LOS	E	D	A	E	C		E	E	A	E	E	C
Approach Delay		39.9			39.1			44.7			47.2	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	121	355	0	113	315		86	90	9	203	173	219
Queue Length 95th (ft)	163	#645	38	m145	#472		143	125	34	290	248	312
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	505	729	1129	510	1339		340	699	488	354	393	720
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.71	0.17	0.55	0.66		0.28	0.28	0.34	0.70	0.56	0.68

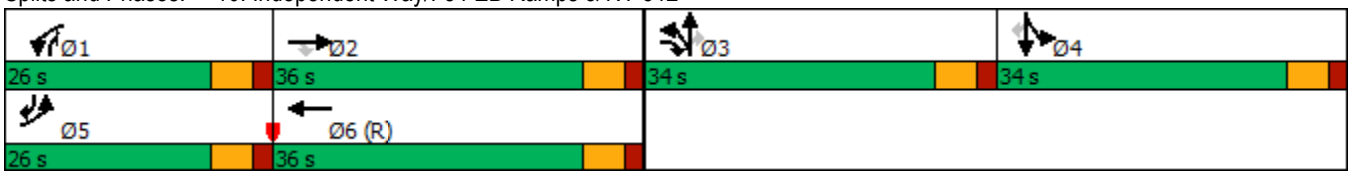
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Green, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 42.2		Intersection LOS: D	
Intersection Capacity Utilization 69.4%		ICU Level of Service C	
Analysis Period (min) 15			

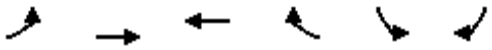
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

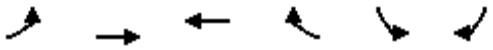
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	176	652	592	38	122	451
Future Volume (vph)	176	652	592	38	122	451
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.228				0.950	
Satd. Flow (perm)	415	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				44		48
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	202	749	680	44	140	518
Shared Lane Traffic (%)						
Lane Group Flow (vph)	202	749	680	44	140	518
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



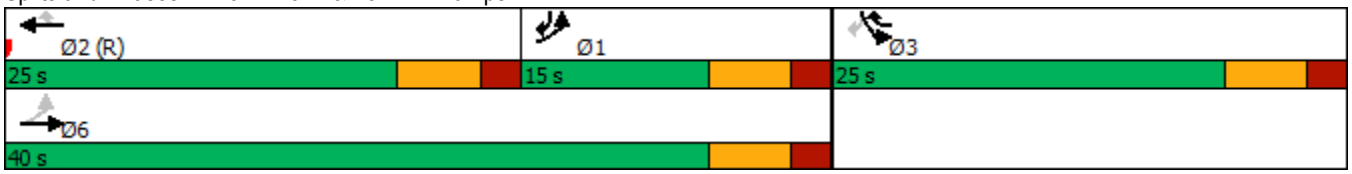
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	15.0	40.0	25.0	25.0	25.0	15.0
Total Split (%)	23.1%	61.5%	38.5%	38.5%	38.5%	23.1%
Maximum Green (s)	9.0	34.0	19.0	19.0	19.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	C-Max	None	None	None
Act Effct Green (s)	45.7	46.9	30.7	44.0	9.6	22.3
Actuated g/C Ratio	0.70	0.72	0.47	0.68	0.15	0.34
v/c Ratio	0.43	0.56	0.82	0.04	0.54	0.86
Control Delay	8.6	6.1	28.8	1.4	32.6	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	6.1	28.8	1.4	32.6	32.9
LOS	A	A	C	A	C	C
Approach Delay		6.6	27.1		32.8	
Approach LOS		A	C		C	
Queue Length 50th (ft)	17	69	235	0	52	161
Queue Length 95th (ft)	71	245	#458	7	91	230
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	473	1337	833	995	514	599
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.56	0.82	0.04	0.27	0.86

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 20.4		Intersection LOS: C	
Intersection Capacity Utilization 69.1%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 13: NY 312 & I-84 WB Ramps



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	254	5	10	485	4	4
Future Volume (vph)	254	5	10	485	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.932	
Flt Protected				0.999	0.976	
Satd. Flow (prot)	1512	0	0	1742	1129	0
Flt Permitted				0.999	0.976	
Satd. Flow (perm)	1512	0	0	1742	1129	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	19%	33%	60%	8%	33%	67%
Adj. Flow (vph)	334	7	13	638	5	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	341	0	0	651	10	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

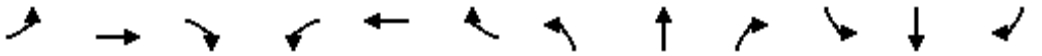
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	254	5	10	485	4	4
Future Vol, veh/h	254	5	10	485	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	19	33	60	8	33	67
Mvmt Flow	334	7	13	638	5	5

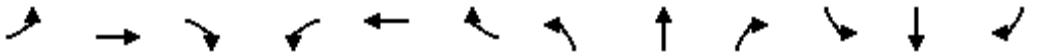
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	341	0	1002	338
Stage 1	-	-	-	-	338	-
Stage 2	-	-	-	-	664	-
Critical Hdwy	-	-	4.7	-	7.53	7.27
Critical Hdwy Stg 1	-	-	-	-	6.53	-
Critical Hdwy Stg 2	-	-	-	-	6.53	-
Follow-up Hdwy	-	-	2.74	-	3.797	3.903
Pot Cap-1 Maneuver	-	-	956	-	189	557
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	395	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	956	-	185	557
Mov Cap-2 Maneuver	-	-	-	-	185	-
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	387	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	278	-	-	956	-
HCM Lane V/C Ratio	0.038	-	-	0.014	-
HCM Control Delay (s)	18.5	-	-	8.8	0
HCM Lane LOS	C	-	-	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)	5	26	21	238	12	742	3	202	150	699	218	2
Future Volume (vph)	5	26	21	238	12	742	3	202	150	699	218	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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				0.850			0.850		0.999	
Flt Protected		0.996			0.955		0.950			0.950		
Satd. Flow (prot)	0	1549	0	0	1737	1546	1762	1761	1479	1661	1725	0
Flt Permitted		0.969			0.695		0.608			0.488		
Satd. Flow (perm)	0	1507	0	0	1264	1546	1128	1761	1479	853	1725	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				481			165		1	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	5	29	23	262	13	815	3	222	165	768	240	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	275	815	3	222	165	768	242	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	

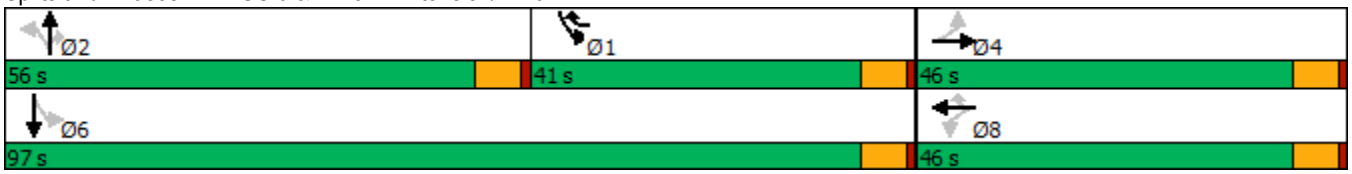


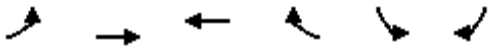
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		25.7			25.7	67.5	18.4	18.4	18.4	60.1	60.1	
Actuated g/C Ratio		0.26			0.26	0.69	0.19	0.19	0.19	0.61	0.61	
v/c Ratio		0.14			0.83	0.67	0.01	0.67	0.40	0.94	0.23	
Control Delay		19.3			55.8	6.6	34.7	48.9	8.9	45.1	10.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		19.3			55.8	6.6	34.7	48.9	8.9	45.1	10.3	
LOS		B			E	A	C	D	A	D	B	
Approach Delay		19.3			19.0			31.9			36.8	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)		16			160	78	2	128	0	313	61	
Queue Length 95th (ft)		49			281	241	10	234	56	#692	133	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)							105		260	390		
Base Capacity (vph)		639			524	1213	585	913	847	816	1577	
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		0.09			0.52	0.67	0.01	0.24	0.19	0.94	0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 98.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 28.0		Intersection LOS: C	
Intersection Capacity Utilization 84.8%		ICU Level of Service E	
Analysis Period (min) 15			

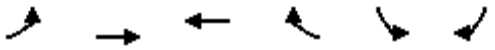
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312





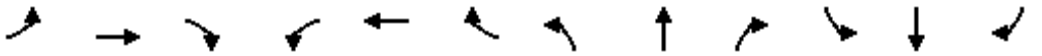
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	874	1049	100	33	9
Future Volume (vph)	24	874	1049	100	33	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	0	110
Storage Lanes	1			0	2	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.95
Frt			0.987		0.968	
Flt Protected	0.950				0.962	
Satd. Flow (prot)	1718	3372	3337	0	3453	0
Flt Permitted	0.140				0.962	
Satd. Flow (perm)	253	3372	3337	0	3453	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			25		11	
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	4%	6%	8%	6%	9%	0%
Adj. Flow (vph)	30	1079	1295	123	41	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	1079	1418	0	52	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0		2	
Detector Template					NYSDOT	
Leading Detector (ft)	0	0	0		83	
Trailing Detector (ft)	0	0	0		-5	
Detector 1 Position(ft)	0	0	0		-5	
Detector 1 Size(ft)	20	6	6		40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)					43	
Detector 2 Size(ft)					40	
Detector 2 Type					Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)					0.0	



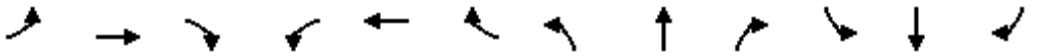
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	6	2		3	
Permitted Phases	6					
Detector Phase	1	6	2		3	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	11.0	11.0	11.0		11.0	
Total Split (s)	11.0	69.0	58.0		11.0	
Total Split (%)	13.8%	86.3%	72.5%		13.8%	
Maximum Green (s)	5.0	63.0	52.0		5.0	
Yellow Time (s)	4.0	4.0	4.0		4.0	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	C-Max	C-Max		None	
Act Effct Green (s)	67.4	69.8	65.4		5.0	
Actuated g/C Ratio	0.84	0.87	0.82		0.06	
v/c Ratio	0.10	0.37	0.52		0.23	
Control Delay	2.4	2.3	5.7		32.4	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	2.4	2.3	5.7		32.4	
LOS	A	A	A		C	
Approach Delay		2.3	5.7		32.4	
Approach LOS		A	A		C	
Queue Length 50th (ft)	2	63	96		10	
Queue Length 95th (ft)	6	72	211		24	
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100					
Base Capacity (vph)	304	2942	2732		226	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.10	0.37	0.52		0.23	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.52	
Intersection Signal Delay: 4.8	Intersection LOS: A
Intersection Capacity Utilization 46.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: NY 312 & Pugsley Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	256	458	169	252	663	127	152	110	148	222	195	437
Future Volume (vph)	256	458	169	252	663	127	152	110	148	222	195	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.976				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.982		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3234	0	1580	3247	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.982		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3234	0	1580	3247	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			190		16				145			196
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	288	515	190	283	745	143	171	124	166	249	219	491
Shared Lane Traffic (%)							44%					
Lane Group Flow (vph)	288	515	190	283	888	0	96	199	166	249	219	491
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	36.0	34.0	26.0	36.0		34.0	34.0	26.0	34.0	34.0	26.0
Total Split (%)	20.0%	27.7%	26.2%	20.0%	27.7%		26.2%	26.2%	20.0%	26.2%	26.2%	20.0%
Maximum Green (s)	20.0	30.0	28.0	20.0	30.0		28.0	28.0	20.0	28.0	28.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	None	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	16.3	54.2	73.3	15.5	53.5		13.1	13.1	28.6	23.2	23.2	45.5
Actuated g/C Ratio	0.13	0.42	0.56	0.12	0.41		0.10	0.10	0.22	0.18	0.18	0.35
v/c Ratio	0.70	0.71	0.20	0.71	0.66		0.61	0.61	0.38	0.85	0.67	0.72
Control Delay	63.7	40.3	2.8	57.3	33.3		71.3	63.6	6.7	76.4	59.8	26.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	40.3	2.8	57.3	33.3		71.3	63.6	6.7	76.4	59.8	26.9
LOS	E	D	A	E	C		E	E	A	E	E	C
Approach Delay		39.9			39.1			44.7			47.2	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	121	355	0	113	315		86	90	9	203	173	219
Queue Length 95th (ft)	163	#645	38	m145	#472		143	125	34	290	248	312
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	505	729	1129	510	1339		340	699	488	354	393	720
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.71	0.17	0.55	0.66		0.28	0.28	0.34	0.70	0.56	0.68

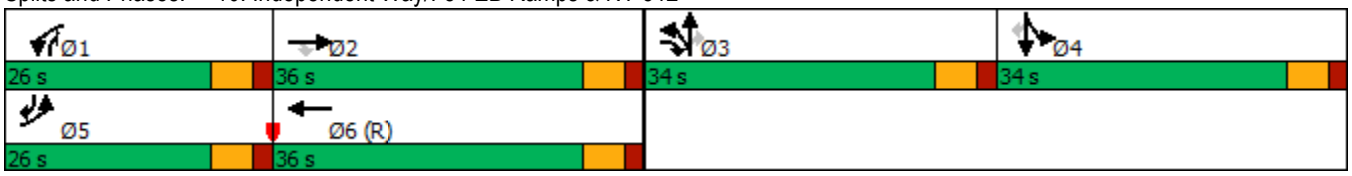
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Green, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 42.2		Intersection LOS: D	
Intersection Capacity Utilization 69.4%		ICU Level of Service C	
Analysis Period (min) 15			

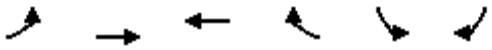
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

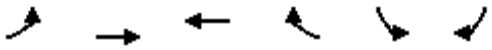
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	176	652	592	38	122	451
Future Volume (vph)	176	652	592	38	122	451
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.228				0.950	
Satd. Flow (perm)	415	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				44		48
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	202	749	680	44	140	518
Shared Lane Traffic (%)						
Lane Group Flow (vph)	202	749	680	44	140	518
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



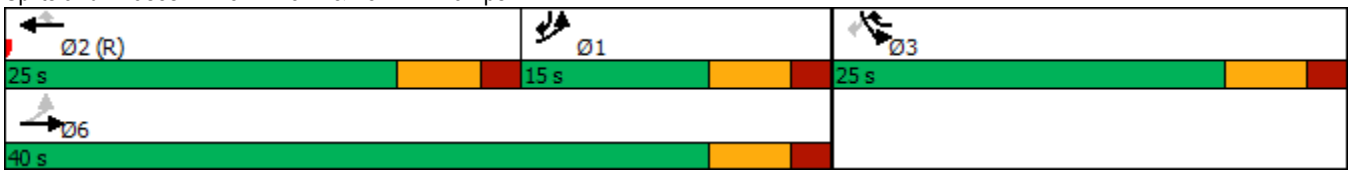
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	15.0	40.0	25.0	25.0	25.0	15.0
Total Split (%)	23.1%	61.5%	38.5%	38.5%	38.5%	23.1%
Maximum Green (s)	9.0	34.0	19.0	19.0	19.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	C-Max	None	None	None
Act Effct Green (s)	45.7	46.9	30.7	44.0	9.6	22.3
Actuated g/C Ratio	0.70	0.72	0.47	0.68	0.15	0.34
v/c Ratio	0.43	0.56	0.82	0.04	0.54	0.86
Control Delay	8.6	6.1	28.8	1.4	32.6	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	6.1	28.8	1.4	32.6	32.9
LOS	A	A	C	A	C	C
Approach Delay		6.6	27.1		32.8	
Approach LOS		A	C		C	
Queue Length 50th (ft)	17	69	235	0	52	161
Queue Length 95th (ft)	71	245	#458	7	91	230
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	473	1337	833	995	514	599
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.56	0.82	0.04	0.27	0.86

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 20.4		Intersection LOS: C	
Intersection Capacity Utilization 69.1%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 13: NY 312 & I-84 WB Ramps



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	254	5	10	485	4	4
Future Volume (vph)	254	5	10	485	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.932	
Flt Protected				0.999	0.976	
Satd. Flow (prot)	1512	0	0	1742	1129	0
Flt Permitted				0.999	0.976	
Satd. Flow (perm)	1512	0	0	1742	1129	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	19%	33%	60%	8%	33%	67%
Adj. Flow (vph)	334	7	13	638	5	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	341	0	0	651	10	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

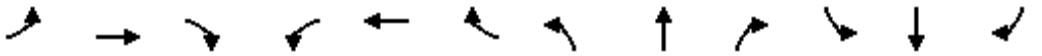
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	254	5	10	485	4	4
Future Vol, veh/h	254	5	10	485	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	19	33	60	8	33	67
Mvmt Flow	334	7	13	638	5	5

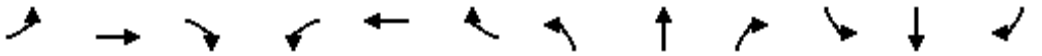
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	341	0	1002	338
Stage 1	-	-	-	-	338	-
Stage 2	-	-	-	-	664	-
Critical Hdwy	-	-	4.7	-	7.53	7.27
Critical Hdwy Stg 1	-	-	-	-	6.53	-
Critical Hdwy Stg 2	-	-	-	-	6.53	-
Follow-up Hdwy	-	-	2.74	-	3.797	3.903
Pot Cap-1 Maneuver	-	-	956	-	189	557
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	395	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	956	-	185	557
Mov Cap-2 Maneuver	-	-	-	-	185	-
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	387	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	278	-	-	956	-
HCM Lane V/C Ratio	0.038	-	-	0.014	-
HCM Control Delay (s)	18.5	-	-	8.8	0
HCM Lane LOS	C	-	-	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)	5	26	21	238	12	744	3	202	152	711	218	2
Future Volume (vph)	5	26	21	238	12	744	3	202	152	711	218	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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				0.850			0.850		0.999	
Flt Protected		0.996			0.955		0.950			0.950		
Satd. Flow (prot)	0	1549	0	0	1737	1546	1762	1761	1479	1661	1725	0
Flt Permitted		0.969			0.695		0.608			0.488		
Satd. Flow (perm)	0	1507	0	0	1264	1546	1128	1761	1479	853	1725	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				481			167		1	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	5	29	23	262	13	818	3	222	167	781	240	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	275	818	3	222	167	781	242	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	

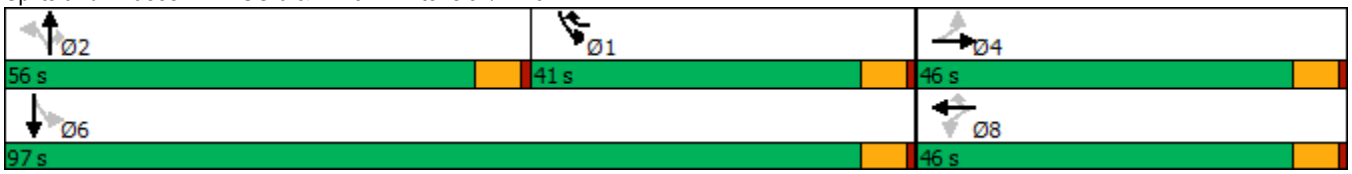


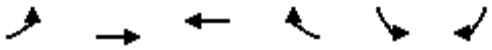
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		25.7			25.7	67.5	18.4	18.4	18.4	60.1	60.1	
Actuated g/C Ratio		0.26			0.26	0.69	0.19	0.19	0.19	0.61	0.61	
v/c Ratio		0.14			0.83	0.67	0.01	0.67	0.40	0.96	0.23	
Control Delay		19.3			55.8	6.7	34.7	48.9	8.9	48.0	10.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		19.3			55.8	6.7	34.7	48.9	8.9	48.0	10.3	
LOS		B			E	A	C	D	A	D	B	
Approach Delay		19.3			19.0			31.7			39.1	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)		16			160	79	2	128	0	323	61	
Queue Length 95th (ft)		49			281	244	10	234	56	#716	133	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)							105		260	390		
Base Capacity (vph)		639			524	1213	585	913	847	816	1577	
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		0.09			0.52	0.67	0.01	0.24	0.20	0.96	0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 98.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 29.0		Intersection LOS: C	
Intersection Capacity Utilization 85.5%		ICU Level of Service E	
Analysis Period (min) 15			

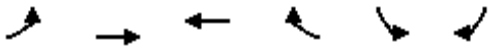
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312





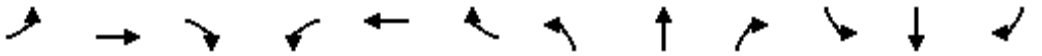
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	38	874	1049	131	37	11
Future Volume (vph)	38	874	1049	131	37	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	95	80
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1718	3372	1777	1539	3461	1740
Flt Permitted	0.155				0.950	
Satd. Flow (perm)	280	3372	1777	1539	3461	1740
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						14
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	4%	6%	8%	6%	9%	0%
Adj. Flow (vph)	47	1079	1295	162	46	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	1079	1295	162	46	14
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0	0	2	2
Detector Template					NYSDOT	NYSDOT
Leading Detector (ft)	0	0	0	0	83	83
Trailing Detector (ft)	0	0	0	0	-5	-5
Detector 1 Position(ft)	0	0	0	0	-5	-5
Detector 1 Size(ft)	20	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)					43	43
Detector 2 Size(ft)					40	40
Detector 2 Type					Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)					0.0	0.0



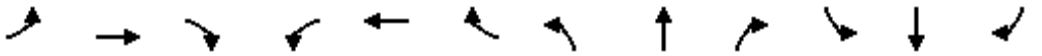
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	Perm	NA	NA	pm+ov	Prot	Perm
Protected Phases		6	2	3	3	
Permitted Phases	6			2		3
Detector Phase	6	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	140.0	140.0	140.0	20.0	20.0	20.0
Total Split (%)	87.5%	87.5%	87.5%	12.5%	12.5%	12.5%
Maximum Green (s)	134.0	134.0	134.0	14.0	14.0	14.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	140.3	140.3	140.3	160.0	7.7	7.7
Actuated g/C Ratio	0.88	0.88	0.88	1.00	0.05	0.05
v/c Ratio	0.19	0.36	0.83	0.11	0.28	0.15
Control Delay	3.5	2.2	10.8	0.1	77.3	32.3
Queue Delay	0.0	0.0	0.6	0.0	0.0	0.0
Total Delay	3.5	2.2	11.4	0.1	77.3	32.3
LOS	A	A	B	A	E	C
Approach Delay		2.2	10.2		66.8	
Approach LOS		A	B		E	
Queue Length 50th (ft)	5	78	452	0	24	0
Queue Length 95th (ft)	12	90	490	0	42	21
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100				95	80
Base Capacity (vph)	245	2957	1558	1535	302	165
Starvation Cap Reductn	0	0	67	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.36	0.87	0.11	0.15	0.08

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 8.1		Intersection LOS: A	
Intersection Capacity Utilization 69.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: NY 312 & Pugsley Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	258	460	169	252	685	127	152	110	148	222	195	446
Future Volume (vph)	258	460	169	252	685	127	152	110	148	222	195	446
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.982		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3238	0	1580	3247	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.982		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3238	0	1580	3247	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			190		15				144			195
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	290	517	190	283	770	143	171	124	166	249	219	501
Shared Lane Traffic (%)							44%					
Lane Group Flow (vph)	290	517	190	283	913	0	96	199	166	249	219	501
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	36.0	34.0	26.0	36.0		34.0	34.0	26.0	34.0	34.0	26.0
Total Split (%)	20.0%	27.7%	26.2%	20.0%	27.7%		26.2%	26.2%	20.0%	26.2%	26.2%	20.0%
Maximum Green (s)	20.0	30.0	28.0	20.0	30.0		28.0	28.0	20.0	28.0	28.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	None	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	16.3	54.2	73.3	15.5	53.4		13.1	13.1	28.6	23.2	23.2	45.5
Actuated g/C Ratio	0.13	0.42	0.56	0.12	0.41		0.10	0.10	0.22	0.18	0.18	0.35
v/c Ratio	0.71	0.71	0.20	0.71	0.68		0.61	0.61	0.38	0.85	0.67	0.74
Control Delay	63.9	40.4	2.8	57.0	33.7		71.3	63.6	6.8	76.4	59.8	27.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	40.4	2.8	57.0	33.7		71.3	63.6	6.8	76.4	59.8	27.9
LOS	E	D	A	E	C		E	E	A	E	E	C
Approach Delay		40.1			39.2			44.7			47.6	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	122	357	0	113	328		86	90	9	203	173	229
Queue Length 95th (ft)	164	#649	38	m141	m#485		143	125	35	290	248	325
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	505	729	1129	510	1339		340	699	488	354	393	720
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.71	0.17	0.55	0.68		0.28	0.28	0.34	0.70	0.56	0.70

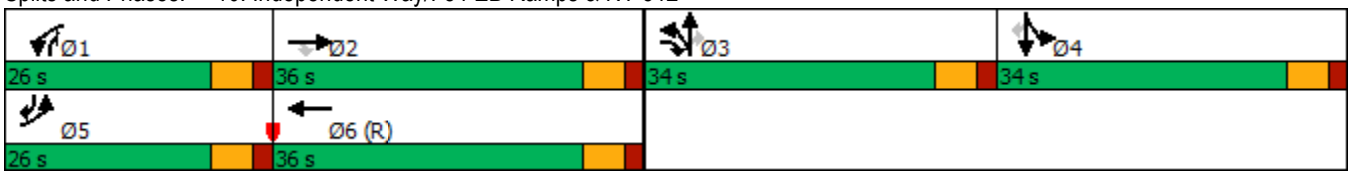
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Green, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 42.4		Intersection LOS: D	
Intersection Capacity Utilization 70.6%		ICU Level of Service C	
Analysis Period (min) 15			

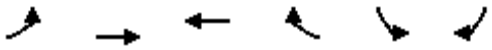
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

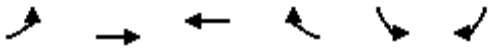
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	177	653	599	38	122	465
Future Volume (vph)	177	653	599	38	122	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.221				0.950	
Satd. Flow (perm)	402	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				44		46
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	203	751	689	44	140	534
Shared Lane Traffic (%)						
Lane Group Flow (vph)	203	751	689	44	140	534
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



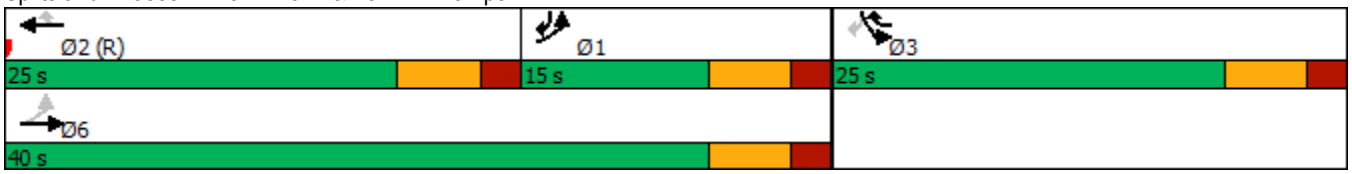
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	15.0	40.0	25.0	25.0	25.0	15.0
Total Split (%)	23.1%	61.5%	38.5%	38.5%	38.5%	23.1%
Maximum Green (s)	9.0	34.0	19.0	19.0	19.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	C-Max	None	None	None
Act Effct Green (s)	45.7	46.9	30.7	44.0	9.6	22.3
Actuated g/C Ratio	0.70	0.72	0.47	0.68	0.15	0.34
v/c Ratio	0.44	0.56	0.83	0.04	0.54	0.89
Control Delay	8.8	6.1	29.6	1.4	32.6	36.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	6.1	29.6	1.4	32.6	36.5
LOS	A	A	C	A	C	D
Approach Delay		6.7	27.9		35.7	
Approach LOS		A	C		D	
Queue Length 50th (ft)	17	69	240	0	52	170
Queue Length 95th (ft)	72	245	#467	7	91	242
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	466	1337	833	995	514	597
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.56	0.83	0.04	0.27	0.89

Intersection Summary	
Area Type:	Other
Cycle Length: 65	
Actuated Cycle Length: 65	
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 21.5	Intersection LOS: C
Intersection Capacity Utilization 70.3%	ICU Level of Service C
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 13: NY 312 & I-84 WB Ramps



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	254	5	10	485	4	4
Future Volume (vph)	254	5	10	485	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.932	
Flt Protected				0.999	0.976	
Satd. Flow (prot)	1512	0	0	1742	1129	0
Flt Permitted				0.999	0.976	
Satd. Flow (perm)	1512	0	0	1742	1129	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	19%	33%	60%	8%	33%	67%
Adj. Flow (vph)	334	7	13	638	5	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	341	0	0	651	10	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

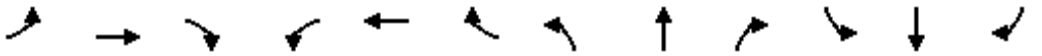
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	254	5	10	485	4	4
Future Vol, veh/h	254	5	10	485	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	19	33	60	8	33	67
Mvmt Flow	334	7	13	638	5	5

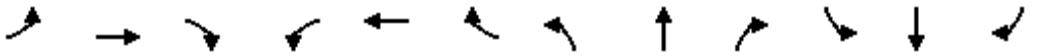
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	341	0	1002	338
Stage 1	-	-	-	-	338	-
Stage 2	-	-	-	-	664	-
Critical Hdwy	-	-	4.7	-	7.53	7.27
Critical Hdwy Stg 1	-	-	-	-	6.53	-
Critical Hdwy Stg 2	-	-	-	-	6.53	-
Follow-up Hdwy	-	-	2.74	-	3.797	3.903
Pot Cap-1 Maneuver	-	-	956	-	189	557
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	395	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	956	-	185	557
Mov Cap-2 Maneuver	-	-	-	-	185	-
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	387	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	278	-	-	956	-
HCM Lane V/C Ratio	0.038	-	-	0.014	-
HCM Control Delay (s)	18.5	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-



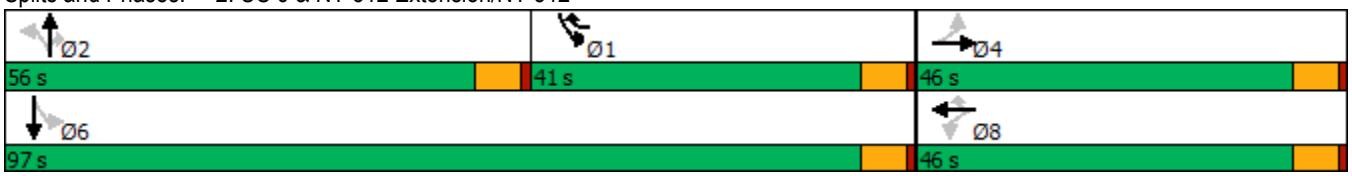
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	26	21	238	12	744	3	202	152	711	218	2
Future Volume (vph)	5	26	21	238	12	744	3	202	152	711	218	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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				0.850			0.850		0.999	
Flt Protected		0.996			0.955		0.950			0.950		
Satd. Flow (prot)	0	1549	0	0	1737	1546	1762	1761	1479	1661	1725	0
Flt Permitted		0.969			0.695		0.608			0.488		
Satd. Flow (perm)	0	1507	0	0	1264	1546	1128	1761	1479	853	1725	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				481			167		1	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	5	29	23	262	13	818	3	222	167	781	240	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	0	0	275	818	3	222	167	781	242	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	

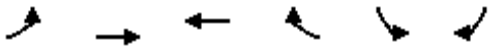


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		25.7			25.7	67.5	18.4	18.4	18.4	60.1	60.1	
Actuated g/C Ratio		0.26			0.26	0.69	0.19	0.19	0.19	0.61	0.61	
v/c Ratio		0.14			0.83	0.67	0.01	0.67	0.40	0.96	0.23	
Control Delay		19.3			55.8	6.7	34.7	48.9	8.9	48.0	10.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		19.3			55.8	6.7	34.7	48.9	8.9	48.0	10.3	
LOS		B			E	A	C	D	A	D	B	
Approach Delay		19.3			19.0			31.7			39.1	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)		16			160	79	2	128	0	323	61	
Queue Length 95th (ft)		49			281	244	10	234	56	#716	133	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)							105		260	390		
Base Capacity (vph)		639			524	1213	585	913	847	816	1577	
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		0.09			0.52	0.67	0.01	0.24	0.20	0.96	0.15	

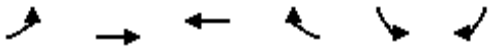
Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 98.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 29.0		Intersection LOS: C	
Intersection Capacity Utilization 85.5%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312





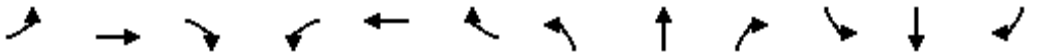
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	38	874	1049	131	37	11
Future Volume (vph)	38	874	1049	131	37	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	0	110
Storage Lanes	1			0	2	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.95
Frt			0.983		0.965	
Flt Protected	0.950				0.963	
Satd. Flow (prot)	1718	3372	3325	0	3452	0
Flt Permitted	0.126				0.963	
Satd. Flow (perm)	228	3372	3325	0	3452	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			34		14	
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	4%	6%	8%	6%	9%	0%
Adj. Flow (vph)	47	1079	1295	162	46	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	1079	1457	0	60	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0		2	
Detector Template					NYSDOT	
Leading Detector (ft)	0	0	0		83	
Trailing Detector (ft)	0	0	0		-5	
Detector 1 Position(ft)	0	0	0		-5	
Detector 1 Size(ft)	20	6	6		40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)					43	
Detector 2 Size(ft)					40	
Detector 2 Type					Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)					0.0	



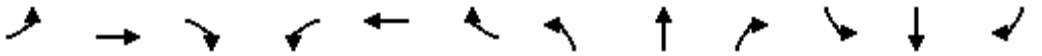
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	6	2		3	
Permitted Phases	6					
Detector Phase	1	6	2		3	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	11.0	11.0	11.0		11.0	
Total Split (s)	11.0	69.0	58.0		11.0	
Total Split (%)	13.8%	86.3%	72.5%		13.8%	
Maximum Green (s)	5.0	63.0	52.0		5.0	
Yellow Time (s)	4.0	4.0	4.0		4.0	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	C-Max	C-Max		None	
Act Effct Green (s)	65.2	66.4	59.8		5.0	
Actuated g/C Ratio	0.82	0.83	0.75		0.06	
v/c Ratio	0.17	0.39	0.58		0.26	
Control Delay	3.2	2.8	7.7		32.2	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	3.2	2.8	7.7		32.2	
LOS	A	A	A		C	
Approach Delay		2.8	7.7		32.2	
Approach LOS		A	A		C	
Queue Length 50th (ft)	4	63	202		11	
Queue Length 95th (ft)	8	72	218		26	
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100					
Base Capacity (vph)	278	2798	2494		228	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.17	0.39	0.58		0.26	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 6.2	Intersection LOS: A
Intersection Capacity Utilization 47.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: NY 312 & Pugsley Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	258	460	169	252	685	127	152	110	148	222	195	446
Future Volume (vph)	258	460	169	252	685	127	152	110	148	222	195	446
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.982		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3238	0	1580	3247	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.982		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3238	0	1580	3247	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			190		15				144			195
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	290	517	190	283	770	143	171	124	166	249	219	501
Shared Lane Traffic (%)							44%					
Lane Group Flow (vph)	290	517	190	283	913	0	96	199	166	249	219	501
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	36.0	34.0	26.0	36.0		34.0	34.0	26.0	34.0	34.0	26.0
Total Split (%)	20.0%	27.7%	26.2%	20.0%	27.7%		26.2%	26.2%	20.0%	26.2%	26.2%	20.0%
Maximum Green (s)	20.0	30.0	28.0	20.0	30.0		28.0	28.0	20.0	28.0	28.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	None	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	16.3	54.2	73.3	15.5	53.4		13.1	13.1	28.6	23.2	23.2	45.5
Actuated g/C Ratio	0.13	0.42	0.56	0.12	0.41		0.10	0.10	0.22	0.18	0.18	0.35
v/c Ratio	0.71	0.71	0.20	0.71	0.68		0.61	0.61	0.38	0.85	0.67	0.74
Control Delay	63.9	40.4	2.8	57.0	33.7		71.3	63.6	6.8	76.4	59.8	27.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	40.4	2.8	57.0	33.7		71.3	63.6	6.8	76.4	59.8	27.9
LOS	E	D	A	E	C		E	E	A	E	E	C
Approach Delay		40.1			39.2			44.7			47.6	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	122	357	0	113	328		86	90	9	203	173	229
Queue Length 95th (ft)	164	#649	38	m141	m#485		143	125	35	290	248	325
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	505	729	1129	510	1339		340	699	488	354	393	720
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.71	0.17	0.55	0.68		0.28	0.28	0.34	0.70	0.56	0.70

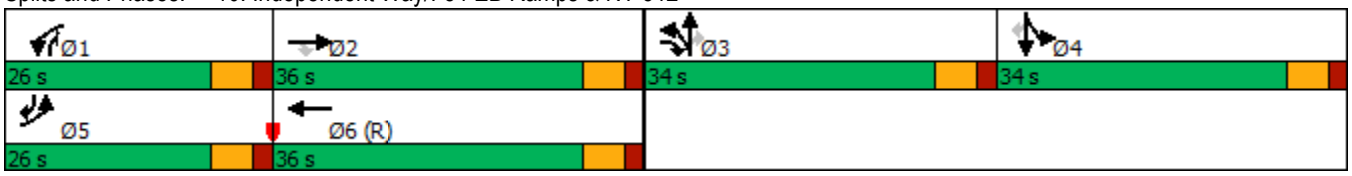
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Green, Master Intersection			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 42.4		Intersection LOS: D	
Intersection Capacity Utilization 70.6%		ICU Level of Service C	
Analysis Period (min) 15			

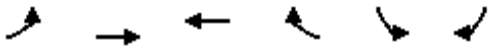
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

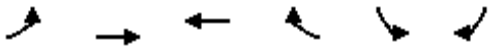
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	177	653	599	38	122	465
Future Volume (vph)	177	653	599	38	122	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.221				0.950	
Satd. Flow (perm)	402	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				44		46
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	203	751	689	44	140	534
Shared Lane Traffic (%)						
Lane Group Flow (vph)	203	751	689	44	140	534
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



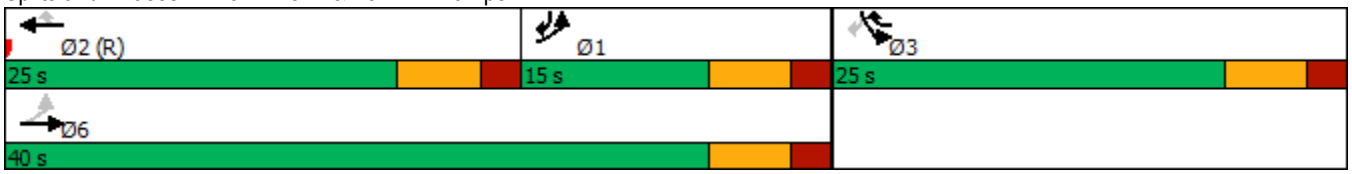
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	15.0	40.0	25.0	25.0	25.0	15.0
Total Split (%)	23.1%	61.5%	38.5%	38.5%	38.5%	23.1%
Maximum Green (s)	9.0	34.0	19.0	19.0	19.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	C-Max	None	None	None
Act Effct Green (s)	45.7	46.9	30.7	44.0	9.6	22.3
Actuated g/C Ratio	0.70	0.72	0.47	0.68	0.15	0.34
v/c Ratio	0.44	0.56	0.83	0.04	0.54	0.89
Control Delay	8.8	6.1	29.6	1.4	32.6	36.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	6.1	29.6	1.4	32.6	36.5
LOS	A	A	C	A	C	D
Approach Delay		6.7	27.9		35.7	
Approach LOS		A	C		D	
Queue Length 50th (ft)	17	69	240	0	52	170
Queue Length 95th (ft)	72	245	#467	7	91	242
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	466	1337	833	995	514	597
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.56	0.83	0.04	0.27	0.89

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 21.5		Intersection LOS: C	
Intersection Capacity Utilization 70.3%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 13: NY 312 & I-84 WB Ramps



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	254	5	10	485	4	4
Future Volume (vph)	254	5	10	485	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.932	
Flt Protected				0.999	0.976	
Satd. Flow (prot)	1512	0	0	1742	1129	0
Flt Permitted				0.999	0.976	
Satd. Flow (perm)	1512	0	0	1742	1129	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Heavy Vehicles (%)	19%	33%	60%	8%	33%	67%
Adj. Flow (vph)	334	7	13	638	5	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	341	0	0	651	10	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

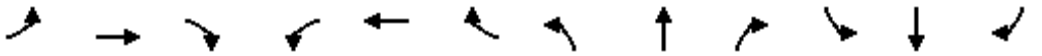
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	254	5	10	485	4	4
Future Vol, veh/h	254	5	10	485	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	19	33	60	8	33	67
Mvmt Flow	334	7	13	638	5	5

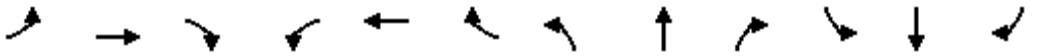
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	341	0	1002	338
Stage 1	-	-	-	-	338	-
Stage 2	-	-	-	-	664	-
Critical Hdwy	-	-	4.7	-	7.53	7.27
Critical Hdwy Stg 1	-	-	-	-	6.53	-
Critical Hdwy Stg 2	-	-	-	-	6.53	-
Follow-up Hdwy	-	-	2.74	-	3.797	3.903
Pot Cap-1 Maneuver	-	-	956	-	189	557
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	395	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	956	-	185	557
Mov Cap-2 Maneuver	-	-	-	-	185	-
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	387	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	278	-	-	956	-
HCM Lane V/C Ratio	0.038	-	-	0.014	-
HCM Control Delay (s)	18.5	-	-	8.8	0
HCM Lane LOS	C	-	-	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)	7	15	2	130	18	835	0	251	206	748	220	7
Future Volume (vph)	7	15	2	130	18	835	0	251	206	748	220	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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		0.990				0.850			0.850		0.995	
Flt Protected		0.985			0.958					0.950		
Satd. Flow (prot)	0	1458	0	0	1742	1546	1855	1761	1479	1661	1722	0
Flt Permitted		0.897			0.734					0.438		
Satd. Flow (perm)	0	1328	0	0	1335	1546	1855	1761	1479	766	1722	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				393			226		2	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	8	16	2	143	20	918	0	276	226	822	242	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	163	918	0	276	226	822	250	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	

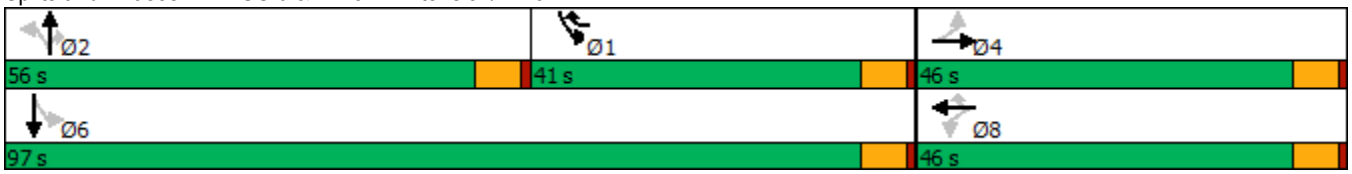


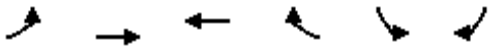
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		16.6			16.6	58.2		20.0	20.0	61.6	61.6	
Actuated g/C Ratio		0.18			0.18	0.64		0.22	0.22	0.68	0.68	
v/c Ratio		0.11			0.67	0.81		0.71	0.45	0.94	0.21	
Control Delay		31.0			48.9	14.2		43.7	7.3	40.4	6.5	
Queue Delay		0.0			0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay		31.0			48.9	14.2		43.7	7.3	40.4	6.5	
LOS		C			D	B		D	A	D	A	
Approach Delay		31.0			19.4			27.3			32.5	
Approach LOS		C			B			C			C	
Queue Length 50th (ft)		11			86	190		144	0	273	45	
Queue Length 95th (ft)		37			170	527		252	57	#670	99	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)									260	390		
Base Capacity (vph)		597			599	1135		988	929	873	1649	
Starvation Cap Reductn		0			0	0		0	0	0	0	
Spillback Cap Reductn		0			0	0		0	0	0	0	
Storage Cap Reductn		0			0	0		0	0	0	0	
Reduced v/c Ratio		0.04			0.27	0.81		0.28	0.24	0.94	0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 90.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 26.2		Intersection LOS: C	
Intersection Capacity Utilization 84.5%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

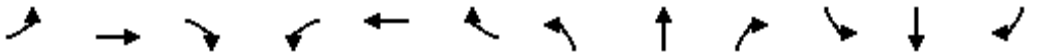
Splits and Phases: 2: US 6 & NY 312 Extension/NY 312



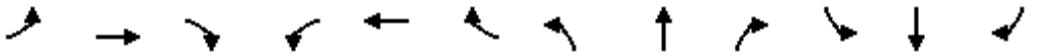


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	995	981	10	3	1
Future Volume (vph)	0	995	981	10	3	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	9	9
Grade (%)		2%	-2%		-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.966	
Flt Protected					0.964	
Satd. Flow (prot)	0	1844	1917	0	1608	0
Flt Permitted					0.964	
Satd. Flow (perm)	0	1844	1917	0	1608	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	2%	0%	0%	0%	0%
Adj. Flow (vph)	0	1157	1141	12	3	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1157	1153	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		9	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	1.13	1.13
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	591	275	322	561	102	279	110	408	104	103	134
Future Volume (vph)	208	591	275	322	561	102	279	110	408	104	103	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.973		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3238	0	1580	3223	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.973		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3238	0	1580	3223	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			279		15				273			92
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	234	664	309	362	630	115	313	124	458	117	116	151
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	234	664	309	362	745	0	156	281	458	117	116	151
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	36.0	34.0	26.0	36.0		34.0	34.0	26.0	34.0	34.0	26.0
Total Split (%)	20.0%	27.7%	26.2%	20.0%	27.7%		26.2%	26.2%	20.0%	26.2%	26.2%	20.0%
Maximum Green (s)	20.0	30.0	28.0	20.0	30.0		28.0	28.0	20.0	28.0	28.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	None	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	13.7	55.7	80.2	18.1	60.1		18.5	18.5	36.6	13.7	13.7	33.4
Actuated g/C Ratio	0.11	0.43	0.62	0.14	0.46		0.14	0.14	0.28	0.11	0.11	0.26
v/c Ratio	0.68	0.89	0.29	0.79	0.50		0.70	0.61	0.74	0.68	0.60	0.32
Control Delay	65.8	51.1	2.9	58.9	26.1		68.3	57.4	16.8	74.2	67.7	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.8	51.1	2.9	58.9	26.1		68.3	57.4	16.8	74.2	67.7	16.3
LOS	E	D	A	E	C		E	E	B	E	E	B
Approach Delay		41.6			36.8			38.5			49.5	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	99	515	10	145	193		139	124	96	96	95	39
Queue Length 95th (ft)	137	#911	51	m202	m339		205	159	136	154	150	85
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	505	750	1173	510	1504		340	694	635	354	393	547
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.89	0.26	0.71	0.50		0.46	0.40	0.72	0.33	0.30	0.28

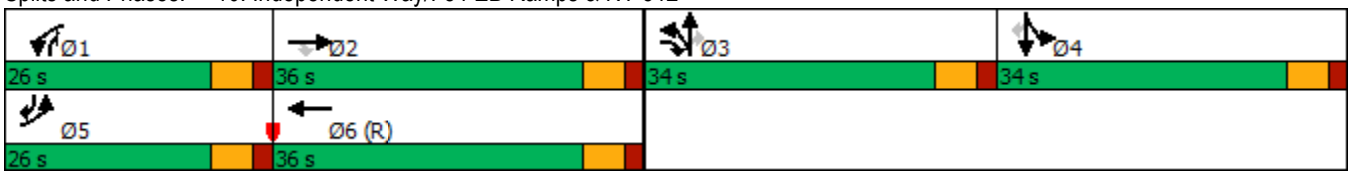
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Green, Master Intersection			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 40.2		Intersection LOS: D	
Intersection Capacity Utilization 77.1%		ICU Level of Service D	
Analysis Period (min) 15			

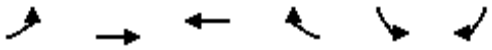
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

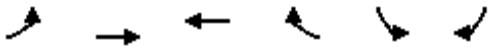
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	490	613	540	87	102	444
Future Volume (vph)	490	613	540	87	102	444
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.283				0.950	
Satd. Flow (perm)	515	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				55		64
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	563	705	621	100	117	510
Shared Lane Traffic (%)						
Lane Group Flow (vph)	563	705	621	100	117	510
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	15.0	40.0	25.0	25.0	25.0	15.0
Total Split (%)	23.1%	61.5%	38.5%	38.5%	38.5%	23.1%
Maximum Green (s)	9.0	34.0	19.0	19.0	19.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	C-Max	None	None	None
Act Effct Green (s)	46.4	47.6	31.4	44.0	8.8	21.6
Actuated g/C Ratio	0.71	0.73	0.48	0.68	0.14	0.33
v/c Ratio	1.05	0.52	0.73	0.10	0.49	0.86
Control Delay	65.6	6.1	23.0	2.2	32.3	32.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.6	6.1	23.0	2.2	32.3	32.3
LOS	E	A	C	A	C	C
Approach Delay		32.5	20.1		32.3	
Approach LOS		C	C		C	
Queue Length 50th (ft)	~166	109	199	5	44	154
Queue Length 95th (ft)	m#469	m276	#391	16	80	226
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	535	1357	852	1002	514	591
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.52	0.73	0.10	0.23	0.86

Intersection Summary	
Area Type:	Other
Cycle Length: 65	
Actuated Cycle Length: 65	
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 29.1	Intersection LOS: C
Intersection Capacity Utilization 76.2%	ICU Level of Service D
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.

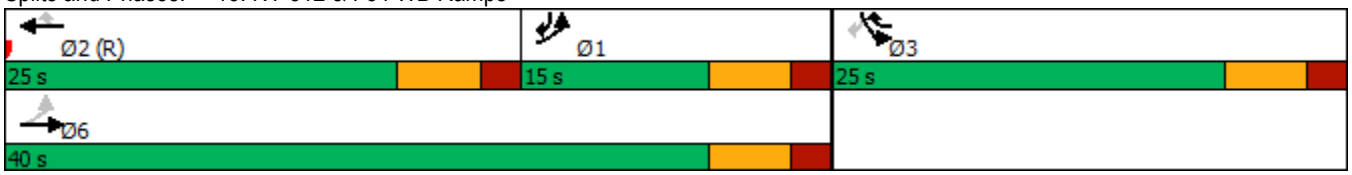
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: NY 312 & I-84 WB Ramps



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	408	3	4	284	3	7
Future Volume (vph)	408	3	4	284	3	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999				0.902	
Flt Protected				0.999	0.987	
Satd. Flow (prot)	1772	0	0	1810	1505	0
Flt Permitted				0.999	0.987	
Satd. Flow (perm)	1772	0	0	1810	1505	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	0%	5%	0%	14%
Adj. Flow (vph)	464	3	5	323	3	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	467	0	0	328	11	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	995	981	10	3	1
Future Vol, veh/h	0	995	981	10	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	2	-2	-	-2	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	2	0	0	0	0
Mvmt Flow	0	1157	1141	12	3	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1153	0	-	0	2304	1147
Stage 1	-	-	-	-	1147	-
Stage 2	-	-	-	-	1157	-
Critical Hdwy	4.1	-	-	-	6	6
Critical Hdwy Stg 1	-	-	-	-	5	-
Critical Hdwy Stg 2	-	-	-	-	5	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	613	-	-	-	55	261
Stage 1	-	-	-	-	347	-
Stage 2	-	-	-	-	344	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	613	-	-	-	55	261
Mov Cap-2 Maneuver	-	-	-	-	55	-
Stage 1	-	-	-	-	347	-
Stage 2	-	-	-	-	344	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	60.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	613	-	-	-	69
HCM Lane V/C Ratio	-	-	-	-	0.067
HCM Control Delay (s)	0	-	-	-	60.9
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.2

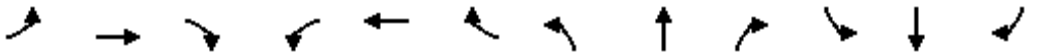
Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	408	3	4	284	3	7
Future Vol, veh/h	408	3	4	284	3	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	0	0	5	0	14
Mvmt Flow	464	3	5	323	3	8

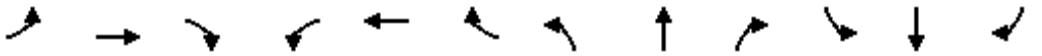
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	467	0	799	466
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	333	-
Critical Hdwy	-	-	4.1	-	7.2	6.74
Critical Hdwy Stg 1	-	-	-	-	6.2	-
Critical Hdwy Stg 2	-	-	-	-	6.2	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.426
Pot Cap-1 Maneuver	-	-	1105	-	299	544
Stage 1	-	-	-	-	573	-
Stage 2	-	-	-	-	679	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1105	-	297	544
Mov Cap-2 Maneuver	-	-	-	-	297	-
Stage 1	-	-	-	-	573	-
Stage 2	-	-	-	-	675	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	435	-	-	1105	-
HCM Lane V/C Ratio	0.026	-	-	0.004	-
HCM Control Delay (s)	13.5	-	-	8.3	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)	7	15	2	140	18	946	0	259	216	834	219	7
Future Volume (vph)	7	15	2	140	18	946	0	259	216	834	219	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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		0.990				0.850			0.850		0.995	
Flt Protected		0.985			0.958					0.950		
Satd. Flow (prot)	0	1458	0	0	1742	1546	1855	1761	1479	1661	1722	0
Flt Permitted		0.898			0.732					0.424		
Satd. Flow (perm)	0	1330	0	0	1331	1546	1855	1761	1479	741	1722	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				380			237		2	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	8	16	2	154	20	1040	0	285	237	916	241	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	174	1040	0	285	237	916	249	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	



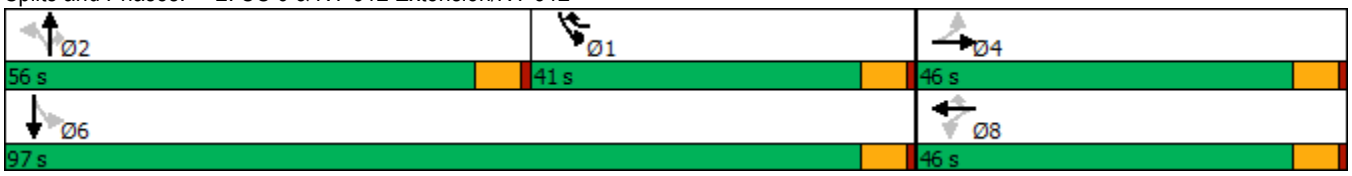
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		17.7			17.7	59.4		21.0	21.0	62.7	62.7	
Actuated g/C Ratio		0.19			0.19	0.64		0.23	0.23	0.68	0.68	
v/c Ratio		0.10			0.69	0.92		0.71	0.46	1.07	0.21	
Control Delay		31.1			50.2	25.0		44.1	7.2	75.1	6.8	
Queue Delay		0.0			0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay		31.1			50.2	25.0		44.1	7.2	75.1	6.8	
LOS		C			D	C		D	A	E	A	
Approach Delay		31.1			28.6			27.3			60.5	
Approach LOS		C			C			C			E	
Queue Length 50th (ft)		11			94	322		152	0	~455	47	
Queue Length 95th (ft)		37			182	#877		266	59	#853	103	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)									260	390		
Base Capacity (vph)		585			584	1127		966	918	855	1630	
Starvation Cap Reductn		0			0	0		0	0	0	0	
Spillback Cap Reductn		0			0	0		0	0	0	0	
Storage Cap Reductn		0			0	0		0	0	0	0	
Reduced v/c Ratio		0.04			0.30	0.92		0.30	0.26	1.07	0.15	

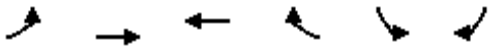
Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 92.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 41.1		Intersection LOS: D	
Intersection Capacity Utilization 91.4%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

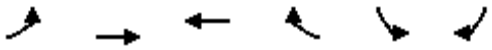
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	1097	1094	49	106	27
Future Volume (vph)	10	1097	1094	49	106	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	95	80
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	3504	1919	1631	3735	1740
Flt Permitted	0.084				0.950	
Satd. Flow (perm)	158	3504	1919	1631	3735	1740
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						31
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%
Adj. Flow (vph)	12	1276	1272	57	123	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	1276	1272	57	123	31
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0	0	2	2
Detector Template					NYSDOT	NYSDOT
Leading Detector (ft)	0	0	0	0	83	83
Trailing Detector (ft)	0	0	0	0	-5	-5
Detector 1 Position(ft)	0	0	0	0	-5	-5
Detector 1 Size(ft)	20	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)					43	43
Detector 2 Size(ft)					40	40
Detector 2 Type					Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)					0.0	0.0



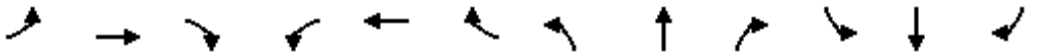
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	Perm	NA	NA	pm+ov	Prot	Perm
Protected Phases		6	2	3	3	
Permitted Phases	6			2		3
Detector Phase	6	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	65.0	65.0	65.0	15.0	15.0	15.0
Total Split (%)	81.3%	81.3%	81.3%	18.8%	18.8%	18.8%
Maximum Green (s)	59.0	59.0	59.0	9.0	9.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	63.7	63.7	63.7	80.0	7.9	7.9
Actuated g/C Ratio	0.80	0.80	0.80	1.00	0.10	0.10
v/c Ratio	0.10	0.46	0.83	0.03	0.34	0.16
Control Delay	4.9	4.2	14.1	0.0	35.9	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.9	4.2	14.1	0.0	35.9	14.4
LOS	A	A	B	A	D	B
Approach Delay		4.2	13.5		31.5	
Approach LOS		A	B		C	
Queue Length 50th (ft)	1	103	371	0	29	0
Queue Length 95th (ft)	6	133	#621	0	52	22
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100				95	80
Base Capacity (vph)	125	2791	1529	1568	420	223
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.46	0.83	0.04	0.29	0.14

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

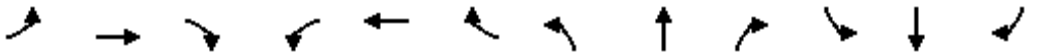
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: NY 312 & Pugsley Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	282	679	295	313	647	109	342	121	408	110	105	169
Future Volume (vph)	282	679	295	313	647	109	342	121	408	110	105	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.978				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.972		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3242	0	1580	3220	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.972		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3242	0	1580	3220	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			260		14				257			76
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	317	763	331	352	727	122	384	136	458	124	118	190
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	317	763	331	352	849	0	192	328	458	124	118	190
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	36.0	34.0	26.0	36.0		34.0	34.0	26.0	34.0	34.0	26.0
Total Split (%)	20.0%	27.7%	26.2%	20.0%	27.7%		26.2%	26.2%	20.0%	26.2%	26.2%	20.0%
Maximum Green (s)	20.0	30.0	28.0	20.0	30.0		28.0	28.0	20.0	28.0	28.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	None	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	16.6	52.9	79.8	17.9	54.1		21.0	21.0	38.9	14.3	14.3	36.9
Actuated g/C Ratio	0.13	0.41	0.61	0.14	0.42		0.16	0.16	0.30	0.11	0.11	0.28
v/c Ratio	0.76	1.07	0.31	0.77	0.63		0.76	0.63	0.73	0.69	0.59	0.38
Control Delay	66.4	92.8	4.0	58.3	32.1		69.8	55.8	16.5	74.1	66.2	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	92.8	4.0	58.3	32.1		69.8	55.8	16.5	74.1	66.2	22.6
LOS	E	F	A	E	C		E	E	B	E	E	C
Approach Delay		66.1			39.8			40.1			49.3	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	134	~728	23	144	277		171	143	101	102	96	74
Queue Length 95th (ft)	178	#1116	72	m184	m385		247	182	138	160	152	126
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	505	711	1138	510	1358		340	693	647	354	393	542
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.63	1.07	0.29	0.69	0.63		0.56	0.47	0.71	0.35	0.30	0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Green, Master Intersection			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 50.1		Intersection LOS: D	
Intersection Capacity Utilization 82.1%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.

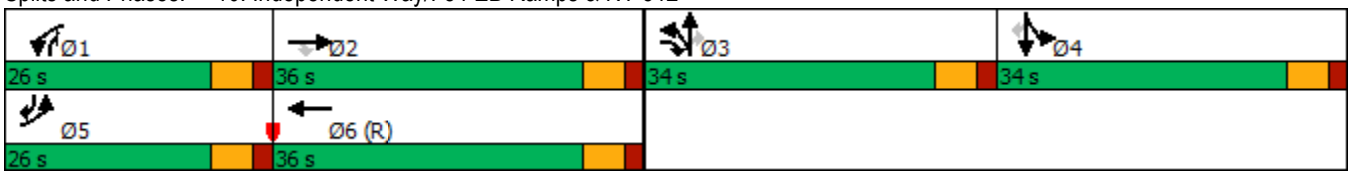
Queue shown is maximum after two cycles.

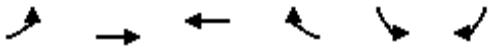
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

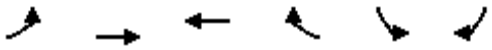
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	553	644	576	96	110	493
Future Volume (vph)	553	644	576	96	110	493
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.247				0.950	
Satd. Flow (perm)	449	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				29		52
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	636	740	662	110	126	567
Shared Lane Traffic (%)						
Lane Group Flow (vph)	636	740	662	110	126	567
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOT	NYSDOT
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	15.0	40.0	25.0	25.0	25.0	15.0
Total Split (%)	23.1%	61.5%	38.5%	38.5%	38.5%	23.1%
Maximum Green (s)	9.0	34.0	19.0	19.0	19.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	C-Max	None	None	None
Act Effct Green (s)	46.1	47.3	31.1	44.0	9.1	21.9
Actuated g/C Ratio	0.71	0.73	0.48	0.68	0.14	0.34
v/c Ratio	1.28	0.55	0.78	0.11	0.51	0.96
Control Delay	156.6	7.2	26.1	3.1	32.6	48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	156.6	7.2	26.1	3.1	32.6	48.3
LOS	F	A	C	A	C	D
Approach Delay		76.2	22.8		45.4	
Approach LOS		E	C		D	
Queue Length 50th (ft)	~354	186	221	9	47	187
Queue Length 95th (ft)	m#524	m272	#433	21	84	#274
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	495	1350	845	993	514	590
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.28	0.55	0.78	0.11	0.25	0.96

Intersection Summary	
Area Type:	Other
Cycle Length: 65	
Actuated Cycle Length: 65	
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.28	
Intersection Signal Delay: 54.2	Intersection LOS: D
Intersection Capacity Utilization 82.0%	ICU Level of Service E
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.

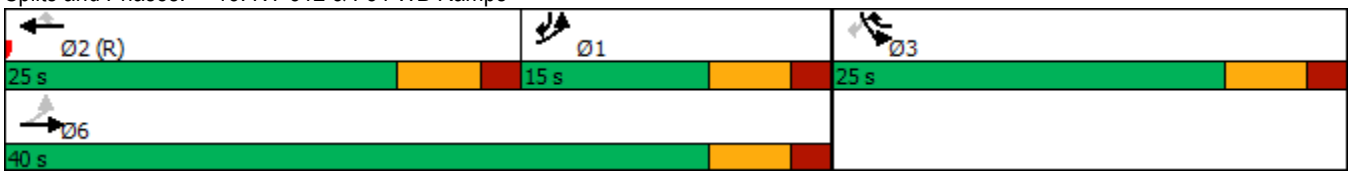
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: NY 312 & I-84 WB Ramps



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	420	4	6	297	6	12
Future Volume (vph)	420	4	6	297	6	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999				0.910	
Flt Protected				0.999	0.984	
Satd. Flow (prot)	1772	0	0	1810	1525	0
Flt Permitted				0.999	0.984	
Satd. Flow (perm)	1772	0	0	1810	1525	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	0%	5%	0%	14%
Adj. Flow (vph)	477	5	7	338	7	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	482	0	0	345	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	32.3%	ICU Level of Service	A
Analysis Period (min)	15		

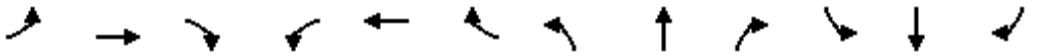
Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	420	4	6	297	6	12
Future Vol, veh/h	420	4	6	297	6	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	0	0	5	0	14
Mvmt Flow	477	5	7	338	7	14

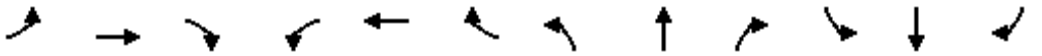
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	482	0	832	480
Stage 1	-	-	-	-	480	-
Stage 2	-	-	-	-	352	-
Critical Hdwy	-	-	4.1	-	7.2	6.74
Critical Hdwy Stg 1	-	-	-	-	6.2	-
Critical Hdwy Stg 2	-	-	-	-	6.2	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.426
Pot Cap-1 Maneuver	-	-	1091	-	284	533
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	662	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1091	-	282	533
Mov Cap-2 Maneuver	-	-	-	-	282	-
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	657	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	411	-	-	1091	-
HCM Lane V/C Ratio	0.05	-	-	0.006	-
HCM Control Delay (s)	14.2	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	15	2	140	18	946	0	259	216	834	219	7
Future Volume (vph)	7	15	2	140	18	946	0	259	216	834	219	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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		0.990				0.850			0.850		0.995	
Flt Protected		0.985			0.958					0.950		
Satd. Flow (prot)	0	1458	0	0	1742	1546	1855	1761	1479	1661	1722	0
Flt Permitted		0.898			0.732					0.424		
Satd. Flow (perm)	0	1330	0	0	1331	1546	1855	1761	1479	741	1722	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				380			237		2	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	8	16	2	154	20	1040	0	285	237	916	241	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	174	1040	0	285	237	916	249	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	



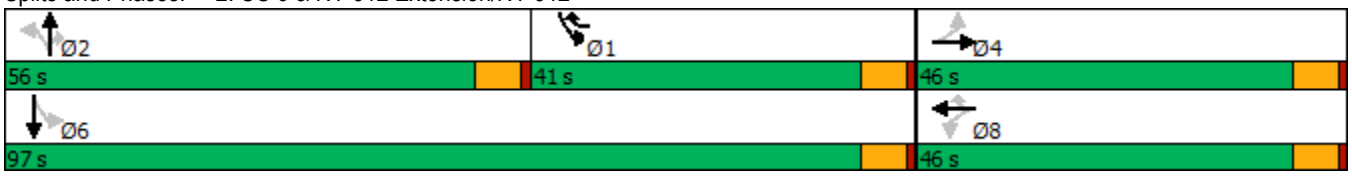
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		17.7			17.7	59.4		21.0	21.0	62.7	62.7	
Actuated g/C Ratio		0.19			0.19	0.64		0.23	0.23	0.68	0.68	
v/c Ratio		0.10			0.69	0.92		0.71	0.46	1.07	0.21	
Control Delay		31.1			50.2	25.0		44.1	7.2	75.1	6.8	
Queue Delay		0.0			0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay		31.1			50.2	25.0		44.1	7.2	75.1	6.8	
LOS		C			D	C		D	A	E	A	
Approach Delay		31.1			28.6			27.3			60.5	
Approach LOS		C			C			C			E	
Queue Length 50th (ft)		11			94	322		152	0	~455	47	
Queue Length 95th (ft)		37			182	#877		266	59	#853	103	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)									260	390		
Base Capacity (vph)		585			584	1127		966	918	855	1630	
Starvation Cap Reductn		0			0	0		0	0	0	0	
Spillback Cap Reductn		0			0	0		0	0	0	0	
Storage Cap Reductn		0			0	0		0	0	0	0	
Reduced v/c Ratio		0.04			0.30	0.92		0.30	0.26	1.07	0.15	

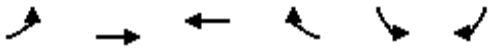
Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 92.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 41.1		Intersection LOS: D	
Intersection Capacity Utilization 91.4%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

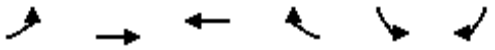
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312





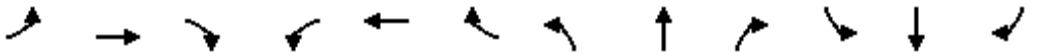
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	1097	1094	49	106	27
Future Volume (vph)	10	1097	1094	49	106	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	0	110
Storage Lanes	1			0	2	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.95
Frt			0.994		0.970	
Flt Protected	0.950				0.962	
Satd. Flow (prot)	1787	3504	3624	0	3676	0
Flt Permitted	0.146				0.962	
Satd. Flow (perm)	275	3504	3624	0	3676	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			9		31	
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%
Adj. Flow (vph)	12	1276	1272	57	123	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	1276	1329	0	154	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0		2	
Detector Template					NYSDOT	
Leading Detector (ft)	0	0	0		83	
Trailing Detector (ft)	0	0	0		-5	
Detector 1 Position(ft)	0	0	0		-5	
Detector 1 Size(ft)	20	6	6		40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)					43	
Detector 2 Size(ft)					40	
Detector 2 Type					Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)					0.0	



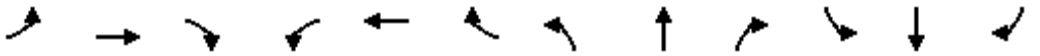
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	6	2		3	
Permitted Phases	6					
Detector Phase	1	6	2		3	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	11.0	11.0	11.0		11.0	
Total Split (s)	11.0	62.0	51.0		18.0	
Total Split (%)	13.8%	77.5%	63.8%		22.5%	
Maximum Green (s)	5.0	56.0	45.0		12.0	
Yellow Time (s)	4.0	4.0	4.0		4.0	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	C-Max	C-Max		None	
Act Effct Green (s)	59.8	59.8	57.6		8.2	
Actuated g/C Ratio	0.75	0.75	0.72		0.10	
v/c Ratio	0.04	0.49	0.51		0.38	
Control Delay	3.2	4.9	6.7		29.0	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	3.2	4.9	6.7		29.0	
LOS	A	A	A		C	
Approach Delay		4.9	6.7		29.0	
Approach LOS		A	A		C	
Queue Length 50th (ft)	1	104	108		29	
Queue Length 95th (ft)	5	146	251		53	
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100					
Base Capacity (vph)	300	2620	2613		577	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.04	0.49	0.51		0.27	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 7.1	Intersection LOS: A
Intersection Capacity Utilization 46.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: NY 312 & Pugsley Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	282	679	295	313	647	109	342	121	408	110	105	169
Future Volume (vph)	282	679	295	313	647	109	342	121	408	110	105	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.978				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.972		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3242	0	1580	3220	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.972		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3242	0	1580	3220	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			260		14				257			76
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	317	763	331	352	727	122	384	136	458	124	118	190
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	317	763	331	352	849	0	192	328	458	124	118	190
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	36.0	34.0	26.0	36.0		34.0	34.0	26.0	34.0	34.0	26.0
Total Split (%)	20.0%	27.7%	26.2%	20.0%	27.7%		26.2%	26.2%	20.0%	26.2%	26.2%	20.0%
Maximum Green (s)	20.0	30.0	28.0	20.0	30.0		28.0	28.0	20.0	28.0	28.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	None	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	16.6	52.9	79.8	17.9	54.1		21.0	21.0	38.9	14.3	14.3	36.9
Actuated g/C Ratio	0.13	0.41	0.61	0.14	0.42		0.16	0.16	0.30	0.11	0.11	0.28
v/c Ratio	0.76	1.07	0.31	0.77	0.63		0.76	0.63	0.73	0.69	0.59	0.38
Control Delay	66.4	92.8	4.0	58.3	32.1		69.8	55.8	16.5	74.1	66.2	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	92.8	4.0	58.3	32.1		69.8	55.8	16.5	74.1	66.2	22.6
LOS	E	F	A	E	C		E	E	B	E	E	C
Approach Delay		66.1			39.8			40.1			49.3	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	134	~728	23	144	277		171	143	101	102	96	74
Queue Length 95th (ft)	178	#1116	72	m184	m385		247	182	138	160	152	126
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	505	711	1138	510	1358		340	693	647	354	393	542
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.63	1.07	0.29	0.69	0.63		0.56	0.47	0.71	0.35	0.30	0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Green, Master Intersection			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 50.1		Intersection LOS: D	
Intersection Capacity Utilization 82.1%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.

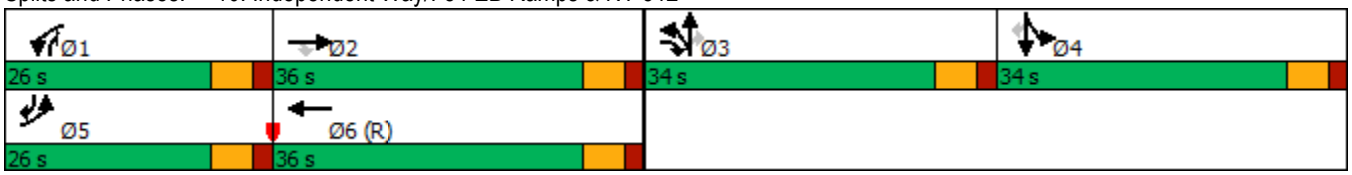
Queue shown is maximum after two cycles.

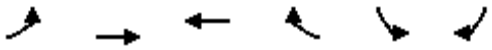
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

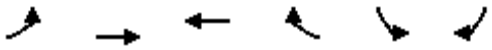
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	553	644	576	96	110	493
Future Volume (vph)	553	644	576	96	110	493
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.247				0.950	
Satd. Flow (perm)	449	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				29		52
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	636	740	662	110	126	567
Shared Lane Traffic (%)						
Lane Group Flow (vph)	636	740	662	110	126	567
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOT	NYSDOT
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



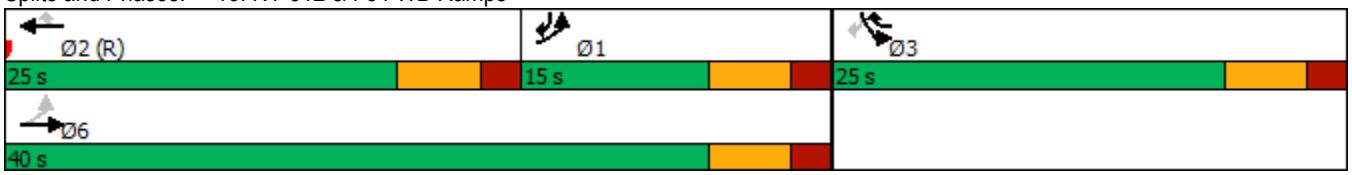
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	15.0	40.0	25.0	25.0	25.0	15.0
Total Split (%)	23.1%	61.5%	38.5%	38.5%	38.5%	23.1%
Maximum Green (s)	9.0	34.0	19.0	19.0	19.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	C-Max	None	None	None
Act Effct Green (s)	46.1	47.3	31.1	44.0	9.1	21.9
Actuated g/C Ratio	0.71	0.73	0.48	0.68	0.14	0.34
v/c Ratio	1.28	0.55	0.78	0.11	0.51	0.96
Control Delay	156.6	7.2	26.1	3.1	32.6	48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	156.6	7.2	26.1	3.1	32.6	48.3
LOS	F	A	C	A	C	D
Approach Delay		76.2	22.8		45.4	
Approach LOS		E	C		D	
Queue Length 50th (ft)	~354	186	221	9	47	187
Queue Length 95th (ft)	m#524	m272	#433	21	84	#274
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	495	1350	845	993	514	590
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.28	0.55	0.78	0.11	0.25	0.96

Intersection Summary	
Area Type:	Other
Cycle Length: 65	
Actuated Cycle Length: 65	
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.28	
Intersection Signal Delay: 54.2	Intersection LOS: D
Intersection Capacity Utilization 82.0%	ICU Level of Service E
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: NY 312 & I-84 WB Ramps



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	420	4	6	297	6	12
Future Volume (vph)	420	4	6	297	6	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999				0.910	
Flt Protected				0.999	0.984	
Satd. Flow (prot)	1772	0	0	1810	1525	0
Flt Permitted				0.999	0.984	
Satd. Flow (perm)	1772	0	0	1810	1525	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	0%	5%	0%	14%
Adj. Flow (vph)	477	5	7	338	7	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	482	0	0	345	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.3%		ICU Level of Service A	
Analysis Period (min) 15			

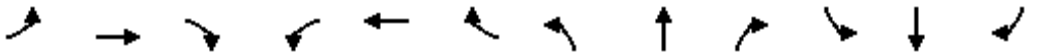
Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	420	4	6	297	6	12
Future Vol, veh/h	420	4	6	297	6	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	0	0	5	0	14
Mvmt Flow	477	5	7	338	7	14

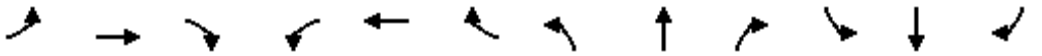
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	482	0	832	480
Stage 1	-	-	-	-	480	-
Stage 2	-	-	-	-	352	-
Critical Hdwy	-	-	4.1	-	7.2	6.74
Critical Hdwy Stg 1	-	-	-	-	6.2	-
Critical Hdwy Stg 2	-	-	-	-	6.2	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.426
Pot Cap-1 Maneuver	-	-	1091	-	284	533
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	662	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1091	-	282	533
Mov Cap-2 Maneuver	-	-	-	-	282	-
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	657	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	411	-	-	1091	-
HCM Lane V/C Ratio	0.05	-	-	0.006	-
HCM Control Delay (s)	14.2	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	15	2	142	18	958	0	259	228	896	219	7
Future Volume (vph)	7	15	2	142	18	958	0	259	228	896	219	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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		0.990				0.850			0.850		0.995	
Flt Protected		0.985			0.958					0.950		
Satd. Flow (prot)	0	1458	0	0	1742	1546	1855	1761	1479	1661	1722	0
Flt Permitted		0.898			0.732					0.423		
Satd. Flow (perm)	0	1330	0	0	1331	1546	1855	1761	1479	740	1722	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				380			251		2	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	8	16	2	156	20	1053	0	285	251	985	241	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	176	1053	0	285	251	985	249	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	



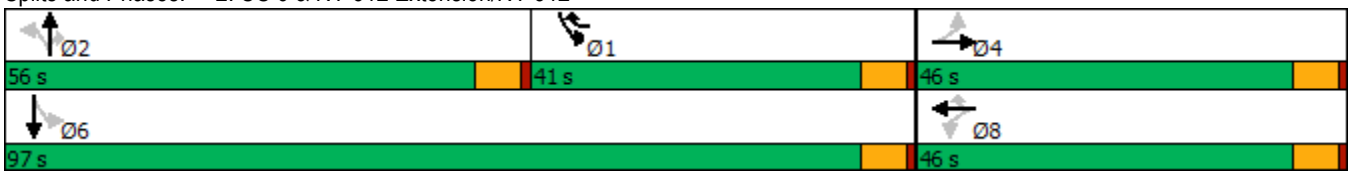
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		17.9			17.9	59.6		21.0	21.0	62.7	62.7	
Actuated g/C Ratio		0.19			0.19	0.64		0.23	0.23	0.68	0.68	
v/c Ratio		0.10			0.69	0.93		0.71	0.47	1.15	0.21	
Control Delay		31.0			50.2	26.6		44.3	7.2	106.0	6.9	
Queue Delay		0.0			0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay		31.0			50.2	26.6		44.3	7.2	106.0	6.9	
LOS		C			D	C		D	A	F	A	
Approach Delay		31.0			30.0			26.9			86.0	
Approach LOS		C			C			C			F	
Queue Length 50th (ft)		11			95	338		153	0	~543	47	
Queue Length 95th (ft)		37			185	#898		266	60	#965	103	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)									260	390		
Base Capacity (vph)		584			583	1128		964	923	853	1629	
Starvation Cap Reductn		0			0	0		0	0	0	0	
Spillback Cap Reductn		0			0	0		0	0	0	0	
Storage Cap Reductn		0			0	0		0	0	0	0	
Reduced v/c Ratio		0.04			0.30	0.93		0.30	0.27	1.15	0.15	

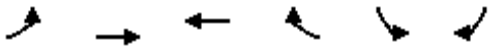
Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 92.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 52.3		Intersection LOS: D	
Intersection Capacity Utilization 93.8%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

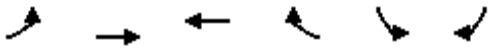
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	1097	1094	209	136	41
Future Volume (vph)	84	1097	1094	209	136	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	95	80
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	3504	1919	1631	3735	1740
Flt Permitted	0.067				0.950	
Satd. Flow (perm)	126	3504	1919	1631	3735	1740
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						48
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%
Adj. Flow (vph)	98	1276	1272	243	158	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	98	1276	1272	243	158	48
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0	0	2	2
Detector Template					NYSDOT	NYSDOT
Leading Detector (ft)	0	0	0	0	83	83
Trailing Detector (ft)	0	0	0	0	-5	-5
Detector 1 Position(ft)	0	0	0	0	-5	-5
Detector 1 Size(ft)	20	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)					43	43
Detector 2 Size(ft)					40	40
Detector 2 Type					Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)					0.0	0.0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	Perm	NA	NA	pm+ov	Prot	Perm
Protected Phases		6	2	3	3	
Permitted Phases	6			2		3
Detector Phase	6	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	65.0	65.0	65.0	15.0	15.0	15.0
Total Split (%)	81.3%	81.3%	81.3%	18.8%	18.8%	18.8%
Maximum Green (s)	59.0	59.0	59.0	9.0	9.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	59.7	59.7	59.7	80.0	8.3	8.3
Actuated g/C Ratio	0.75	0.75	0.75	1.00	0.10	0.10
v/c Ratio	1.05	0.49	0.89	0.15	0.41	0.22
Control Delay	129.3	4.9	18.0	0.2	36.7	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	129.3	4.9	18.0	0.2	36.7	13.0
LOS	F	A	B	A	D	B
Approach Delay		13.8	15.1		31.2	
Approach LOS		B	B		C	
Queue Length 50th (ft)	~54	108	388	0	38	0
Queue Length 95th (ft)	#93	133	#621	0	63	28
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100				95	80
Base Capacity (vph)	93	2616	1433	1572	420	238
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.49	0.89	0.15	0.38	0.20

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 15.6	Intersection LOS: B
Intersection Capacity Utilization 81.4%	ICU Level of Service D
Analysis Period (min) 15	

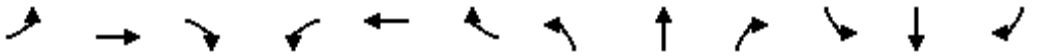
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

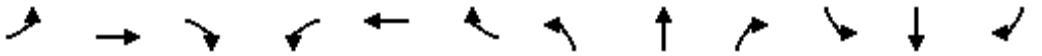
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: NY 312 & Pugsley Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	296	695	295	313	759	109	342	121	408	110	105	217
Future Volume (vph)	296	695	295	313	759	109	342	121	408	110	105	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.981				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.972		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3254	0	1580	3220	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.972		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3254	0	1580	3220	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			254		11				256			76
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	333	781	331	352	853	122	384	136	458	124	118	244
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	333	781	331	352	975	0	192	328	458	124	118	244
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	36.0	34.0	26.0	36.0		34.0	34.0	26.0	34.0	34.0	26.0
Total Split (%)	20.0%	27.7%	26.2%	20.0%	27.7%		26.2%	26.2%	20.0%	26.2%	26.2%	20.0%
Maximum Green (s)	20.0	30.0	28.0	20.0	30.0		28.0	28.0	20.0	28.0	28.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	None	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	17.2	52.9	79.8	17.9	53.6		21.0	21.0	38.9	14.3	14.3	37.5
Actuated g/C Ratio	0.13	0.41	0.61	0.14	0.41		0.16	0.16	0.30	0.11	0.11	0.29
v/c Ratio	0.77	1.10	0.31	0.77	0.72		0.76	0.63	0.73	0.69	0.59	0.48
Control Delay	66.5	101.0	4.2	56.1	34.1		69.8	55.8	16.6	74.1	66.2	27.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.5	101.0	4.2	56.1	34.1		69.8	55.8	16.6	74.1	66.2	27.7
LOS	E	F	A	E	C		E	E	B	E	E	C
Approach Delay		70.9			39.9			40.2			48.9	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	141	~759	26	144	348		171	143	101	102	96	115
Queue Length 95th (ft)	187	#1148	76	m162	m#470		247	182	139	160	152	175
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	505	711	1136	510	1347		340	693	646	354	393	542
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.66	1.10	0.29	0.69	0.72		0.56	0.47	0.71	0.35	0.30	0.45

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Green, Master Intersection			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 51.6		Intersection LOS: D	
Intersection Capacity Utilization 82.9%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.

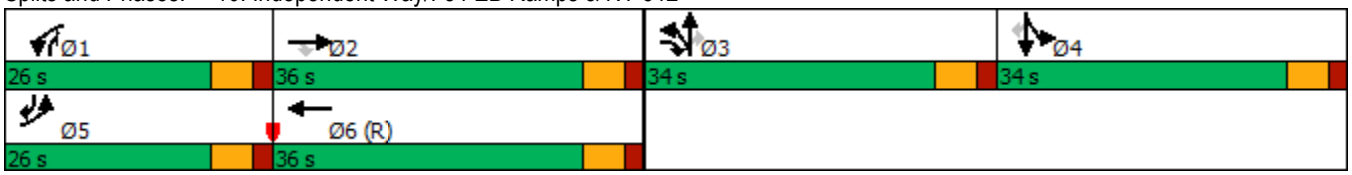
Queue shown is maximum after two cycles.

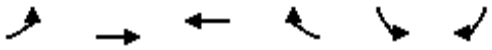
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

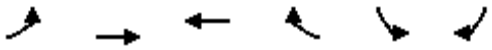
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	562	651	614	96	110	567
Future Volume (vph)	562	651	614	96	110	567
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.213				0.950	
Satd. Flow (perm)	387	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				22		42
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	646	748	706	110	126	652
Shared Lane Traffic (%)						
Lane Group Flow (vph)	646	748	706	110	126	652
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	15.0	40.0	25.0	25.0	25.0	15.0
Total Split (%)	23.1%	61.5%	38.5%	38.5%	38.5%	23.1%
Maximum Green (s)	9.0	34.0	19.0	19.0	19.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	C-Max	None	None	None
Act Effct Green (s)	46.1	47.3	31.1	44.0	9.1	21.9
Actuated g/C Ratio	0.71	0.73	0.48	0.68	0.14	0.34
v/c Ratio	1.40	0.55	0.84	0.11	0.51	1.12
Control Delay	210.1	7.3	29.6	3.3	32.6	95.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	210.1	7.3	29.6	3.3	32.6	95.6
LOS	F	A	C	A	C	F
Approach Delay		101.3	26.1		85.4	
Approach LOS		F	C		F	
Queue Length 50th (ft)	~534	191	246	10	47	~251
Queue Length 95th (ft)	m#568	m272	#473	22	84	#393
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	460	1350	845	991	514	583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.40	0.55	0.84	0.11	0.25	1.12

Intersection Summary	
Area Type:	Other
Cycle Length: 65	
Actuated Cycle Length: 65	
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.40	
Intersection Signal Delay: 76.6	Intersection LOS: E
Intersection Capacity Utilization 84.5%	ICU Level of Service E
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.

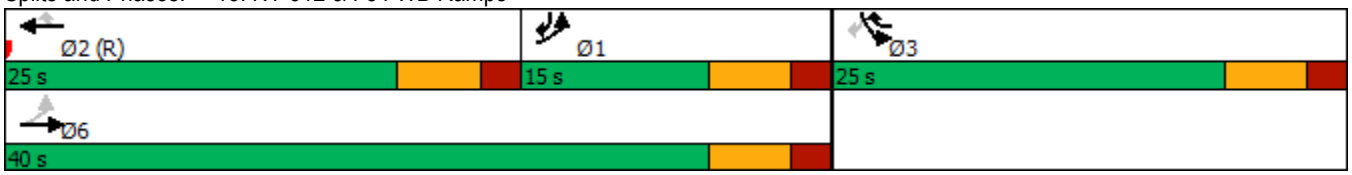
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: NY 312 & I-84 WB Ramps



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	420	6	8	297	6	12
Future Volume (vph)	420	6	8	297	6	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998				0.910	
Flt Protected				0.999	0.984	
Satd. Flow (prot)	1771	0	0	1811	1525	0
Flt Permitted				0.999	0.984	
Satd. Flow (perm)	1771	0	0	1811	1525	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	0%	5%	0%	14%
Adj. Flow (vph)	477	7	9	338	7	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	484	0	0	347	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.5%		ICU Level of Service A	
Analysis Period (min) 15			

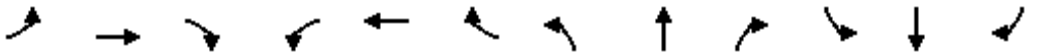
Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	420	6	8	297	6	12
Future Vol, veh/h	420	6	8	297	6	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	0	0	5	0	14
Mvmt Flow	477	7	9	338	7	14

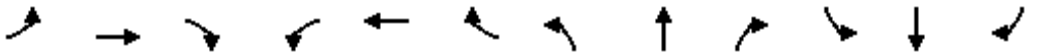
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	484	0	837	481
Stage 1	-	-	-	-	481	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	-	-	4.1	-	7.2	6.74
Critical Hdwy Stg 1	-	-	-	-	6.2	-
Critical Hdwy Stg 2	-	-	-	-	6.2	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.426
Pot Cap-1 Maneuver	-	-	1089	-	282	532
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	659	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1089	-	279	532
Mov Cap-2 Maneuver	-	-	-	-	279	-
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	652	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	409	-	-	1089	-
HCM Lane V/C Ratio	0.05	-	-	0.008	-
HCM Control Delay (s)	14.3	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	15	2	142	18	958	0	259	228	896	219	7
Future Volume (vph)	7	15	2	142	18	958	0	259	228	896	219	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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		0.990				0.850			0.850		0.995	
Flt Protected		0.985			0.958					0.950		
Satd. Flow (prot)	0	1458	0	0	1742	1546	1855	1761	1479	1661	1722	0
Flt Permitted		0.898			0.732					0.423		
Satd. Flow (perm)	0	1330	0	0	1331	1546	1855	1761	1479	740	1722	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				380			251		2	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	8	16	2	156	20	1053	0	285	251	985	241	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	176	1053	0	285	251	985	249	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	



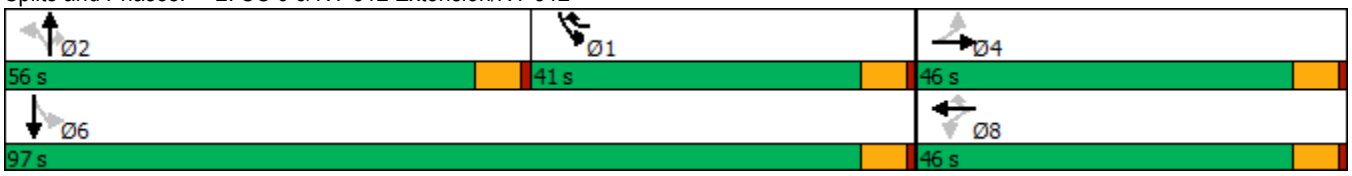
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		17.9			17.9	59.6		21.0	21.0	62.7	62.7	
Actuated g/C Ratio		0.19			0.19	0.64		0.23	0.23	0.68	0.68	
v/c Ratio		0.10			0.69	0.93		0.71	0.47	1.15	0.21	
Control Delay		31.0			50.2	26.6		44.3	7.2	106.0	6.9	
Queue Delay		0.0			0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay		31.0			50.2	26.6		44.3	7.2	106.0	6.9	
LOS		C			D	C		D	A	F	A	
Approach Delay		31.0			30.0			26.9			86.0	
Approach LOS		C			C			C			F	
Queue Length 50th (ft)		11			95	338		153	0	~543	47	
Queue Length 95th (ft)		37			185	#898		266	60	#965	103	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)									260	390		
Base Capacity (vph)		584			583	1128		964	923	853	1629	
Starvation Cap Reductn		0			0	0		0	0	0	0	
Spillback Cap Reductn		0			0	0		0	0	0	0	
Storage Cap Reductn		0			0	0		0	0	0	0	
Reduced v/c Ratio		0.04			0.30	0.93		0.30	0.27	1.15	0.15	

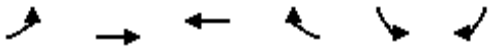
Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 92.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 52.3		Intersection LOS: D	
Intersection Capacity Utilization 93.8%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

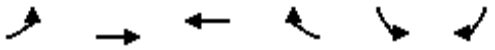
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312





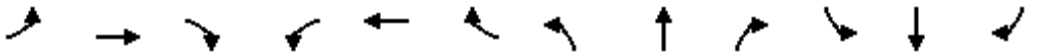
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	1097	1094	209	136	41
Future Volume (vph)	84	1097	1094	209	136	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	0	110
Storage Lanes	1			0	2	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.95
Frt			0.976		0.965	
Flt Protected	0.950				0.963	
Satd. Flow (prot)	1787	3504	3559	0	3662	0
Flt Permitted	0.094				0.963	
Satd. Flow (perm)	177	3504	3559	0	3662	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			45		44	
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%
Adj. Flow (vph)	98	1276	1272	243	158	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	98	1276	1515	0	206	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0		2	
Detector Template					NYSDOT	
Leading Detector (ft)	0	0	0		83	
Trailing Detector (ft)	0	0	0		-5	
Detector 1 Position(ft)	0	0	0		-5	
Detector 1 Size(ft)	20	6	6		40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)					43	
Detector 2 Size(ft)					40	
Detector 2 Type					Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)					0.0	



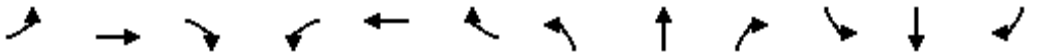
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	6	2		3	
Permitted Phases	6					
Detector Phase	1	6	2		3	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	11.0	11.0	11.0		11.0	
Total Split (s)	11.0	62.0	51.0		18.0	
Total Split (%)	13.8%	77.5%	63.8%		22.5%	
Maximum Green (s)	5.0	56.0	45.0		12.0	
Yellow Time (s)	4.0	4.0	4.0		4.0	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	C-Max	C-Max		None	
Act Effct Green (s)	59.0	59.0	50.2		9.0	
Actuated g/C Ratio	0.74	0.74	0.63		0.11	
v/c Ratio	0.42	0.49	0.67		0.46	
Control Delay	9.4	5.3	12.3		28.9	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	9.4	5.3	12.3		28.9	
LOS	A	A	B		C	
Approach Delay		5.6	12.3		28.9	
Approach LOS		A	B		C	
Queue Length 50th (ft)	11	110	242		39	
Queue Length 95th (ft)	25	156	319		64	
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100					
Base Capacity (vph)	231	2584	2250		586	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.42	0.49	0.67		0.35	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 61.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: NY 312 & Pugsley Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	296	695	295	313	759	109	342	121	408	110	105	217
Future Volume (vph)	296	695	295	313	759	109	342	121	408	110	105	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.981				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.972		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3254	0	1580	3220	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.972		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3254	0	1580	3220	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			254		11				256			76
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	333	781	331	352	853	122	384	136	458	124	118	244
Shared Lane Traffic (%)							50%					
Lane Group Flow (vph)	333	781	331	352	975	0	192	328	458	124	118	244
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	36.0	34.0	26.0	36.0		34.0	34.0	26.0	34.0	34.0	26.0
Total Split (%)	20.0%	27.7%	26.2%	20.0%	27.7%		26.2%	26.2%	20.0%	26.2%	26.2%	20.0%
Maximum Green (s)	20.0	30.0	28.0	20.0	30.0		28.0	28.0	20.0	28.0	28.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	None	None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	17.2	52.9	79.8	17.9	53.6		21.0	21.0	38.9	14.3	14.3	37.5
Actuated g/C Ratio	0.13	0.41	0.61	0.14	0.41		0.16	0.16	0.30	0.11	0.11	0.29
v/c Ratio	0.77	1.10	0.31	0.77	0.72		0.76	0.63	0.73	0.69	0.59	0.48
Control Delay	66.5	101.0	4.2	56.1	34.1		69.8	55.8	16.6	74.1	66.2	27.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.5	101.0	4.2	56.1	34.1		69.8	55.8	16.6	74.1	66.2	27.7
LOS	E	F	A	E	C		E	E	B	E	E	C
Approach Delay		70.9			39.9			40.2			48.9	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	141	~759	26	144	348		171	143	101	102	96	115
Queue Length 95th (ft)	187	#1148	76	m162	m#470		247	182	139	160	152	175
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	505	711	1136	510	1347		340	693	646	354	393	542
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.66	1.10	0.29	0.69	0.72		0.56	0.47	0.71	0.35	0.30	0.45

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 6:WBT, Start of Green, Master Intersection			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 51.6		Intersection LOS: D	
Intersection Capacity Utilization 82.9%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.

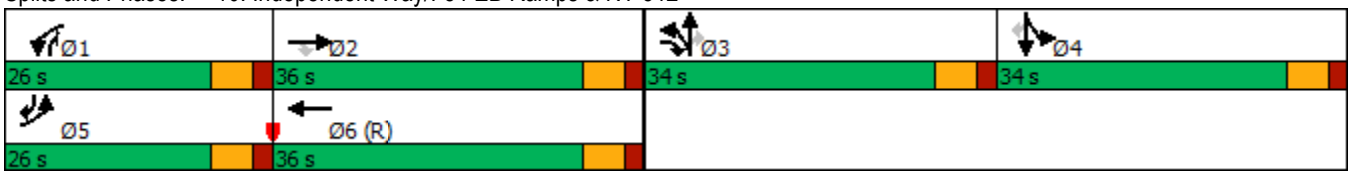
Queue shown is maximum after two cycles.

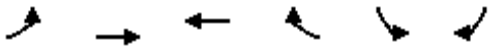
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

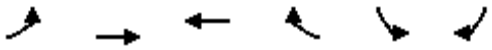
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	562	651	614	96	110	567
Future Volume (vph)	562	651	614	96	110	567
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.213				0.950	
Satd. Flow (perm)	387	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				22		42
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	646	748	706	110	126	652
Shared Lane Traffic (%)						
Lane Group Flow (vph)	646	748	706	110	126	652
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



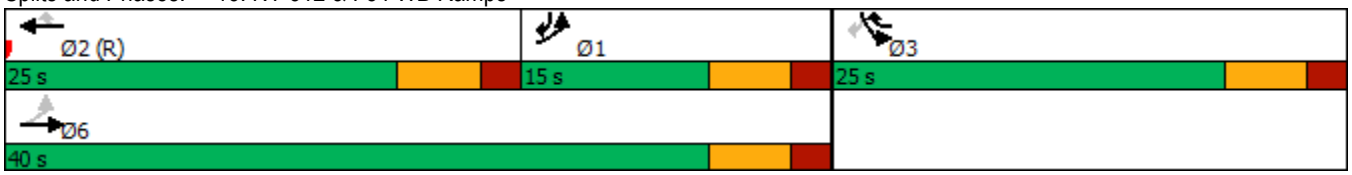
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	15.0	40.0	25.0	25.0	25.0	15.0
Total Split (%)	23.1%	61.5%	38.5%	38.5%	38.5%	23.1%
Maximum Green (s)	9.0	34.0	19.0	19.0	19.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	C-Max	None	None	None
Act Effct Green (s)	46.1	47.3	31.1	44.0	9.1	21.9
Actuated g/C Ratio	0.71	0.73	0.48	0.68	0.14	0.34
v/c Ratio	1.40	0.55	0.84	0.11	0.51	1.12
Control Delay	210.1	7.3	29.6	3.3	32.6	95.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	210.1	7.3	29.6	3.3	32.6	95.6
LOS	F	A	C	A	C	F
Approach Delay		101.3	26.1		85.4	
Approach LOS		F	C		F	
Queue Length 50th (ft)	~534	191	246	10	47	~251
Queue Length 95th (ft)	m#568	m272	#473	22	84	#393
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	460	1350	845	991	514	583
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.40	0.55	0.84	0.11	0.25	1.12

Intersection Summary	
Area Type:	Other
Cycle Length: 65	
Actuated Cycle Length: 65	
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.40	
Intersection Signal Delay: 76.6	Intersection LOS: E
Intersection Capacity Utilization 84.5%	ICU Level of Service E
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: NY 312 & I-84 WB Ramps



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	420	6	8	297	6	12
Future Volume (vph)	420	6	8	297	6	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998				0.910	
Flt Protected				0.999	0.984	
Satd. Flow (prot)	1771	0	0	1811	1525	0
Flt Permitted				0.999	0.984	
Satd. Flow (perm)	1771	0	0	1811	1525	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	0%	5%	0%	14%
Adj. Flow (vph)	477	7	9	338	7	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	484	0	0	347	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.5%		ICU Level of Service A	
Analysis Period (min) 15			

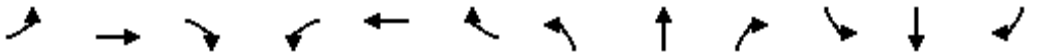
Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	420	6	8	297	6	12
Future Vol, veh/h	420	6	8	297	6	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	0	0	5	0	14
Mvmt Flow	477	7	9	338	7	14

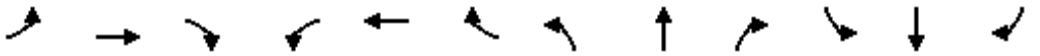
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	484	0	837	481
Stage 1	-	-	-	-	481	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	-	-	4.1	-	7.2	6.74
Critical Hdwy Stg 1	-	-	-	-	6.2	-
Critical Hdwy Stg 2	-	-	-	-	6.2	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.426
Pot Cap-1 Maneuver	-	-	1089	-	282	532
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	659	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1089	-	279	532
Mov Cap-2 Maneuver	-	-	-	-	279	-
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	652	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	409	-	-	1089	-
HCM Lane V/C Ratio	0.05	-	-	0.008	-
HCM Control Delay (s)	14.3	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	15	2	142	18	958	0	259	228	896	219	7
Future Volume (vph)	7	15	2	142	18	958	0	259	228	896	219	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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		0.990				0.850			0.850		0.995	
Flt Protected		0.985			0.958					0.950		
Satd. Flow (prot)	0	1458	0	0	1742	1546	1855	1761	1479	1661	1722	0
Flt Permitted		0.886			0.732					0.379		
Satd. Flow (perm)	0	1312	0	0	1331	1546	1855	1761	1479	663	1722	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				132			251		4	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	8	16	2	156	20	1053	0	285	251	985	241	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	0	0	176	1053	0	285	251	985	249	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	



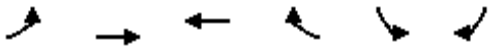
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	22.0	22.0		22.0	22.0	46.0	22.0	22.0	22.0	46.0	68.0	
Total Split (%)	24.4%	24.4%		24.4%	24.4%	51.1%	24.4%	24.4%	24.4%	51.1%	75.6%	
Maximum Green (s)	16.0	16.0		16.0	16.0	40.0	16.0	16.0	16.0	40.0	62.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		14.6			14.6	60.7		15.8	15.8	61.9	61.9	
Actuated g/C Ratio		0.16			0.16	0.69		0.18	0.18	0.70	0.70	
v/c Ratio		0.12			0.80	0.96		0.90	0.53	1.08	0.21	
Control Delay		31.0			63.1	31.5		69.4	9.1	74.0	5.3	
Queue Delay		0.0			0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay		31.0			63.1	31.5		69.4	9.1	74.0	5.3	
LOS		C			E	C		E	A	E	A	
Approach Delay		31.0			36.0			41.2			60.1	
Approach LOS		C			D			D			E	
Queue Length 50th (ft)		12			96	425		161	0	~540	44	
Queue Length 95th (ft)		34			#197	#814		#309	64	#780	72	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)									260	390		
Base Capacity (vph)		239			240	1101		319	473	915	1209	
Starvation Cap Reductn		0			0	0		0	0	0	0	
Spillback Cap Reductn		0			0	0		0	0	0	0	
Storage Cap Reductn		0			0	0		0	0	0	0	
Reduced v/c Ratio		0.11			0.73	0.96		0.89	0.53	1.08	0.21	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 88.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 46.7		Intersection LOS: D	
Intersection Capacity Utilization 93.8%		ICU Level of Service F	
Analysis Period (min) 15			

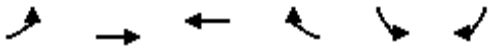
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	1097	1094	209	136	41
Future Volume (vph)	84	1097	1094	209	136	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	95	80
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	3504	1919	1631	3735	1740
Flt Permitted	0.092				0.950	
Satd. Flow (perm)	173	3504	1919	1631	3735	1740
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						48
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%
Adj. Flow (vph)	98	1276	1272	243	158	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	98	1276	1272	243	158	48
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0	0	2	2
Detector Template					NYSDOT	NYSDOT
Leading Detector (ft)	0	0	0	0	83	83
Trailing Detector (ft)	0	0	0	0	-5	-5
Detector 1 Position(ft)	0	0	0	0	-5	-5
Detector 1 Size(ft)	20	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)					43	43
Detector 2 Size(ft)					40	40
Detector 2 Type					Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)					0.0	0.0



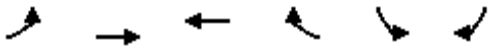
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	Perm	NA	NA	pm+ov	Prot	Perm
Protected Phases		6	2	3	3	
Permitted Phases	6			2		3
Detector Phase	6	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	64.0	64.0	64.0	11.0	11.0	11.0
Total Split (%)	85.3%	85.3%	85.3%	14.7%	14.7%	14.7%
Maximum Green (s)	58.0	58.0	58.0	5.0	5.0	5.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	58.0	58.0	58.0	75.0	5.0	5.0
Actuated g/C Ratio	0.77	0.77	0.77	1.00	0.07	0.07
v/c Ratio	0.74	0.47	0.86	0.15	0.63	0.30
Control Delay	42.6	3.7	13.7	0.2	46.8	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.6	3.7	13.7	0.2	46.8	16.3
LOS	D	A	B	A	D	B
Approach Delay		6.5	11.5		39.7	
Approach LOS		A	B		D	
Queue Length 50th (ft)	17	81	289	0	37	0
Queue Length 95th (ft)	#49	98	447	0	#68	28
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100				95	80
Base Capacity (vph)	133	2709	1484	1631	249	160
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.47	0.86	0.15	0.63	0.30

Intersection Summary	
Area Type:	Other
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 11.2	Intersection LOS: B
Intersection Capacity Utilization 81.4%	ICU Level of Service D
Analysis Period (min) 15	

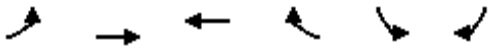
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: NY 312 & Pugsley Rd



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	562	651	614	96	110	567
Future Volume (vph)	562	651	614	96	110	567
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.190				0.950	
Satd. Flow (perm)	346	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				77		134
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	646	748	706	110	126	652
Shared Lane Traffic (%)						
Lane Group Flow (vph)	646	748	706	110	126	652
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	26.0	72.0	46.0	18.0	18.0	26.0
Total Split (%)	28.9%	80.0%	51.1%	20.0%	20.0%	28.9%
Maximum Green (s)	20.0	66.0	40.0	12.0	12.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lag		Lead			Lag
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Max	C-Max	None	None	None
Act Effct Green (s)	68.0	68.0	42.0	58.0	10.0	36.0
Actuated g/C Ratio	0.76	0.76	0.47	0.64	0.11	0.40
v/c Ratio	1.14	0.53	0.86	0.11	0.64	0.88
Control Delay	107.5	6.5	34.7	2.7	53.1	34.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	107.5	6.5	34.7	2.7	53.1	34.5
LOS	F	A	C	A	D	C
Approach Delay		53.3	30.4		37.5	
Approach LOS		D	C		D	
Queue Length 50th (ft)	~323	147	350	6	69	271
Queue Length 95th (ft)	#507	219	#552	22	120	#444
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	568	1400	823	939	234	741
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.53	0.86	0.12	0.54	0.88

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.14	
Intersection Signal Delay: 42.9	Intersection LOS: D
Intersection Capacity Utilization 84.5%	ICU Level of Service E
Analysis Period (min) 15	

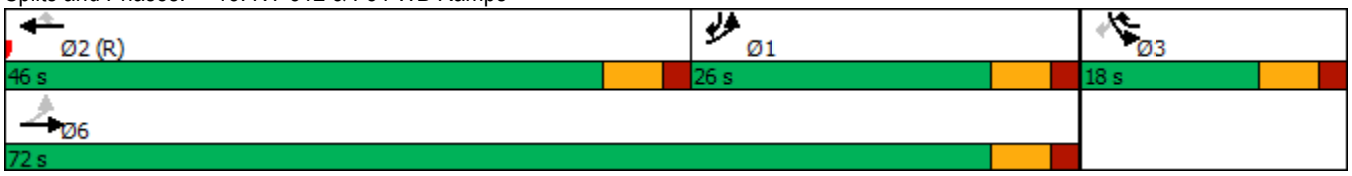
~ Volume exceeds capacity, queue is theoretically infinite.

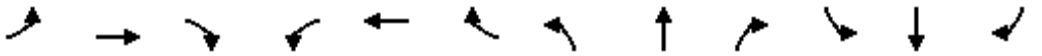
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

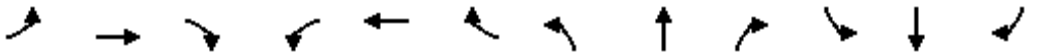
Queue shown is maximum after two cycles.

Splits and Phases: 13: NY 312 & I-84 WB Ramps





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	34	2	184	8	773	6	204	176	784	230	16
Future Volume (vph)	25	34	2	184	8	773	6	204	176	784	230	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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		0.990	
Flt Protected		0.980			0.954		0.950			0.950		
Satd. Flow (prot)	0	1431	0	0	1735	1546	1762	1761	1479	1661	1718	0
Flt Permitted		0.821			0.687		0.593			0.501		
Satd. Flow (perm)	0	1198	0	0	1249	1546	1100	1761	1479	876	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				478			193		5	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	27	37	2	202	9	849	7	224	193	862	253	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	0	0	211	849	7	224	193	862	271	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	

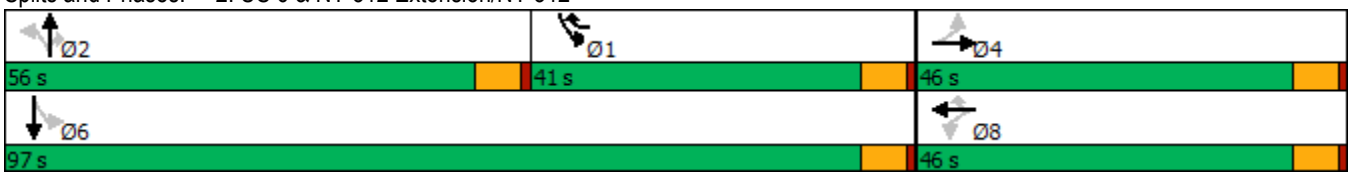


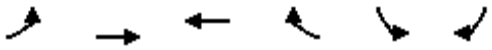
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		20.4			20.4	62.0	17.8	17.8	17.8	59.5	59.5	
Actuated g/C Ratio		0.22			0.22	0.67	0.19	0.19	0.19	0.65	0.65	
v/c Ratio		0.25			0.77	0.71	0.03	0.66	0.44	0.99	0.24	
Control Delay		32.3			52.9	7.9	31.8	44.8	8.3	51.8	8.2	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		32.3			52.9	7.9	31.8	44.8	8.3	51.8	8.2	
LOS		C			D	A	C	D	A	D	A	
Approach Delay		32.3			16.8			28.0			41.4	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)		31			114	90	3	120	0	325	57	
Queue Length 95th (ft)		73			215	297	16	219	57	#746	125	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)							105		260	390		
Base Capacity (vph)		529			551	1197	607	972	903	869	1632	
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		0.12			0.38	0.71	0.01	0.23	0.21	0.99	0.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 92.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 29.3		Intersection LOS: C	
Intersection Capacity Utilization 86.5%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

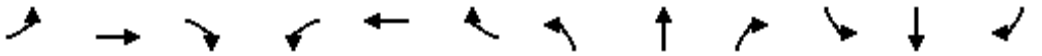
Splits and Phases: 2: US 6 & NY 312 Extension/NY 312



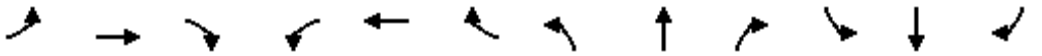


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	1021	980	4	6	0
Future Volume (vph)	0	1021	980	4	6	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	9	9
Grade (%)		2%	-2%		-2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999			
Flt Protected					0.950	
Satd. Flow (prot)	0	1844	1896	0	1402	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1844	1896	0	1402	0
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	1%	25%	17%	0%
Adj. Flow (vph)	0	1064	1021	4	6	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1064	1025	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		9	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	1.13	1.13
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	332	296	433	510	489	101	380	221	405	69	211	116
Future Volume (vph)	332	296	433	510	489	101	380	221	405	69	211	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.974				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.978		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3227	0	1580	3236	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.978		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3227	0	1580	3236	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			172		15				436			82
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	373	333	487	573	549	113	427	248	455	78	237	130
Shared Lane Traffic (%)							48%					
Lane Group Flow (vph)	373	333	487	573	662	0	222	453	455	78	237	130
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



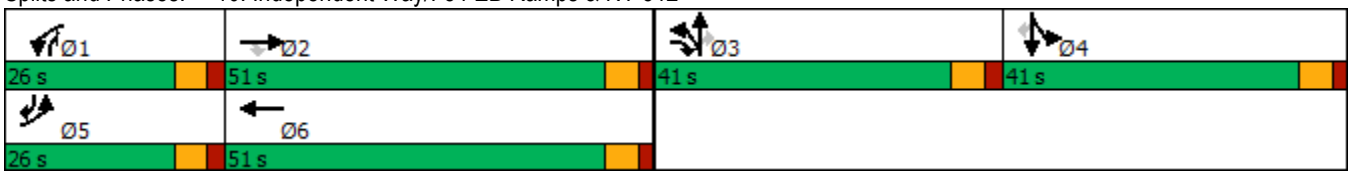
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	51.0	41.0	26.0	51.0		41.0	41.0	26.0	41.0	41.0	26.0
Total Split (%)	16.4%	32.1%	25.8%	16.4%	32.1%		25.8%	25.8%	16.4%	25.8%	25.8%	16.4%
Maximum Green (s)	20.0	45.0	35.0	20.0	45.0		35.0	35.0	20.0	35.0	35.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	None	None	Min		None	None	None	None	None	None
Act Effct Green (s)	18.4	28.4	59.2	20.8	30.9		24.6	24.6	45.4	21.0	21.0	45.6
Actuated g/C Ratio	0.15	0.24	0.49	0.17	0.26		0.21	0.21	0.38	0.18	0.18	0.38
v/c Ratio	0.74	0.80	0.56	0.99	0.79		0.69	0.68	0.54	0.27	0.74	0.20
Control Delay	60.7	59.6	15.5	86.8	49.4		58.1	51.2	4.4	48.8	63.7	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	59.6	15.5	86.8	49.4		58.1	51.2	4.4	48.8	63.7	12.5
LOS	E	E	B	F	D		E	D	A	D	E	B
Approach Delay		42.0			66.7			33.7			46.1	
Approach LOS		D			E			C			D	
Queue Length 50th (ft)	139	238	156	~239	247		173	176	5	52	173	23
Queue Length 95th (ft)	#275	410	286	#500	381		325	289	44	116	313	78
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	571	684	1004	576	1270		480	984	837	500	555	684
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.49	0.49	0.99	0.52		0.46	0.46	0.54	0.16	0.43	0.19

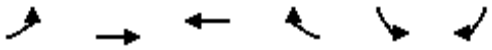
Intersection Summary			
Area Type:	Other		
Cycle Length: 159			
Actuated Cycle Length: 119.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 47.7		Intersection LOS: D	
Intersection Capacity Utilization 72.7%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

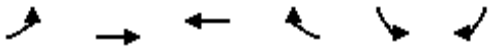
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	285	484	584	105	50	516
Future Volume (vph)	285	484	584	105	50	516
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.152				0.950	
Satd. Flow (perm)	276	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				117		40
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	328	556	671	121	57	593
Shared Lane Traffic (%)						
Lane Group Flow (vph)	328	556	671	121	57	593
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOT	NYSDOT
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	16.0	42.0	26.0	31.0	31.0	16.0
Total Split (%)	21.9%	57.5%	35.6%	42.5%	42.5%	21.9%
Maximum Green (s)	10.0	36.0	20.0	25.0	25.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	None	None
Act Effct Green (s)	36.4	37.9	20.2	32.6	6.3	19.8
Actuated g/C Ratio	0.70	0.73	0.39	0.62	0.12	0.38
v/c Ratio	0.69	0.41	0.98	0.13	0.27	0.91
Control Delay	18.7	5.6	52.4	1.6	25.1	34.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	5.6	52.4	1.6	25.1	34.4
LOS	B	A	D	A	C	C
Approach Delay		10.4	44.6		33.6	
Approach LOS		B	D		C	
Queue Length 50th (ft)	46	67	~223	1	17	154
Queue Length 95th (ft)	#152	127	#413	14	43	#303
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	473	1346	683	1380	852	652
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.41	0.98	0.09	0.07	0.91

Intersection Summary			
Area Type:	Other		
Cycle Length: 73			
Actuated Cycle Length: 52.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 28.6		Intersection LOS: C	
Intersection Capacity Utilization 72.7%		ICU Level of Service C	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: NY 312 & I-84 WB Ramps

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	251	1	3	212	4	1
Future Volume (vph)	251	1	3	212	4	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.977	
Flt Protected				0.999	0.960	
Satd. Flow (prot)	1774	0	0	1810	1746	0
Flt Permitted				0.999	0.960	
Satd. Flow (perm)	1774	0	0	1810	1746	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	0%	5%	0%	0%
Adj. Flow (vph)	285	1	3	241	5	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	286	0	0	244	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	23.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1021	980	4	6	0
Future Vol, veh/h	0	1021	980	4	6	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	2	-2	-	-2	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	2	1	25	17	0
Mvmt Flow	0	1064	1021	4	6	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1025	0	-	0	2087	1023
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	1064	-
Critical Hdwy	4.1	-	-	-	6.17	6
Critical Hdwy Stg 1	-	-	-	-	5.17	-
Critical Hdwy Stg 2	-	-	-	-	5.17	-
Follow-up Hdwy	2.2	-	-	-	3.653	3.3
Pot Cap-1 Maneuver	685	-	-	-	66	306
Stage 1	-	-	-	-	365	-
Stage 2	-	-	-	-	350	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	685	-	-	-	66	306
Mov Cap-2 Maneuver	-	-	-	-	66	-
Stage 1	-	-	-	-	365	-
Stage 2	-	-	-	-	350	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	65.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	685	-	-	-	66
HCM Lane V/C Ratio	-	-	-	-	0.095
HCM Control Delay (s)	0	-	-	-	65.2
HCM Lane LOS	A	-	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

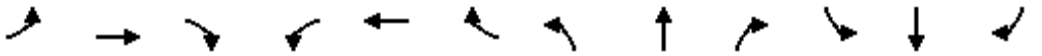
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	251	1	3	212	4	1
Future Vol, veh/h	251	1	3	212	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	0	0	5	0	0
Mvmt Flow	285	1	3	241	5	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	286	0	533	286
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	247	-
Critical Hdwy	-	-	4.1	-	7.2	6.6
Critical Hdwy Stg 1	-	-	-	-	6.2	-
Critical Hdwy Stg 2	-	-	-	-	6.2	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1288	-	454	734
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	756	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1288	-	453	734
Mov Cap-2 Maneuver	-	-	-	-	453	-
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	754	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	491	-	-	1288	-
HCM Lane V/C Ratio	0.012	-	-	0.003	-
HCM Control Delay (s)	12.4	-	-	7.8	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)	25	35	2	191	8	847	6	208	182	858	223	16
Future Volume (vph)	25	35	2	191	8	847	6	208	182	858	223	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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		0.990	
Flt Protected		0.980			0.954		0.950			0.950		
Satd. Flow (prot)	0	1431	0	0	1735	1546	1762	1761	1479	1661	1718	0
Flt Permitted		0.822			0.686		0.597			0.491		
Satd. Flow (perm)	0	1201	0	0	1248	1546	1107	1761	1479	858	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				469			200		5	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	27	38	2	210	9	931	7	229	200	943	245	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	0	0	219	931	7	229	200	943	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	



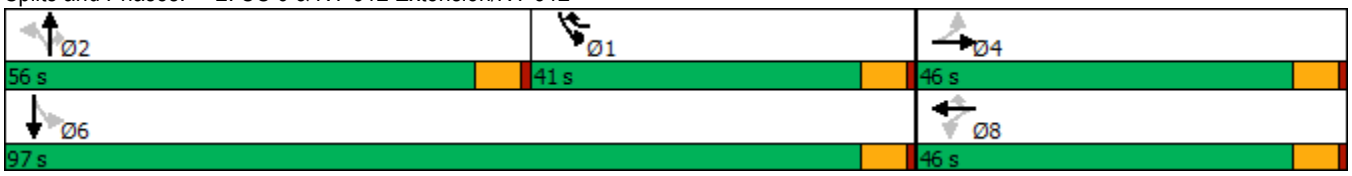
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		21.2			21.2	62.9	18.3	18.3	18.3	60.0	60.0	
Actuated g/C Ratio		0.23			0.23	0.67	0.20	0.20	0.20	0.64	0.64	
v/c Ratio		0.25			0.77	0.78	0.03	0.66	0.44	1.10	0.24	
Control Delay		32.2			53.4	10.9	32.2	45.4	8.3	85.8	8.4	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		32.2			53.4	10.9	32.2	45.4	8.3	85.8	8.4	
LOS		C			D	B	C	D	A	F	A	
Approach Delay		32.2			19.0			28.2			68.9	
Approach LOS		C			B			C			E	
Queue Length 50th (ft)		32			120	145	3	124	0	~488	57	
Queue Length 95th (ft)		75			225	438	16	226	58	#900	125	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)							105		260	390		
Base Capacity (vph)		523			543	1194	602	959	896	857	1618	
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		0.13			0.40	0.78	0.01	0.24	0.22	1.10	0.16	

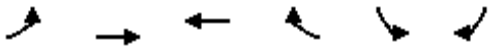
Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 93.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 41.8		Intersection LOS: D	
Intersection Capacity Utilization 91.2%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

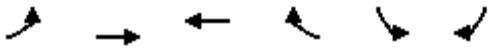
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312





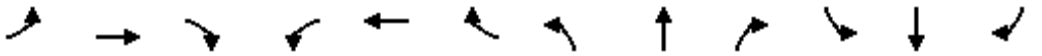
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	1083	1052	29	20	3
Future Volume (vph)	5	1083	1052	29	20	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	95	80
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	3504	1900	1431	3144	1740
Flt Permitted	0.172				0.950	
Satd. Flow (perm)	324	3504	1900	1431	3144	1740
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						3
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	1%	14%	20%	0%
Adj. Flow (vph)	5	1128	1096	30	21	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	1128	1096	30	21	3
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0	0	2	2
Detector Template					NYSDOT	NYSDOT
Leading Detector (ft)	0	0	0	0	83	83
Trailing Detector (ft)	0	0	0	0	-5	-5
Detector 1 Position(ft)	0	0	0	0	-5	-5
Detector 1 Size(ft)	20	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)					43	43
Detector 2 Size(ft)					40	40
Detector 2 Type					Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)					0.0	0.0



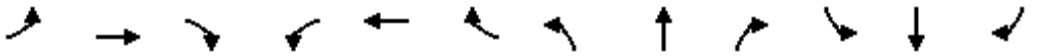
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	Perm	NA	NA	pm+ov	Prot	Perm
Protected Phases		6	2	3	3	
Permitted Phases	6			2		3
Detector Phase	6	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	65.0	65.0	65.0	15.0	15.0	15.0
Total Split (%)	81.3%	81.3%	81.3%	18.8%	18.8%	18.8%
Maximum Green (s)	59.0	59.0	59.0	9.0	9.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	None	None	None
Act Effct Green (s)	50.7	50.7	50.7	59.5	6.9	6.9
Actuated g/C Ratio	0.85	0.85	0.85	1.00	0.12	0.12
v/c Ratio	0.02	0.38	0.68	0.02	0.06	0.01
Control Delay	2.6	2.8	7.0	0.0	33.3	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.6	2.8	7.0	0.0	33.3	24.0
LOS	A	A	A	A	C	C
Approach Delay		2.8	6.8		32.1	
Approach LOS		A	A		C	
Queue Length 50th (ft)	0	73	217	0	4	0
Queue Length 95th (ft)	3	104	386	0	15	8
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100				95	80
Base Capacity (vph)	285	3089	1675	1391	546	304
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.37	0.65	0.02	0.04	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 59.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 5.1		Intersection LOS: A	
Intersection Capacity Utilization 69.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: NY 312 & Pugsley Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	355	326	447	515	546	109	406	228	415	78	215	143
Future Volume (vph)	355	326	447	515	546	109	406	228	415	78	215	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.975				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.977		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3231	0	1580	3233	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.977		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3231	0	1580	3233	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166		15				399			64
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	399	366	502	579	613	122	456	256	466	88	242	161
Shared Lane Traffic (%)							49%					
Lane Group Flow (vph)	399	366	502	579	735	0	233	479	466	88	242	161
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



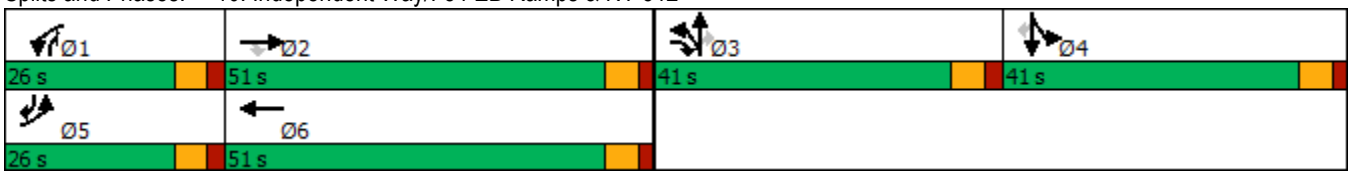
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	51.0	41.0	26.0	51.0		41.0	41.0	26.0	41.0	41.0	26.0
Total Split (%)	16.4%	32.1%	25.8%	16.4%	32.1%		25.8%	25.8%	16.4%	25.8%	25.8%	16.4%
Maximum Green (s)	20.0	45.0	35.0	20.0	45.0		35.0	35.0	20.0	35.0	35.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	None	None	Min		None	None	None	None	None	None
Act Effct Green (s)	19.8	32.3	65.2	20.7	33.3		26.7	26.7	47.4	22.1	22.1	48.1
Actuated g/C Ratio	0.16	0.25	0.51	0.16	0.26		0.21	0.21	0.37	0.17	0.17	0.38
v/c Ratio	0.78	0.82	0.56	1.07	0.86		0.70	0.71	0.58	0.31	0.76	0.25
Control Delay	65.4	61.7	16.0	108.1	55.5		60.9	54.1	6.1	51.7	67.8	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.4	61.7	16.0	108.1	55.5		60.9	54.1	6.1	51.7	67.8	19.0
LOS	E	E	B	F	E		E	D	A	D	E	B
Approach Delay		44.7			78.6			36.4			48.9	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	164	281	175	~280	297		195	201	19	64	192	52
Queue Length 95th (ft)	#313	460	310	#518	435		347	312	69	129	323	123
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	538	644	997	543	1199		452	926	809	471	523	652
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.57	0.50	1.07	0.61		0.52	0.52	0.58	0.19	0.46	0.25

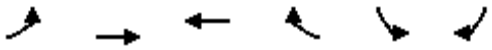
Intersection Summary			
Area Type:	Other		
Cycle Length: 159			
Actuated Cycle Length: 126.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 53.4		Intersection LOS: D	
Intersection Capacity Utilization 75.2%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

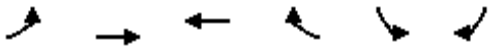
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	307	512	614	113	60	556
Future Volume (vph)	307	512	614	113	60	556
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.152				0.950	
Satd. Flow (perm)	276	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				97		33
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	353	589	706	130	69	639
Shared Lane Traffic (%)						
Lane Group Flow (vph)	353	589	706	130	69	639
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	16.0	42.0	26.0	31.0	31.0	16.0
Total Split (%)	21.9%	57.5%	35.6%	42.5%	42.5%	21.9%
Maximum Green (s)	10.0	36.0	20.0	25.0	25.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	None	None
Act Effct Green (s)	36.5	38.0	20.3	33.0	6.7	20.2
Actuated g/C Ratio	0.69	0.72	0.39	0.63	0.13	0.38
v/c Ratio	0.75	0.44	1.04	0.14	0.31	0.98
Control Delay	22.6	6.0	68.0	2.2	25.6	46.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	6.0	68.0	2.2	25.6	46.9
LOS	C	A	E	A	C	D
Approach Delay		12.2	57.8		44.8	
Approach LOS		B	E		D	
Queue Length 50th (ft)	56	76	~269	4	21	177
Queue Length 95th (ft)	#178	144	#448	18	49	#343
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	470	1337	679	1371	846	654
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.44	1.04	0.09	0.08	0.98

Intersection Summary			
Area Type:	Other		
Cycle Length: 73			
Actuated Cycle Length: 52.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 36.8		Intersection LOS: D	
Intersection Capacity Utilization 76.7%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: NY 312 & I-84 WB Ramps

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	262	2	4	226	4	2
Future Volume (vph)	262	2	4	226	4	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999				0.961	
Flt Protected				0.999	0.966	
Satd. Flow (prot)	1772	0	0	1810	1729	0
Flt Permitted				0.999	0.966	
Satd. Flow (perm)	1772	0	0	1810	1729	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	0%	5%	0%	0%
Adj. Flow (vph)	298	2	5	257	5	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	300	0	0	262	7	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	25.1%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.2

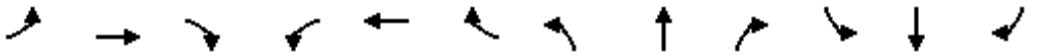
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	262	2	4	226	4	2
Future Vol, veh/h	262	2	4	226	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	0	0	5	0	0
Mvmt Flow	298	2	5	257	5	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	300	0	566	299
Stage 1	-	-	-	-	299	-
Stage 2	-	-	-	-	267	-
Critical Hdwy	-	-	4.1	-	7.2	6.6
Critical Hdwy Stg 1	-	-	-	-	6.2	-
Critical Hdwy Stg 2	-	-	-	-	6.2	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1273	-	431	721
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	737	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1273	-	429	721
Mov Cap-2 Maneuver	-	-	-	-	429	-
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	733	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	496	-	-	1273	-
HCM Lane V/C Ratio	0.014	-	-	0.004	-
HCM Control Delay (s)	12.4	-	-	7.8	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)	25	35	2	191	8	847	6	208	182	858	223	16
Future Volume (vph)	25	35	2	191	8	847	6	208	182	858	223	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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		0.990	
Flt Protected		0.980			0.954		0.950			0.950		
Satd. Flow (prot)	0	1431	0	0	1735	1546	1762	1761	1479	1661	1718	0
Flt Permitted		0.822			0.686		0.597			0.491		
Satd. Flow (perm)	0	1201	0	0	1248	1546	1107	1761	1479	858	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				469			200		5	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	27	38	2	210	9	931	7	229	200	943	245	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	0	0	219	931	7	229	200	943	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	



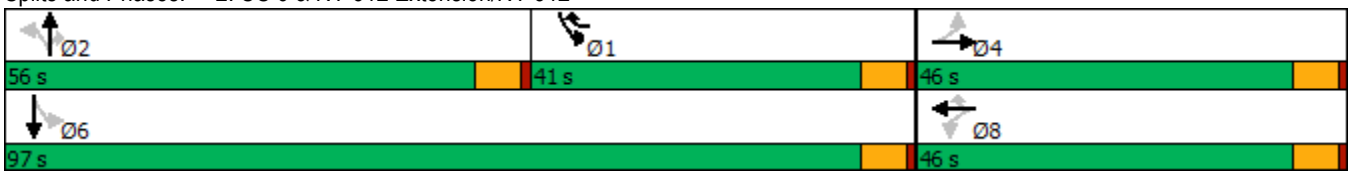
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		21.2			21.2	62.9	18.3	18.3	18.3	60.0	60.0	
Actuated g/C Ratio		0.23			0.23	0.67	0.20	0.20	0.20	0.64	0.64	
v/c Ratio		0.25			0.77	0.78	0.03	0.66	0.44	1.10	0.24	
Control Delay		32.2			53.4	10.9	32.2	45.4	8.3	85.8	8.4	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		32.2			53.4	10.9	32.2	45.4	8.3	85.8	8.4	
LOS		C			D	B	C	D	A	F	A	
Approach Delay		32.2			19.0			28.2			68.9	
Approach LOS		C			B			C			E	
Queue Length 50th (ft)		32			120	145	3	124	0	~488	57	
Queue Length 95th (ft)		75			225	438	16	226	58	#900	125	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)							105		260	390		
Base Capacity (vph)		523			543	1194	602	959	896	857	1618	
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		0.13			0.40	0.78	0.01	0.24	0.22	1.10	0.16	

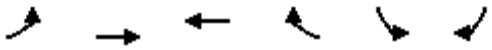
Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 93.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 41.8		Intersection LOS: D	
Intersection Capacity Utilization 91.2%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

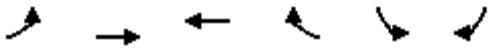
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	1083	1052	29	20	3
Future Volume (vph)	5	1083	1052	29	20	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	0	110
Storage Lanes	1			0	2	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.95
Frt			0.996		0.981	
Flt Protected	0.950				0.958	
Satd. Flow (prot)	1787	3504	3583	0	3176	0
Flt Permitted	0.187				0.958	
Satd. Flow (perm)	352	3504	3583	0	3176	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6		3	
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	1%	14%	20%	0%
Adj. Flow (vph)	5	1128	1096	30	21	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	1128	1126	0	24	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0		2	
Detector Template					NYSDOT	
Leading Detector (ft)	0	0	0		83	
Trailing Detector (ft)	0	0	0		-5	
Detector 1 Position(ft)	0	0	0		-5	
Detector 1 Size(ft)	20	6	6		40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)					43	
Detector 2 Size(ft)					40	
Detector 2 Type					Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)					0.0	

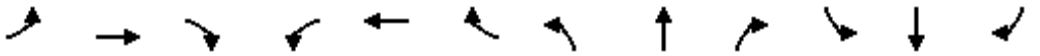


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	6	2		3	
Permitted Phases	6					
Detector Phase	1	6	2		3	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	11.0	11.0	11.0		11.0	
Total Split (s)	11.0	65.0	54.0		15.0	
Total Split (%)	13.8%	81.3%	67.5%		18.8%	
Maximum Green (s)	5.0	59.0	48.0		9.0	
Yellow Time (s)	4.0	4.0	4.0		4.0	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	Min	Min		None	
Act Effct Green (s)	31.7	37.5	36.2		6.4	
Actuated g/C Ratio	0.80	0.94	0.91		0.16	
v/c Ratio	0.01	0.34	0.35		0.05	
Control Delay	1.8	1.5	3.2		19.0	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	1.8	1.5	3.2		19.0	
LOS	A	A	A		B	
Approach Delay		1.5	3.2		19.0	
Approach LOS		A	A		B	
Queue Length 50th (ft)	0	0	0		1	
Queue Length 95th (ft)	3	106	195		13	
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100					
Base Capacity (vph)	476	3434	3392		781	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.01	0.33	0.33		0.03	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 39.8			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.35			
Intersection Signal Delay: 2.5		Intersection LOS: A	
Intersection Capacity Utilization 44.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: NY 312 & Pugsley Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	355	326	447	515	546	109	406	228	415	78	215	143
Future Volume (vph)	355	326	447	515	546	109	406	228	415	78	215	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.975				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.977		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3231	0	1580	3233	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.977		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3231	0	1580	3233	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166		15				399			64
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	399	366	502	579	613	122	456	256	466	88	242	161
Shared Lane Traffic (%)							49%					
Lane Group Flow (vph)	399	366	502	579	735	0	233	479	466	88	242	161
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



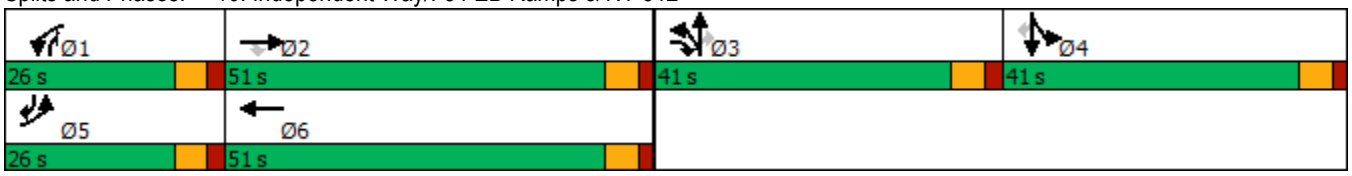
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	51.0	41.0	26.0	51.0		41.0	41.0	26.0	41.0	41.0	26.0
Total Split (%)	16.4%	32.1%	25.8%	16.4%	32.1%		25.8%	25.8%	16.4%	25.8%	25.8%	16.4%
Maximum Green (s)	20.0	45.0	35.0	20.0	45.0		35.0	35.0	20.0	35.0	35.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	None	None	Min		None	None	None	None	None	None
Act Effct Green (s)	19.8	32.3	65.2	20.7	33.3		26.7	26.7	47.4	22.1	22.1	48.1
Actuated g/C Ratio	0.16	0.25	0.51	0.16	0.26		0.21	0.21	0.37	0.17	0.17	0.38
v/c Ratio	0.78	0.82	0.56	1.07	0.86		0.70	0.71	0.58	0.31	0.76	0.25
Control Delay	65.4	61.7	16.0	108.1	55.5		60.9	54.1	6.1	51.7	67.8	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.4	61.7	16.0	108.1	55.5		60.9	54.1	6.1	51.7	67.8	19.0
LOS	E	E	B	F	E		E	D	A	D	E	B
Approach Delay		44.7			78.6			36.4			48.9	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	164	281	175	~280	297		195	201	19	64	192	52
Queue Length 95th (ft)	#313	460	310	#518	435		347	312	69	129	323	123
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	538	644	997	543	1199		452	926	809	471	523	652
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.57	0.50	1.07	0.61		0.52	0.52	0.58	0.19	0.46	0.25

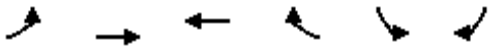
Intersection Summary			
Area Type:	Other		
Cycle Length: 159			
Actuated Cycle Length: 126.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 53.4		Intersection LOS: D	
Intersection Capacity Utilization 75.2%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

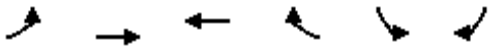
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	307	512	614	113	60	556
Future Volume (vph)	307	512	614	113	60	556
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.152				0.950	
Satd. Flow (perm)	276	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				97		33
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	353	589	706	130	69	639
Shared Lane Traffic (%)						
Lane Group Flow (vph)	353	589	706	130	69	639
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	16.0	42.0	26.0	31.0	31.0	16.0
Total Split (%)	21.9%	57.5%	35.6%	42.5%	42.5%	21.9%
Maximum Green (s)	10.0	36.0	20.0	25.0	25.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	None	None
Act Effct Green (s)	36.5	38.0	20.3	33.0	6.7	20.2
Actuated g/C Ratio	0.69	0.72	0.39	0.63	0.13	0.38
v/c Ratio	0.75	0.44	1.04	0.14	0.31	0.98
Control Delay	22.6	6.0	68.0	2.2	25.6	46.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	6.0	68.0	2.2	25.6	46.9
LOS	C	A	E	A	C	D
Approach Delay		12.2	57.8		44.8	
Approach LOS		B	E		D	
Queue Length 50th (ft)	56	76	~269	4	21	177
Queue Length 95th (ft)	#178	144	#448	18	49	#343
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	470	1337	679	1371	846	654
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.44	1.04	0.09	0.08	0.98

Intersection Summary			
Area Type:	Other		
Cycle Length: 73			
Actuated Cycle Length: 52.6			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 36.8		Intersection LOS: D	
Intersection Capacity Utilization 76.7%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: NY 312 & I-84 WB Ramps

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	262	2	4	226	4	2
Future Volume (vph)	262	2	4	226	4	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999				0.961	
Flt Protected				0.999	0.966	
Satd. Flow (prot)	1772	0	0	1810	1729	0
Flt Permitted				0.999	0.966	
Satd. Flow (perm)	1772	0	0	1810	1729	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	0%	5%	0%	0%
Adj. Flow (vph)	298	2	5	257	5	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	300	0	0	262	7	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.1%		ICU Level of Service A	
Analysis Period (min) 15			

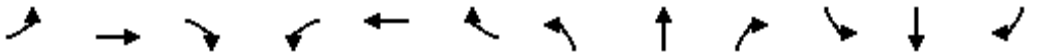
Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	262	2	4	226	4	2
Future Vol, veh/h	262	2	4	226	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	0	0	5	0	0
Mvmt Flow	298	2	5	257	5	2

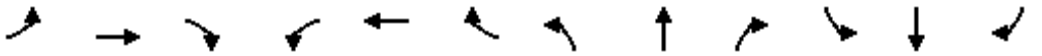
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	300	0	566	299
Stage 1	-	-	-	-	299	-
Stage 2	-	-	-	-	267	-
Critical Hdwy	-	-	4.1	-	7.2	6.6
Critical Hdwy Stg 1	-	-	-	-	6.2	-
Critical Hdwy Stg 2	-	-	-	-	6.2	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1273	-	431	721
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	737	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1273	-	429	721
Mov Cap-2 Maneuver	-	-	-	-	429	-
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	733	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	496	-	-	1273	-
HCM Lane V/C Ratio	0.014	-	-	0.004	-
HCM Control Delay (s)	12.4	-	-	7.8	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)	25	35	2	202	8	904	6	208	195	927	223	16
Future Volume (vph)	25	35	2	202	8	904	6	208	195	927	223	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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		0.990	
Flt Protected		0.980			0.954		0.950			0.950		
Satd. Flow (prot)	0	1431	0	0	1735	1546	1762	1761	1479	1661	1718	0
Flt Permitted		0.821			0.686		0.597			0.488		
Satd. Flow (perm)	0	1199	0	0	1248	1546	1107	1761	1479	853	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				469			214		5	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	27	38	2	222	9	993	7	229	214	1019	245	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	0	0	231	993	7	229	214	1019	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	



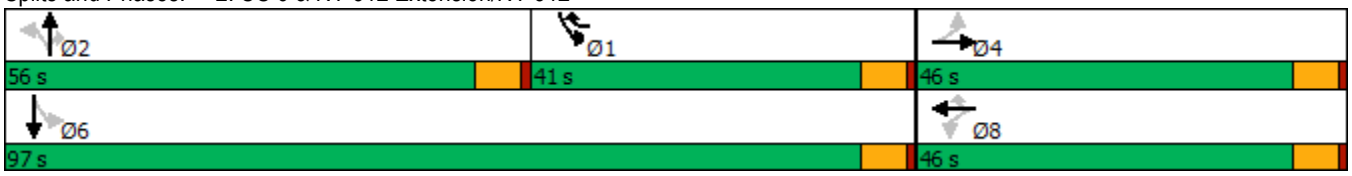
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		22.2			22.2	64.0	18.5	18.5	18.5	60.2	60.2	
Actuated g/C Ratio		0.23			0.23	0.68	0.20	0.20	0.20	0.64	0.64	
v/c Ratio		0.24			0.79	0.83	0.03	0.67	0.47	1.20	0.24	
Control Delay		31.8			54.1	13.7	32.8	46.2	8.4	127.0	8.9	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		31.8			54.1	13.7	32.8	46.2	8.4	127.0	8.9	
LOS		C			D	B	C	D	A	F	A	
Approach Delay		31.8			21.4			28.0			102.7	
Approach LOS		C			C			C			F	
Queue Length 50th (ft)		32			128	192	3	126	0	~599	59	
Queue Length 95th (ft)		74			238	568	16	230	60	#1052	130	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)							105		260	390		
Base Capacity (vph)		516			536	1196	595	946	894	846	1604	
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		0.13			0.43	0.83	0.01	0.24	0.24	1.20	0.16	

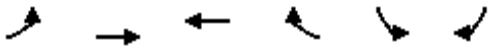
Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 94.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 57.1		Intersection LOS: E	
Intersection Capacity Utilization 95.6%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

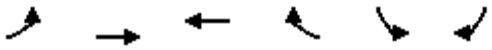
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	87	1083	1052	207	166	71
Future Volume (vph)	87	1083	1052	207	166	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	95	80
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	3504	1900	1431	3144	1740
Flt Permitted	0.100				0.950	
Satd. Flow (perm)	188	3504	1900	1431	3144	1740
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						74
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	1%	14%	20%	0%
Adj. Flow (vph)	91	1128	1096	216	173	74
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	1128	1096	216	173	74
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0	0	2	2
Detector Template					NYSDOT	NYSDOT
Leading Detector (ft)	0	0	0	0	83	83
Trailing Detector (ft)	0	0	0	0	-5	-5
Detector 1 Position(ft)	0	0	0	0	-5	-5
Detector 1 Size(ft)	20	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)					43	43
Detector 2 Size(ft)					40	40
Detector 2 Type					Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)					0.0	0.0



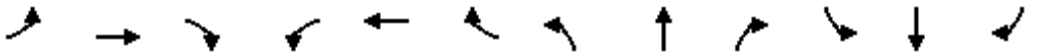
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	Perm	NA	NA	pm+ov	Prot	Perm
Protected Phases		6	2	3	3	
Permitted Phases	6			2		3
Detector Phase	6	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	65.0	65.0	65.0	15.0	15.0	15.0
Total Split (%)	81.3%	81.3%	81.3%	18.8%	18.8%	18.8%
Maximum Green (s)	59.0	59.0	59.0	9.0	9.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	None	None	None
Act Effct Green (s)	40.0	40.0	40.0	60.8	8.3	8.3
Actuated g/C Ratio	0.66	0.66	0.66	1.00	0.14	0.14
v/c Ratio	0.74	0.49	0.88	0.15	0.41	0.25
Control Delay	45.2	5.7	17.3	0.2	30.7	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	5.7	17.3	0.2	30.7	11.0
LOS	D	A	B	A	C	B
Approach Delay		8.6	14.5		24.8	
Approach LOS		A	B		C	
Queue Length 50th (ft)	18	88	264	0	29	0
Queue Length 95th (ft)	#113	120	446	0	73	37
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100				95	80
Base Capacity (vph)	172	3209	1740	1356	486	331
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.35	0.63	0.16	0.36	0.22

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 60.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 12.8		Intersection LOS: B	
Intersection Capacity Utilization 79.9%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: NY 312 & Pugsley Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	423	404	447	515	671	109	406	228	415	78	215	196
Future Volume (vph)	423	404	447	515	671	109	406	228	415	78	215	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.979				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.977		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3246	0	1580	3233	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.977		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3246	0	1580	3233	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166		11				360			62
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	475	454	502	579	754	122	456	256	466	88	242	220
Shared Lane Traffic (%)							49%					
Lane Group Flow (vph)	475	454	502	579	876	0	233	479	466	88	242	220
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



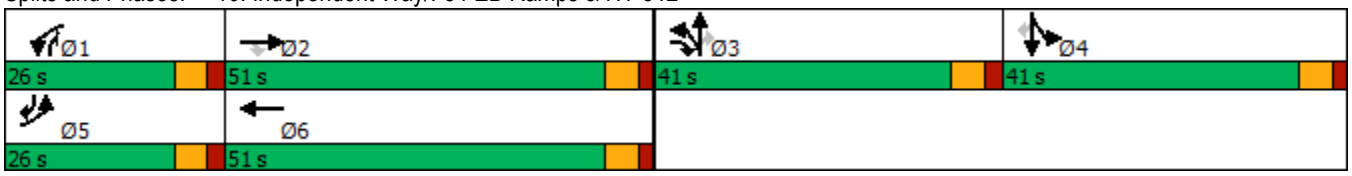
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	51.0	41.0	26.0	51.0		41.0	41.0	26.0	41.0	41.0	26.0
Total Split (%)	16.4%	32.1%	25.8%	16.4%	32.1%		25.8%	25.8%	16.4%	25.8%	25.8%	16.4%
Maximum Green (s)	20.0	45.0	35.0	20.0	45.0		35.0	35.0	20.0	35.0	35.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	None	None	Min		None	None	None	None	None	None
Act Effct Green (s)	20.4	40.5	74.2	20.4	40.5		27.6	27.6	48.0	22.9	22.9	49.5
Actuated g/C Ratio	0.15	0.30	0.55	0.15	0.30		0.20	0.20	0.35	0.17	0.17	0.36
v/c Ratio	0.96	0.87	0.54	1.16	0.90		0.73	0.73	0.61	0.32	0.79	0.36
Control Delay	90.3	64.7	15.1	143.1	59.0		66.2	58.8	8.3	54.8	73.9	25.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.3	64.7	15.1	143.1	59.0		66.2	58.8	8.3	54.8	73.9	25.4
LOS	F	E	B	F	E		E	E	A	D	E	C
Approach Delay		55.8			92.4			40.3			51.4	
Approach LOS		E			F			D			D	
Queue Length 50th (ft)	~236	382	179	~335	388		220	227	40	72	216	106
Queue Length 95th (ft)	#402	#646	310	#518	#576		347	312	94	129	323	184
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	493	591	1019	498	1104		415	849	760	432	480	615
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.77	0.49	1.16	0.79		0.56	0.56	0.61	0.20	0.50	0.36

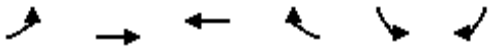
Intersection Summary			
Area Type:	Other		
Cycle Length: 159			
Actuated Cycle Length: 135.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 62.9		Intersection LOS: E	
Intersection Capacity Utilization 79.3%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

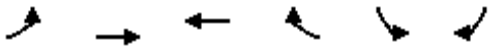
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	351	547	656	113	60	638
Future Volume (vph)	351	547	656	113	60	638
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.152				0.950	
Satd. Flow (perm)	276	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				68		26
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	403	629	754	130	69	733
Shared Lane Traffic (%)						
Lane Group Flow (vph)	403	629	754	130	69	733
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	16.0	42.0	26.0	31.0	31.0	16.0
Total Split (%)	21.9%	57.5%	35.6%	42.5%	42.5%	21.9%
Maximum Green (s)	10.0	36.0	20.0	25.0	25.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	None	None
Act Effct Green (s)	36.5	38.0	20.3	33.0	6.7	20.2
Actuated g/C Ratio	0.69	0.72	0.39	0.63	0.13	0.38
v/c Ratio	0.86	0.47	1.11	0.14	0.31	1.13
Control Delay	33.0	6.3	91.5	3.0	25.6	94.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	6.3	91.5	3.0	25.6	94.0
LOS	C	A	F	A	C	F
Approach Delay		16.8	78.5		88.1	
Approach LOS		B	E		F	
Queue Length 50th (ft)	76	84	~303	7	21	~265
Queue Length 95th (ft)	#224	159	#486	22	49	#425
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	470	1337	679	1369	846	650
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.47	1.11	0.09	0.08	1.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 73			
Actuated Cycle Length: 52.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 57.9		Intersection LOS: E	
Intersection Capacity Utilization 84.0%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: NY 312 & I-84 WB Ramps

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	262	5	7	226	6	4
Future Volume (vph)	262	5	7	226	6	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.944	
Flt Protected				0.998	0.972	
Satd. Flow (prot)	1769	0	0	1809	1709	0
Flt Permitted				0.998	0.972	
Satd. Flow (perm)	1769	0	0	1809	1709	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	0%	5%	0%	0%
Adj. Flow (vph)	298	6	8	257	7	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	304	0	0	265	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

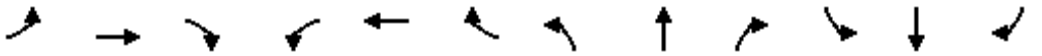
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	262	5	7	226	6	4
Future Vol, veh/h	262	5	7	226	6	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	0	0	5	0	0
Mvmt Flow	298	6	8	257	7	5

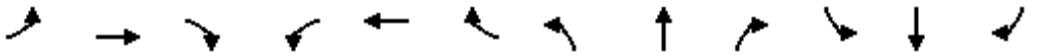
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	304	0	574	301
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	273	-
Critical Hdwy	-	-	4.1	-	7.2	6.6
Critical Hdwy Stg 1	-	-	-	-	6.2	-
Critical Hdwy Stg 2	-	-	-	-	6.2	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1268	-	426	719
Stage 1	-	-	-	-	706	-
Stage 2	-	-	-	-	732	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1268	-	423	719
Mov Cap-2 Maneuver	-	-	-	-	423	-
Stage 1	-	-	-	-	706	-
Stage 2	-	-	-	-	727	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	506	-	-	1268	-
HCM Lane V/C Ratio	0.022	-	-	0.006	-
HCM Control Delay (s)	12.3	-	-	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)	25	35	2	202	8	904	6	208	195	927	223	16
Future Volume (vph)	25	35	2	202	8	904	6	208	195	927	223	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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		0.990	
Flt Protected		0.980			0.954		0.950			0.950		
Satd. Flow (prot)	0	1431	0	0	1735	1546	1762	1761	1479	1661	1718	0
Flt Permitted		0.821			0.686		0.597			0.488		
Satd. Flow (perm)	0	1199	0	0	1248	1546	1107	1761	1479	853	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				469			214		5	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	27	38	2	222	9	993	7	229	214	1019	245	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	0	0	231	993	7	229	214	1019	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	



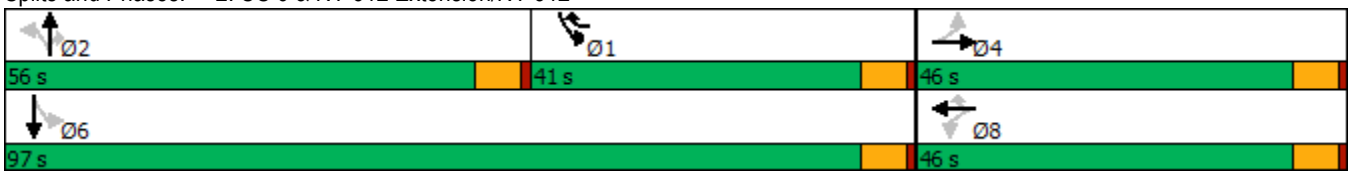
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	46.0	46.0		46.0	46.0	41.0	56.0	56.0	56.0	41.0	97.0	
Total Split (%)	32.2%	32.2%		32.2%	32.2%	28.7%	39.2%	39.2%	39.2%	28.7%	67.8%	
Maximum Green (s)	40.0	40.0		40.0	40.0	35.0	50.0	50.0	50.0	35.0	91.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		22.2			22.2	64.0	18.5	18.5	18.5	60.2	60.2	
Actuated g/C Ratio		0.23			0.23	0.68	0.20	0.20	0.20	0.64	0.64	
v/c Ratio		0.24			0.79	0.83	0.03	0.67	0.47	1.20	0.24	
Control Delay		31.8			54.1	13.7	32.8	46.2	8.4	127.0	8.9	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		31.8			54.1	13.7	32.8	46.2	8.4	127.0	8.9	
LOS		C			D	B	C	D	A	F	A	
Approach Delay		31.8			21.4			28.0			102.7	
Approach LOS		C			C			C			F	
Queue Length 50th (ft)		32			128	192	3	126	0	~599	59	
Queue Length 95th (ft)		74			238	568	16	230	60	#1052	130	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)							105		260	390		
Base Capacity (vph)		516			536	1196	595	946	894	846	1604	
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		0.13			0.43	0.83	0.01	0.24	0.24	1.20	0.16	

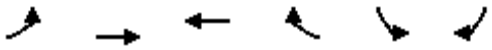
Intersection Summary			
Area Type:	Other		
Cycle Length: 143			
Actuated Cycle Length: 94.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 57.1		Intersection LOS: E	
Intersection Capacity Utilization 95.6%		ICU Level of Service F	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

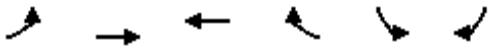
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312





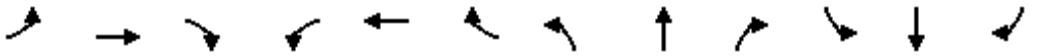
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	87	1083	1052	207	166	71
Future Volume (vph)	87	1083	1052	207	166	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	0	110
Storage Lanes	1			0	2	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.95
Frt			0.975		0.955	
Flt Protected	0.950				0.966	
Satd. Flow (prot)	1787	3504	3447	0	3213	0
Flt Permitted	0.114				0.966	
Satd. Flow (perm)	214	3504	3447	0	3213	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			51		71	
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	1%	14%	20%	0%
Adj. Flow (vph)	91	1128	1096	216	173	74
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	1128	1312	0	247	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0		2	
Detector Template					NYSDOT	
Leading Detector (ft)	0	0	0		83	
Trailing Detector (ft)	0	0	0		-5	
Detector 1 Position(ft)	0	0	0		-5	
Detector 1 Size(ft)	20	6	6		40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)					43	
Detector 2 Size(ft)					40	
Detector 2 Type					Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)					0.0	



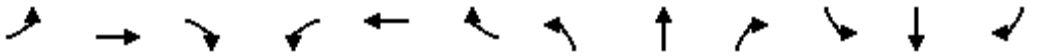
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	6	2		3	
Permitted Phases	6					
Detector Phase	1	6	2		3	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	11.0	11.0	11.0		11.0	
Total Split (s)	11.0	65.0	54.0		15.0	
Total Split (%)	13.8%	81.3%	67.5%		18.8%	
Maximum Green (s)	5.0	59.0	48.0		9.0	
Yellow Time (s)	4.0	4.0	4.0		4.0	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	Min	Min		None	
Act Effct Green (s)	37.3	37.3	29.0		8.1	
Actuated g/C Ratio	0.65	0.65	0.50		0.14	
v/c Ratio	0.33	0.50	0.75		0.48	
Control Delay	6.7	6.0	14.8		21.7	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	6.7	6.0	14.8		21.7	
LOS	A	A	B		C	
Approach Delay		6.1	14.8		21.7	
Approach LOS		A	B		C	
Queue Length 50th (ft)	10	89	189		29	
Queue Length 95th (ft)	21	124	262		69	
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100					
Base Capacity (vph)	278	3338	2849		576	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.33	0.34	0.46		0.43	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 57.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 11.6		Intersection LOS: B	
Intersection Capacity Utilization 62.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: NY 312 & Pugsley Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	423	404	447	515	671	109	406	228	415	78	215	196
Future Volume (vph)	423	404	447	515	671	109	406	228	415	78	215	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.979				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.977		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3246	0	1580	3233	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.977		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3246	0	1580	3233	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			166		11				360			62
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	475	454	502	579	754	122	456	256	466	88	242	220
Shared Lane Traffic (%)							49%					
Lane Group Flow (vph)	475	454	502	579	876	0	233	479	466	88	242	220
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0



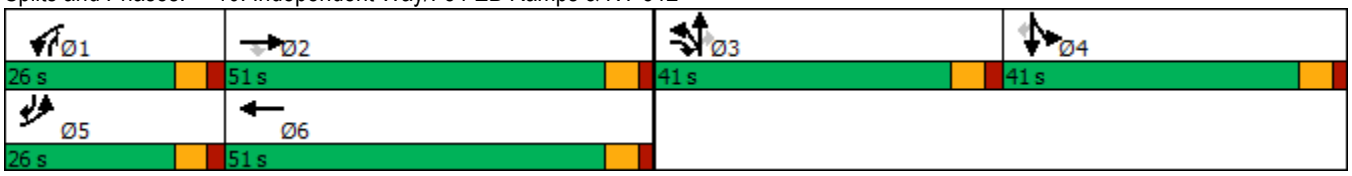
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	26.0	51.0	41.0	26.0	51.0		41.0	41.0	26.0	41.0	41.0	26.0
Total Split (%)	16.4%	32.1%	25.8%	16.4%	32.1%		25.8%	25.8%	16.4%	25.8%	25.8%	16.4%
Maximum Green (s)	20.0	45.0	35.0	20.0	45.0		35.0	35.0	20.0	35.0	35.0	20.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	None	None	Min		None	None	None	None	None	None
Act Effct Green (s)	20.4	40.5	74.2	20.4	40.5		27.6	27.6	48.0	22.9	22.9	49.5
Actuated g/C Ratio	0.15	0.30	0.55	0.15	0.30		0.20	0.20	0.35	0.17	0.17	0.36
v/c Ratio	0.96	0.87	0.54	1.16	0.90		0.73	0.73	0.61	0.32	0.79	0.36
Control Delay	90.3	64.7	15.1	143.1	59.0		66.2	58.8	8.3	54.8	73.9	25.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.3	64.7	15.1	143.1	59.0		66.2	58.8	8.3	54.8	73.9	25.4
LOS	F	E	B	F	E		E	E	A	D	E	C
Approach Delay		55.8			92.4			40.3			51.4	
Approach LOS		E			F			D			D	
Queue Length 50th (ft)	~236	382	179	~335	388		220	227	40	72	216	106
Queue Length 95th (ft)	#402	#646	310	#518	#576		347	312	94	129	323	184
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	493	591	1019	498	1104		415	849	760	432	480	615
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.77	0.49	1.16	0.79		0.56	0.56	0.61	0.20	0.50	0.36

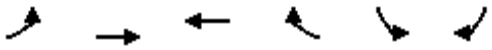
Intersection Summary			
Area Type:	Other		
Cycle Length: 159			
Actuated Cycle Length: 135.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 62.9		Intersection LOS: E	
Intersection Capacity Utilization 79.3%		ICU Level of Service D	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

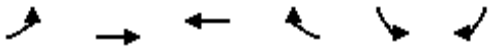
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	351	547	656	113	60	638
Future Volume (vph)	351	547	656	113	60	638
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.152				0.950	
Satd. Flow (perm)	276	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				68		26
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	403	629	754	130	69	733
Shared Lane Traffic (%)						
Lane Group Flow (vph)	403	629	754	130	69	733
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	16.0	42.0	26.0	31.0	31.0	16.0
Total Split (%)	21.9%	57.5%	35.6%	42.5%	42.5%	21.9%
Maximum Green (s)	10.0	36.0	20.0	25.0	25.0	10.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	None	None
Act Effct Green (s)	36.5	38.0	20.3	33.0	6.7	20.2
Actuated g/C Ratio	0.69	0.72	0.39	0.63	0.13	0.38
v/c Ratio	0.86	0.47	1.11	0.14	0.31	1.13
Control Delay	33.0	6.3	91.5	3.0	25.6	94.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	6.3	91.5	3.0	25.6	94.0
LOS	C	A	F	A	C	F
Approach Delay		16.8	78.5		88.1	
Approach LOS		B	E		F	
Queue Length 50th (ft)	76	84	~303	7	21	~265
Queue Length 95th (ft)	#224	159	#486	22	49	#425
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	470	1337	679	1369	846	650
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.47	1.11	0.09	0.08	1.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 73			
Actuated Cycle Length: 52.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 57.9		Intersection LOS: E	
Intersection Capacity Utilization 84.0%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: NY 312 & I-84 WB Ramps

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	262	5	7	226	6	4
Future Volume (vph)	262	5	7	226	6	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12
Grade (%)	3%			-7%	4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.944	
Flt Protected				0.998	0.972	
Satd. Flow (prot)	1769	0	0	1809	1709	0
Flt Permitted				0.998	0.972	
Satd. Flow (perm)	1769	0	0	1809	1709	0
Link Speed (mph)	40			40	30	
Link Distance (ft)	339			334	611	
Travel Time (s)	5.8			5.7	13.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	0%	5%	0%	0%
Adj. Flow (vph)	298	6	8	257	7	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	304	0	0	265	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.00	1.00	1.03	1.03
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.3

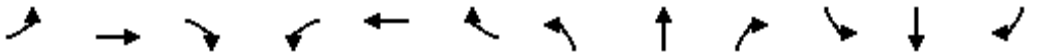
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	262	5	7	226	6	4
Future Vol, veh/h	262	5	7	226	6	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	3	-	-	-7	4	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	0	0	5	0	0
Mvmt Flow	298	6	8	257	7	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	304	0	574	301
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	273	-
Critical Hdwy	-	-	4.1	-	7.2	6.6
Critical Hdwy Stg 1	-	-	-	-	6.2	-
Critical Hdwy Stg 2	-	-	-	-	6.2	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1268	-	426	719
Stage 1	-	-	-	-	706	-
Stage 2	-	-	-	-	732	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1268	-	423	719
Mov Cap-2 Maneuver	-	-	-	-	423	-
Stage 1	-	-	-	-	706	-
Stage 2	-	-	-	-	727	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	506	-	-	1268	-
HCM Lane V/C Ratio	0.022	-	-	0.006	-
HCM Control Delay (s)	12.3	-	-	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)	25	35	2	202	8	904	6	208	195	927	223	16
Future Volume (vph)	25	35	2	202	8	904	6	208	195	927	223	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	11	12	13	11	12	12
Grade (%)		-2%			-2%			-2%			2%	
Storage Length (ft)	0		0	180		0	105		260	390		0
Storage Lanes	0		0	1		1	1		1	1		0
Taper Length (ft)	50			50			50			50		
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		0.990	
Flt Protected		0.980			0.954		0.950			0.950		
Satd. Flow (prot)	0	1431	0	0	1735	1546	1762	1761	1479	1661	1718	0
Flt Permitted		0.755			0.733		0.593			0.414		
Satd. Flow (perm)	0	1103	0	0	1333	1546	1100	1761	1479	724	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				162			214		6	
Link Speed (mph)		30			45			55			55	
Link Distance (ft)		395			1214			1103			839	
Travel Time (s)		9.0			18.4			13.7			10.4	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	40%	26%	0%	2%	2%	2%	0%	9%	14%	4%	9%	0%
Adj. Flow (vph)	27	38	2	222	9	993	7	229	214	1019	245	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	0	0	231	993	7	229	214	1019	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.03	1.03	1.03	1.03	0.99	0.95	1.06	1.01	1.01
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	2	2	2	2	2	2	
Detector Template	Left	NYSDOT		Left	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	20	83		20	83	83	83	83	83	83	83	
Trailing Detector (ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Position(ft)	0	-5		0	-5	-5	-5	-5	-5	-5	-5	
Detector 1 Size(ft)	20	40		20	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		43			43	43	43	43	43	43	43	
Detector 2 Size(ft)		40			40	40	40	40	40	40	40	
Detector 2 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	



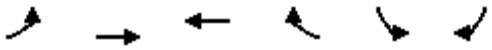
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	21.0	
Total Split (s)	37.0	37.0		37.0	37.0	58.0	25.0	25.0	25.0	58.0	83.0	
Total Split (%)	30.8%	30.8%		30.8%	30.8%	48.3%	20.8%	20.8%	20.8%	48.3%	69.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0	52.0	19.0	19.0	19.0	52.0	77.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0			6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Lead/Lag						Lag	Lead	Lead	Lead	Lag		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	6.0	
Recall Mode	None	None		None	None	None	None	None	None	None	Min	
Act Effct Green (s)		23.8			23.8	82.1	17.6	17.6	17.6	75.9	75.9	
Actuated g/C Ratio		0.21			0.21	0.73	0.16	0.16	0.16	0.68	0.68	
v/c Ratio		0.29			0.82	0.84	0.04	0.83	0.52	1.10	0.23	
Control Delay		39.3			64.4	17.0	43.0	71.1	10.8	84.7	8.0	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		39.3			64.4	17.0	43.0	71.1	10.8	84.7	8.0	
LOS		D			E	B	D	E	B	F	A	
Approach Delay		39.3			25.9			42.0			69.0	
Approach LOS		D			C			D			E	
Queue Length 50th (ft)		40			161	385	4	162	0	~733	65	
Queue Length 95th (ft)		82			254	643	19	#306	70	#1077	118	
Internal Link Dist (ft)		315			1134			1023			759	
Turn Bay Length (ft)							105		260	390		
Base Capacity (vph)		308			371	1178	188	300	430	929	1192	
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		0.22			0.62	0.84	0.04	0.76	0.50	1.10	0.22	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 111.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay: 46.9		Intersection LOS: D	
Intersection Capacity Utilization 95.6%		ICU Level of Service F	
Analysis Period (min) 15			

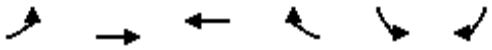
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 6 & NY 312 Extension/NY 312



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	87	1083	1052	207	166	71
Future Volume (vph)	87	1083	1052	207	166	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	14	14
Grade (%)		2%	-2%		-2%	
Storage Length (ft)	100			0	95	80
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.97	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	3504	1900	1431	3144	1740
Flt Permitted	0.114				0.950	
Satd. Flow (perm)	214	3504	1900	1431	3144	1740
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)						74
Link Speed (mph)		45	45		30	
Link Distance (ft)		1316	530		1252	
Travel Time (s)		19.9	8.0		28.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	2%	1%	14%	20%	0%
Adj. Flow (vph)	91	1128	1096	216	173	74
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	1128	1096	216	173	74
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		28	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	0.99	0.99	0.91	0.91
Turning Speed (mph)	15			9	15	9
Number of Detectors	0	0	0	0	2	2
Detector Template					NYSDOT	NYSDOT
Leading Detector (ft)	0	0	0	0	83	83
Trailing Detector (ft)	0	0	0	0	-5	-5
Detector 1 Position(ft)	0	0	0	0	-5	-5
Detector 1 Size(ft)	20	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)					43	43
Detector 2 Size(ft)					40	40
Detector 2 Type					Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)					0.0	0.0

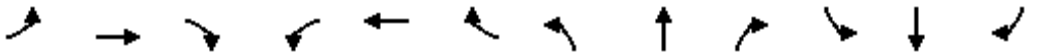


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	Perm	NA	NA	pm+ov	Prot	Perm
Protected Phases		6	2	3	3	
Permitted Phases	6			2		3
Detector Phase	6	6	2	3	3	3
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0
Total Split (s)	49.0	49.0	49.0	11.0	11.0	11.0
Total Split (%)	81.7%	81.7%	81.7%	18.3%	18.3%	18.3%
Maximum Green (s)	43.0	43.0	43.0	5.0	5.0	5.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	None	None	None
Act Effct Green (s)	35.2	35.2	35.2	52.5	5.1	5.1
Actuated g/C Ratio	0.67	0.67	0.67	1.00	0.10	0.10
v/c Ratio	0.64	0.48	0.86	0.15	0.57	0.32
Control Delay	30.0	4.8	15.2	0.2	33.9	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	4.8	15.2	0.2	33.9	11.9
LOS	C	A	B	A	C	B
Approach Delay		6.7	12.8		27.3	
Approach LOS		A	B		C	
Queue Length 50th (ft)	12	66	199	0	26	0
Queue Length 95th (ft)	#90	94	#376	0	#70	33
Internal Link Dist (ft)		1236	450		1172	
Turn Bay Length (ft)	100				95	80
Base Capacity (vph)	178	2914	1580	1431	304	234
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.39	0.69	0.15	0.57	0.32

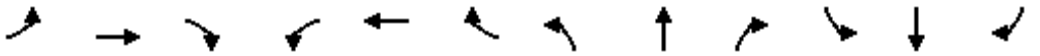
Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 52.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 11.4 Intersection LOS: B
Intersection Capacity Utilization 79.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: NY 312 & Pugsley Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	423	404	447	515	671	109	406	228	415	78	215	196
Future Volume (vph)	423	404	447	515	671	109	406	228	415	78	215	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	12	12
Grade (%)		1%			-1%			-2%			0%	
Storage Length (ft)	200		250	300		300	0		0	0		200
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	50			50			50			50		
Lane Util. Factor	0.97	1.00	1.00	0.97	0.95	0.95	0.91	0.91	1.00	1.00	1.00	1.00
Frt			0.850		0.979				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.977		0.950		
Satd. Flow (prot)	3287	1750	1575	3320	3246	0	1580	3233	1496	1646	1827	1583
Flt Permitted	0.950			0.950			0.950	0.977		0.950		
Satd. Flow (perm)	3287	1750	1575	3320	3246	0	1580	3233	1496	1646	1827	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155		11				358			62
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		595			1417			424			345	
Travel Time (s)		9.0			21.5			9.6			7.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	6%	8%	2%	6%	9%	12%	5%	6%	9%	6%	4%	2%
Adj. Flow (vph)	475	454	502	579	754	122	456	256	466	88	242	220
Shared Lane Traffic (%)							49%					
Lane Group Flow (vph)	475	454	502	579	876	0	233	479	466	88	242	220
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	0.99	0.99	0.99	1.04	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0	0	2	0		2	2	2	2	2	2
Detector Template	NYSDOT			NYSDOT			NYSDOT	NYSDOT	NYSDOT	NYSDOT	NYSDOT	
Leading Detector (ft)	83	0	0	83	0		83	83	83	83	83	83
Trailing Detector (ft)	-5	0	0	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Position(ft)	-5	0	-5	-5	0		-5	-5	-5	-5	-5	-5
Detector 1 Size(ft)	40	6	40	40	6		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43			43			43	43	43	43	43	43
Detector 2 Size(ft)	40			40			40	40	40	40	40	40
Detector 2 Type	Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0

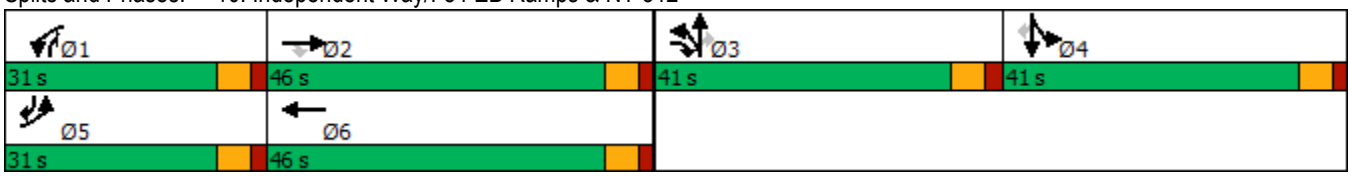


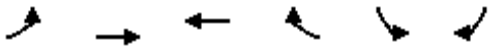
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA	pm+ov	Split	NA	pm+ov
Protected Phases	5	2	3	1	6		3	3	1	4	4	5
Permitted Phases			2						3			4
Detector Phase	5	2	3	1	6		3	3	1	4	4	5
Switch Phase												
Minimum Initial (s)	3.0	10.0	5.0	3.0	10.0		5.0	5.0	3.0	5.0	5.0	3.0
Minimum Split (s)	9.0	16.0	11.0	9.0	16.0		11.0	11.0	9.0	11.0	11.0	9.0
Total Split (s)	31.0	46.0	41.0	31.0	46.0		41.0	41.0	31.0	41.0	41.0	31.0
Total Split (%)	19.5%	28.9%	25.8%	19.5%	28.9%		25.8%	25.8%	19.5%	25.8%	25.8%	19.5%
Maximum Green (s)	25.0	40.0	35.0	25.0	40.0		35.0	35.0	25.0	35.0	35.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	None	None	Min		None	None	None	None	None	None
Act Effct Green (s)	23.4	40.3	74.1	25.2	42.2		27.8	27.8	53.0	23.1	23.1	52.5
Actuated g/C Ratio	0.17	0.29	0.53	0.18	0.30		0.20	0.20	0.38	0.16	0.16	0.37
v/c Ratio	0.87	0.90	0.56	0.97	0.89		0.75	0.75	0.59	0.33	0.81	0.35
Control Delay	75.1	72.1	17.8	88.4	60.1		69.3	61.5	7.5	55.8	77.5	23.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.1	72.1	17.8	88.4	60.1		69.3	61.5	7.5	55.8	77.5	23.8
LOS	E	E	B	F	E		E	E	A	E	E	C
Approach Delay		54.0			71.3			41.7			52.6	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	218	404	204	275	410		221	228	37	72	216	100
Queue Length 95th (ft)	#345	#705	344	#460	#635		347	312	83	129	323	174
Internal Link Dist (ft)		515			1337			344			265	
Turn Bay Length (ft)	200		250	300								200
Base Capacity (vph)	589	502	979	595	981		396	811	786	413	458	650
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.90	0.51	0.97	0.89		0.59	0.59	0.59	0.21	0.53	0.34

Intersection Summary			
Area Type:	Other		
Cycle Length: 159			
Actuated Cycle Length: 140.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 56.2		Intersection LOS: E	
Intersection Capacity Utilization 79.3%		ICU Level of Service D	
Analysis Period (min) 15			

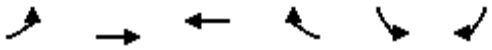
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Independent Way/I-84 EB Ramps & NY 312





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	351	547	656	113	60	638
Future Volume (vph)	351	547	656	113	60	638
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	12	13	13
Grade (%)		-1%	2%		0%	
Storage Length (ft)	325			250	125	0
Storage Lanes	1			1	1	1
Taper Length (ft)	50				50	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1854	1765	1454	1760	1652
Flt Permitted	0.089				0.950	
Satd. Flow (perm)	162	1854	1765	1454	1760	1652
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				130		109
Link Speed (mph)		45	45		30	
Link Distance (ft)		1417	528		436	
Travel Time (s)		21.5	8.0		9.9	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	5%	3%	3%	10%	6%	1%
Adj. Flow (vph)	403	629	754	130	69	733
Shared Lane Traffic (%)						
Lane Group Flow (vph)	403	629	754	130	69	733
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.06	1.01	0.96	0.96
Turning Speed (mph)	15			9	15	9
Number of Detectors	2	0	0	0	2	2
Detector Template	NYSDOT				NYSDOTNYSDOT	
Leading Detector (ft)	83	0	0	0	83	83
Trailing Detector (ft)	-5	0	0	0	-5	-5
Detector 1 Position(ft)	-5	0	0	0	-5	-5
Detector 1 Size(ft)	40	6	6	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	43				43	43
Detector 2 Size(ft)	40				40	40
Detector 2 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0				0.0	0.0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	1	6	2	3	3	1
Permitted Phases	6			2		3
Detector Phase	1	6	2	3	3	1
Switch Phase						
Minimum Initial (s)	3.0	10.0	10.0	3.0	3.0	3.0
Minimum Split (s)	9.0	16.0	16.0	9.0	9.0	9.0
Total Split (s)	31.0	76.0	45.0	14.0	14.0	31.0
Total Split (%)	34.4%	84.4%	50.0%	15.6%	15.6%	34.4%
Maximum Green (s)	25.0	70.0	39.0	8.0	8.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	None	None
Act Effct Green (s)	70.0	70.0	39.0	52.0	7.0	38.0
Actuated g/C Ratio	0.79	0.79	0.44	0.58	0.08	0.43
v/c Ratio	0.71	0.43	0.98	0.14	0.50	0.96
Control Delay	26.6	4.2	53.7	2.0	51.9	45.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.6	4.2	53.7	2.0	51.9	45.8
LOS	C	A	D	A	D	D
Approach Delay		13.0	46.1		46.3	
Approach LOS		B	D		D	
Queue Length 50th (ft)	149	93	412	0	38	343
Queue Length 95th (ft)	242	129	#625	20	77	#555
Internal Link Dist (ft)		1337	448		356	
Turn Bay Length (ft)	325			250	125	
Base Capacity (vph)	567	1458	772	918	158	767
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.43	0.98	0.14	0.44	0.96

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 89			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 33.6		Intersection LOS: C	
Intersection Capacity Utilization 84.0%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: NY 312 & I-84 WB Ramps

APPENDIX E

ACCIDENT DATA

Case Num	Case Year	County	Comp Muni	Muni Type	Comp Ref Marker	At Intersection	Comp X	Comp Y	Accd Date	Accd Time	Severity	Num Of Injuries
38739062	2020	PUTNAM	Southeast	3		N	614577.7514	4586699.2466	12/03/2020	09:05am	PROPERTY DAMAGE	0
38241206	2019	PUTNAM	Southeast	3		Y	614448.8200	4586693.3300	12/20/2019	04:54pm	PROPERTY DAMAGE AND INJURY	1
37640737	2018	PUTNAM	Southeast	3		N	614545.9579	4586654.1288	12/03/2018	10:30am	PROPERTY DAMAGE	0
38421695	2020	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	05/16/2020	01:20pm	PROPERTY DAMAGE	0
38612858	2020	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	10/27/2020	08:35am	PROPERTY DAMAGE	0
38096844	2019	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	09/22/2019	12:50pm	PROPERTY DAMAGE	0
37699803	2019	PUTNAM	Southeast	3	312 84011000	Y	613521.4700	4585796.8800	01/19/2019	04:39pm	NON-REPORTABLE	0
38223530	2019	PUTNAM	Southeast	3	312 84011013	N	614901.8128	4587033.0482	12/08/2019	08:20pm	PROPERTY DAMAGE	0
37939004	2019	PUTNAM	Southeast	3	312 84011000	N	613592.5875	4585854.1413	06/19/2019	09:07am	NON-REPORTABLE	0
37292787	2018	PUTNAM	Southeast	3	312 84011011	N	614732.9664	4586809.0374	05/07/2018	11:00am	NON-REPORTABLE	0
38071671	2019	PUTNAM	Southeast	3	312 84011002	N	613817.4796	4586010.6517	09/07/2019	11:42am	PROPERTY DAMAGE	0
38514369	2020	PUTNAM	Southeast	3	312 84011010	N	614551.8887	4586707.4672	08/10/2020	02:15pm	PROPERTY DAMAGE	0
38759877	2021	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	01/25/2021	06:15am	PROPERTY DAMAGE AND INJURY	1
38644677	2020	PUTNAM	Southeast	3	312 84011001	N	613644.8022	4585885.5587	11/21/2020	08:35pm	PROPERTY DAMAGE	0
37619438	2018	PUTNAM	Southeast	3		Y	614573.9686	4586713.2614	12/01/2018	12:30pm	PROPERTY DAMAGE	0
38742467	2020	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	12/09/2020	11:57am	PROPERTY DAMAGE	0
37956942	2019	PUTNAM	Southeast	3	84I84031069	N	614704.2672	4586856.2200	06/28/2019	04:23pm	PROPERTY DAMAGE	0
37236255	2018	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	04/15/2018	01:00pm	PROPERTY DAMAGE	0
38134963	2019	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	10/07/2019	09:41am	NON-REPORTABLE	0
37362647	2018	PUTNAM	Southeast	3	312 84011011	N	614666.8107	4586757.8144	06/26/2018	10:20am	PROPERTY DAMAGE AND INJURY	1
37886466	2019	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	05/13/2019	02:55pm	PROPERTY DAMAGE AND INJURY	1
38265208	2020	PUTNAM	Southeast	3	312 84011013	N	614901.8128	4587033.0482	01/08/2020	04:00pm	PROPERTY DAMAGE	0
38213586	2018	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	11/15/2018	05:00pm	PROPERTY DAMAGE	0
38328671	2020	PUTNAM	Southeast	3	312 84011010	N	614528.5376	4586701.9048	02/11/2020	04:05pm	PROPERTY DAMAGE	0
38233017	2019	PUTNAM	Southeast	3	312 84011006	N	614114.7560	4586485.0320	12/17/2019	08:48am	PROPERTY DAMAGE	0
38234419	2019	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	12/17/2019	09:50am	PROPERTY DAMAGE	0
37664590	2018	PUTNAM	Southeast	3	312 84011010	Y	614589.2771	4586719.5207	12/27/2018	03:16pm	PROPERTY DAMAGE	0
38155391	2019	PUTNAM	Southeast	3	312 84011012	N	614815.7729	4586899.9119	10/30/2019	09:25am	PROPERTY DAMAGE	0
38377106	2020	PUTNAM	Southeast	3	312 84011010	Y	614572.7864	4586713.6150	03/21/2020	03:30pm	PROPERTY DAMAGE	0
37733022	2019	PUTNAM	Southeast	3	312 84011002	N	613794.1512	4585986.6385	02/07/2019	07:30am	PROPERTY DAMAGE	0
38294063	2020	PUTNAM	Southeast	3	312 84011010	Y	614572.5512	4586713.5333	01/18/2020	02:35pm	PROPERTY DAMAGE	0
38122929	2019	PUTNAM	Southeast	3	84I84031070	N	614758.5410	4586849.4555	10/16/2019	06:35am	PROPERTY DAMAGE	0
38360972	2020	PUTNAM	Southeast	3	312 84011000	Y	613521.4700	4585796.8800	03/03/2020	01:42pm	PROPERTY DAMAGE	0
37920537	2019	PUTNAM	Southeast	3		Y	614874.5205	4587003.7261	06/10/2019	04:31pm	NON-REPORTABLE	0
37642553	2018	PUTNAM	Southeast	3	312 84011005	N	614105.9636	4586328.6468	12/06/2018	05:34pm	PROPERTY DAMAGE	0
38197624	2019	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	11/05/2019	06:11pm	PROPERTY DAMAGE	0
37859773	2019	PUTNAM	Southeast	3	312 84011010	Y	614572.7864	4586713.6150	04/16/2019	09:15pm	PROPERTY DAMAGE	0
38134961	2019	PUTNAM	Southeast	3	312 84011001	N	613664.0414	4585896.6112	10/21/2019	02:40pm	PROPERTY DAMAGE	0
37301625	2018	PUTNAM	Southeast	3		Y	614448.8200	4586693.3300	05/24/2018	06:05pm	PROPERTY DAMAGE	0
37937378	2019	PUTNAM	Southeast	3	84I84031070	Y	614743.9164	4586819.6991	06/15/2019	02:35pm	PROPERTY DAMAGE	0
37614841	2018	PUTNAM	Southeast	3	312 84011011	N	614667.7893	4586758.3707	11/28/2018	07:05pm	PROPERTY DAMAGE	0
38253618	2019	PUTNAM	Southeast	3	312 84011000	N	613592.5875	4585854.1413	12/13/2019	06:13pm	PROPERTY DAMAGE AND INJURY	3
37428607	2018	PUTNAM	Southeast	3	312 84011007	Y	614144.8275	4586677.2010	08/04/2018	08:45am	PROPERTY DAMAGE AND INJURY	1
38096908	2019	PUTNAM	Southeast	3	312 84011012	N	614753.0541	4586828.9466	09/17/2019	09:28pm	NON-REPORTABLE	0
38628591	2020	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	11/08/2020	09:02pm	PROPERTY DAMAGE AND INJURY	2
38106320	2019	PUTNAM	Southeast	3		Y	614399.1181	4586699.9838	09/25/2019	05:00pm	PROPERTY DAMAGE	0
38322284	2020	PUTNAM	Southeast	3	312 84011001	N	613650.9485	4585889.0896	02/09/2020	04:00pm	PROPERTY DAMAGE	0
37333013	2018	PUTNAM	Southeast	3	312 84011000	Y	613521.4700	4585796.8800	06/14/2018	01:32pm	PROPERTY DAMAGE	0
38718183	2021	PUTNAM	Southeast	3	312 84011011	N	614718.1563	4586795.7533	02/08/2021	01:50pm	NON-REPORTABLE	0
37874885	2019	PUTNAM	Southeast	3	312 84011001	N	613664.0414	4585896.6112	04/29/2019	08:25am	PROPERTY DAMAGE	0
38714549	2021	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	02/11/2021	03:35pm	PROPERTY DAMAGE	0
38516612	2020	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	07/26/2020	04:45pm	PROPERTY DAMAGE	0
38051437	2019	PUTNAM	Southeast	3	312 84011004	N	614036.2344	4586230.8821	08/28/2019	08:00am	PROPERTY DAMAGE	0
37841581	2019	PUTNAM	Southeast	3	312 84011010	N	614555.8970	4586708.4220	04/10/2019	07:50pm	PROPERTY DAMAGE	0
38358292	2020	PUTNAM	Southeast	3	312 84011001	N	613644.8022	4585885.5587	03/03/2020	05:38pm	PROPERTY DAMAGE	0
38139916	2019	PUTNAM	Southeast	3	312 84011005	N	614083.3719	4586281.7397	10/17/2019	01:30pm	PROPERTY DAMAGE	0
38096846	2019	PUTNAM	Southeast	3	312 84011011	N	614706.4359	4586785.2404	09/16/2019	05:25pm	PROPERTY DAMAGE	0
37993513	2019	PUTNAM	Southeast	3	312 84011010	N	614551.6633	4586707.4135	07/22/2019	03:45pm	PROPERTY DAMAGE	0
38148425	2019	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	10/17/2019	05:20am	PROPERTY DAMAGE	0

Case Num	Num Serious Injuries	Num Of Fatalities	Num Of Vehicles	Accd Type	Collision Type	Traffic Control
38739062		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT TURN (AGAINST OTHER CAR)	TRAFFIC SIGNAL
38241206	0	0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	STOP SIGN
37640737		0	1	COLLISION WITH OTHER FIXED OBJECT	OTHER	NONE
38421695		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38612858		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	TRAFFIC SIGNAL
38096844		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37699803		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	TRAFFIC SIGNAL
38223530		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	TRAFFIC SIGNAL
37939004		0	2	COLLISION WITH MOTOR VEHICLE	SIDESWIPE	NONE
37292787		0	2	COLLISION WITH MOTOR VEHICLE	OTHER	TRAFFIC SIGNAL
38071671		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NO PASSING ZONE
38514369		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38759877	1	0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	TRAFFIC SIGNAL
38644677		0	1	COLLISION WITH ANIMAL	OTHER	NO PASSING ZONE
37619438		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	TRAFFIC SIGNAL
38742467		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37956942		0	1	OVERTURNED	OTHER	NONE
37236255		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	TRAFFIC SIGNAL
38134963		0	3	COLLISION WITH MOTOR VEHICLE	OTHER	TRAFFIC SIGNAL
37362647	1	0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37886466	0	0	2	COLLISION WITH MOTOR VEHICLE	LEFT TURN (AGAINST OTHER CAR)	TRAFFIC SIGNAL
38265208		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38213586		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NONE
38328671		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	STOP SIGN
38233017		0	2	COLLISION WITH MOTOR VEHICLE	SIDESWIPE	NO PASSING ZONE
38234419		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37664590		0	2	COLLISION WITH MOTOR VEHICLE	UNKNOWN	TRAFFIC SIGNAL
38155391		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38377106		0	2	COLLISION WITH MOTOR VEHICLE	HEAD ON	TRAFFIC SIGNAL
37733022		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NO PASSING ZONE
38294063		0	2	COLLISION WITH MOTOR VEHICLE	SIDESWIPE	TRAFFIC SIGNAL
38122929		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	NONE
38360972		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37920537		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37642553		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NONE
38197624		0	1	COLLISION WITH ANIMAL	OTHER	NONE
37859773		0	2	COLLISION WITH MOTOR VEHICLE	LEFT TURN (AGAINST OTHER CAR)	TRAFFIC SIGNAL
38134961		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37301625		0	3	COLLISION WITH MOTOR VEHICLE	OTHER	TRAFFIC SIGNAL
37937378		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	NONE
37614841		0	1	COLLISION WITH DEER	OTHER	NONE
38253618	0	0	4	COLLISION WITH MOTOR VEHICLE	OTHER	NONE
37428607	0	0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NO PASSING ZONE
38096908		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	MAINTENANCE WORK AREA
38628591	0	0	2	COLLISION WITH MOTOR VEHICLE	HEAD ON	TRAFFIC SIGNAL
38106320		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NO PASSING ZONE
38322284		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37333013		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38718183		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NO PASSING ZONE
37874885		0	1	COLLISION WITH DEER	OTHER	NO PASSING ZONE
38714549		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38516612		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	NO PASSING ZONE
38051437		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NO PASSING ZONE
37841581		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38358292		0	2	COLLISION WITH MOTOR VEHICLE	HEAD ON	NONE
38139916		0	1	COLLISION WITH OTHER FIXED OBJECT	OTHER	UTILITY WORK AREA
38096846		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	TRAFFIC SIGNAL
37993513		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38148425		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	TRAFFIC SIGNAL

Case Num	Light Condition	Weather	Road Surf Cond	Ped Loc	Ped Action	Veh Type Veh 1
38739062	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38241206	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37640737	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	OTHER
38421695	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38612858	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38096844	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37699803	DUSK	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	OTHER
38223530	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37939004	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37292787	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38071671	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38514369	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38759877	DARK-ROAD LIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38644677	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37619438	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38742467	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37956942	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37236255	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38134963	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37362647	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37886466	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38265208	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38213586	DARK-ROAD UNLIGHTED	SNOW	SNOW/ICE	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38328671	DAYLIGHT	CLOUDY	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38233017	DAYLIGHT	SLEET/HAIL/FREEZING RAIN	SNOW/ICE	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38234419	DAYLIGHT	SLEET/HAIL/FREEZING RAIN	SNOW/ICE	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37664590	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38155391	DAYLIGHT	CLEAR	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38377106	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37733022	DAYLIGHT	CLOUDY	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38294063	DAYLIGHT	SNOW	SNOW/ICE	NOT APPLICABLE	NOT APPLICABLE	OTHER
38122929	DARK-ROAD UNLIGHTED	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38360972	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37920537	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37642553	DARK-ROAD UNLIGHTED	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38197624	DARK-ROAD UNLIGHTED	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37859773	DARK-ROAD UNLIGHTED	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38134961	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37301625	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37937378	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37614841	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	OTHER
38253618	DARK-ROAD UNLIGHTED	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37428607	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38096908	DARK-ROAD LIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38628591	DARK-ROAD LIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38106320	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38322284	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37333013	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38718183	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37874885	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38714549	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38516612	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38051437	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37841581	DUSK	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38358292	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38139916	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38096846	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37993513	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38148425	DARK-ROAD LIGHTED	CLEAR	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP

Case Num	Veh Type Veh 2	Dir Of Travel Veh 1	Dir Of Travel Veh 2	Apparent Factor Veh 1	Apparent Factor Veh 2	Driver Age Veh 1
38739062	CAR/VAN/PICKUP	SOUTH	SOUTH	TURNING IMPROPER	NOT APPLICABLE	68
38241206	CAR/VAN/PICKUP	NORTH	EAST	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	68
37640737		NORTH		TURNING IMPROPER		25
38421695	OTHER	SOUTH-EAST	SOUTH-EAST	NOT APPLICABLE	FOLLOWING TOO CLOSELY	58
38612858	CAR/VAN/PICKUP	NORTH	SOUTH	TURNING IMPROPER	NOT APPLICABLE	36
38096844	CAR/VAN/PICKUP	NORTH	NORTH	NOT APPLICABLE	FOLLOWING TOO CLOSELY	56
37699803	CAR/VAN/PICKUP	SOUTH	SOUTH	FOLLOWING TOO CLOSELY	NOT APPLICABLE	
38223530	CAR/VAN/PICKUP	SOUTH	WEST	NOT APPLICABLE	FAILURE TO YIELD RIGHT OF WAY	22
37939004	CAR/VAN/PICKUP	WEST	WEST	OTHER (VEHICLE)	NOT APPLICABLE	44
37292787	CAR/VAN/PICKUP	EAST	EAST	BACKING UNSAFELY	PASSING OR LANE USAGE IMPROPERLY	63
38071671	CAR/VAN/PICKUP	NORTH	NORTH	NOT APPLICABLE	FOLLOWING TOO CLOSELY	54
38514369	CAR/VAN/PICKUP	NORTH	NORTH	DRIVER INATTENTION	NOT APPLICABLE	77
38759877	CAR/VAN/PICKUP	WEST	NORTH	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	40
38644677		SOUTH		ANIMAL'S ACTION		66
37619438	CAR/VAN/PICKUP	SOUTH	SOUTH	UNSAFE LANE CHANGE	NOT APPLICABLE	65
38742467	CAR/VAN/PICKUP	WEST	WEST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	26
37956942		EAST		UNSAFE SPEED		48
37236255	CAR/VAN/PICKUP	NORTH	SOUTH	TRAFFIC CONTROL DEVICES DISREGARDED	NOT APPLICABLE	86
38134963	CAR/VAN/PICKUP	NORTH	NORTH	FOLLOWING TOO CLOSELY	NOT APPLICABLE	55
37362647	CAR/VAN/PICKUP	EAST	EAST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	41
37886466	CAR/VAN/PICKUP	SOUTH	NORTH-WEST	TRAFFIC CONTROL DEVICES DISREGARDED	NOT APPLICABLE	57
38265208	CAR/VAN/PICKUP	NORTH-EAST	NORTH-EAST	NOT APPLICABLE	FOLLOWING TOO CLOSELY	64
38213586	CAR/VAN/PICKUP	EAST	EAST	PAVEMENT SLIPPERY	NOT APPLICABLE	48
38328671	CAR/VAN/PICKUP	EAST	NORTH	NOT APPLICABLE	FAILURE TO YIELD RIGHT OF WAY	48
38233017	CAR/VAN/PICKUP	SOUTH	NORTH	UNSAFE SPEED	NOT APPLICABLE	21
38234419	CAR/VAN/PICKUP	EAST	EAST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	48
37664590	CAR/VAN/PICKUP	SOUTH-WEST	SOUTH	TRAFFIC CONTROL DEVICES DISREGARDED	NOT APPLICABLE	19
38155391	CAR/VAN/PICKUP	WEST	WEST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	23
38377106	CAR/VAN/PICKUP	NORTH	SOUTH	TRAFFIC CONTROL DEVICES DISREGARDED	DRIVER INEXPERIENCE	18
37733022	CAR/VAN/PICKUP	EAST	EAST	NOT APPLICABLE	FOLLOWING TOO CLOSELY	59
38294063	CAR/VAN/PICKUP	NORTH	SOUTH	UNSAFE SPEED	NOT APPLICABLE	
38122929	TRUCK	WEST	WEST	NOT APPLICABLE	UNSAFE LANE CHANGE	47
38360972	CAR/VAN/PICKUP	NORTH-EAST	NORTH-EAST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	78
37920537	CAR/VAN/PICKUP	EAST	EAST	UNSAFE SPEED	NOT APPLICABLE	45
37642553	CAR/VAN/PICKUP	EAST	EAST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	26
38197624		WEST		ANIMAL'S ACTION		60
37859773	CAR/VAN/PICKUP	NORTH-EAST	WEST	TRAFFIC CONTROL DEVICES DISREGARDED	NOT APPLICABLE	33
38134961	CAR/VAN/PICKUP	WEST	WEST	NOT APPLICABLE	FOLLOWING TOO CLOSELY	28
37301625	CAR/VAN/PICKUP	EAST	EAST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	27
37937378	CAR/VAN/PICKUP	WEST	WEST	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	34
37614841		NORTH		ANIMAL'S ACTION		35
38253618	CAR/VAN/PICKUP	EAST	EAST	UNSAFE SPEED	NOT APPLICABLE	60
37428607	CAR/VAN/PICKUP	WEST	WEST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	24
38096908	CAR/VAN/PICKUP	SOUTH-WEST	SOUTH-WEST	PASSING OR LANE USAGE IMPROPERLY	NOT APPLICABLE	69
38628591	CAR/VAN/PICKUP	WEST	EAST	TRAFFIC CONTROL DEVICES DISREGARDED	NOT APPLICABLE	40
38106320	CAR/VAN/PICKUP	NORTH	NORTH	FOLLOWING TOO CLOSELY	NOT APPLICABLE	26
38322284	CAR/VAN/PICKUP	WEST	WEST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	57
37333013	CAR/VAN/PICKUP	WEST	WEST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	70
38718183	CAR/VAN/PICKUP	WEST	WEST	DRIVER INATTENTION	NOT APPLICABLE	27
37874885		WEST		ANIMAL'S ACTION		35
38714549	CAR/VAN/PICKUP	SOUTH	SOUTH	OUTSIDE CAR DISTRACTION	NOT APPLICABLE	63
38516612	CAR/VAN/PICKUP	NORTH	NORTH	PASSING OR LANE USAGE IMPROPERLY	NOT APPLICABLE	34
38051437	TRUCK	NORTH	NORTH	FOLLOWING TOO CLOSELY	OTHER (VEHICLE)	28
37841581	CAR/VAN/PICKUP	EAST	EAST	NOT APPLICABLE	FOLLOWING TOO CLOSELY	51
38358292	CAR/VAN/PICKUP	NORTH	SOUTH	FAILURE TO KEEP RIGHT	NOT APPLICABLE	44
38139916		WEST		NOT APPLICABLE		59
38096846	CAR/VAN/PICKUP	SOUTH-WEST	SOUTH-WEST	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	61
37993513	CAR/VAN/PICKUP	EAST	EAST	DRIVER INATTENTION	NOT APPLICABLE	17
38148425	TRUCK	NORTH-WEST	NORTH-WEST	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	75

Case Num	Driver Age Veh 2	PRE_ACCD_ACTN_VEH1	PRE_ACCD_ACTN_VEH2	Day_Of_Week	On Street	Closest Cross Street	Parking Lot Ind
38739062	56	MAKING RIGHT TURN	MAKING LEFT TURN	Thu	INDEPENDENT WAY	[Route] 312	N
38241206	50	MAKING LEFT TURN	GOING STRAIGHT AHEAD	Fri	[Route] 312		N
37640737		MAKING RIGHT TURN		Mon	PARKING LOT		N
38421695		STOPPED IN TRAFFIC	SLOWED OR STOPPING	Sat	[Route] 312	INDEPENDENT WAY	N
38612858	61	MAKING U TURN	GOING STRAIGHT AHEAD	Tue	ROUTE 312	INDEPENDENT WAY	N
38096844	45	STOPPED IN TRAFFIC	STARTING IN TRAFFIC	Sun	INDEPENDENT WAY	[Route] 312	N
37699803	27	GOING STRAIGHT AHEAD	GOING STRAIGHT AHEAD	Sat	ROUTE 312	[Route] 6	N
38223530	33	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Sun	ROUTE 312	Ramp	N
37939004		BACKING	PARKED	Wed	[Route] 312	Route 6	N
37292787	67	STOPPED IN TRAFFIC	MAKING LEFT TURN	Mon	ROUTE 312	Ramp	N
38071671	19	SLOWED OR STOPPING	GOING STRAIGHT AHEAD	Sat	[Route] 312	Unnamed Street	N
38514369	49	STARTING IN TRAFFIC	STOPPED IN TRAFFIC	Mon	ROUTE 312	Parking Lot	N
38759877	40	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Mon	[Route] 312	INDEPENDENT WAY	N
38644677		GOING STRAIGHT AHEAD		Sat	ROUTE 312	ROUTE 6	N
37619438	60	CHANGING LANES	GOING STRAIGHT AHEAD	Sat	INDEPENDENT WAY	Ramp	N
38742467	28	SLOWED OR STOPPING	STOPPED IN TRAFFIC	Wed	[Route] 312	INDEPENDENT WAY	N
37956942		MERGING		Fri	I 84	Route 312	N
37236255	20	MAKING RIGHT TURN	MAKING LEFT TURN	Sun	INDEPENDENT WAY	[Route] 312	N
38134963	78	GOING STRAIGHT AHEAD	STOPPED IN TRAFFIC	Mon	[Route] 312	[Route] 84	N
37362647	78	SLOWED OR STOPPING	STOPPED IN TRAFFIC	Tue	ROUTE 312	Ramp	N
37886466	47	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Mon	[Route] 312	INDEPENDENT WAY	N
38265208	43	STOPPED IN TRAFFIC	GOING STRAIGHT AHEAD	Wed	ROUTE 312	Ramp	N
38213586	56	GOING STRAIGHT AHEAD	STOPPED IN TRAFFIC	Thu	[Route] 312	I 84	N
38328671	35	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Tue	[Route] 312	Parking Lot	N
38233017	53	GOING STRAIGHT AHEAD	GOING STRAIGHT AHEAD	Tue	ROUTE 312	Prospect Hill Rd	N
38234419	44	STARTING IN TRAFFIC	STOPPED IN TRAFFIC	Tue	[Route] 312	INDEPENDENT WAY	N
37664590	35	MAKING LEFT TURN	GOING STRAIGHT AHEAD	Thu	ROUTE 312	Ramp	N
38155391	75	SLOWED OR STOPPING	SLOWED OR STOPPING	Wed	ROUTE 312	Ramp	N
38377106	34	MAKING LEFT TURN	GOING STRAIGHT AHEAD	Sat	ROUTE 312	Ramp	N
37733022	18	STOPPED IN TRAFFIC	GOING STRAIGHT AHEAD	Thu	ROUTE 312	Unnamed Street	N
38294063	40	MAKING RIGHT TURN	STOPPED IN TRAFFIC	Sat	ROUTE 312	Ramp	N
38122929	36	GOING STRAIGHT AHEAD	CHANGING LANES	Wed	I 84	Route 312	N
38360972	70	MAKING RIGHT TURN	MAKING RIGHT TURN	Tue	[Route] 312	[Route] 6	N
37920537	35	GOING STRAIGHT AHEAD	STOPPED IN TRAFFIC	Mon	RAMP	Route 312	N
37642553	35	GOING STRAIGHT AHEAD	STARTING IN TRAFFIC	Thu	ROUTE 312	PROSPECT HILL RD	N
38197624		GOING STRAIGHT AHEAD		Tue	INDEPENDENT WAY	[Route] 312	N
37859773	70	MAKING LEFT TURN	GOING STRAIGHT AHEAD	Tue	ROUTE 312	Ramp	N
38134961	30	STOPPED IN TRAFFIC	SLOWED OR STOPPING	Mon	ROUTE 312	Route 6	N
37301625	42	SLOWED OR STOPPING	STOPPED IN TRAFFIC	Thu	[Route] 312		N
37937378	59	MERGING	GOING STRAIGHT AHEAD	Sat	ROUTE 312	[Route] 84	N
37614841		GOING STRAIGHT AHEAD		Wed	ROUTE 312	Ramp	N
38253618	60	GOING STRAIGHT AHEAD	STOPPED IN TRAFFIC	Fri	[Route] 312	[Route] 6	N
37428607	58	GOING STRAIGHT AHEAD	MAKING RIGHT TURN	Sat	ROUTE 312	Pugsley Rd	N
38096908	32	OVERTAKING	STARTING IN TRAFFIC	Tue	STATE HWY 312	I 84	N
38628591	48	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Sun	[Route] 312	INDEPENDENT WAY	N
38106320	45	GOING STRAIGHT AHEAD	SLOWED OR STOPPING	Wed	ROUTE 312	Connecting Road	N
38322284	43	SLOWED OR STOPPING	STOPPED IN TRAFFIC	Sun	ROUTE 312	Route 6	N
37333013	68	GOING STRAIGHT AHEAD	STOPPED IN TRAFFIC	Thu	ROUTE 312	[Route] 6	N
38718183	33	GOING STRAIGHT AHEAD	STOPPED IN TRAFFIC	Mon	ROUTE 312	Ramp	N
37874885		GOING STRAIGHT AHEAD		Mon	ROUTE 312	Route 6	N
38714549	66	MAKING RIGHT TURN	STOPPED IN TRAFFIC	Thu	[Route] 84	[Route] 312	N
38516612	29	CHANGING LANES	GOING STRAIGHT AHEAD	Sun	[Route] 312	[Route] 84	N
38051437	48	GOING STRAIGHT AHEAD	SLOWED OR STOPPING	Wed	[Route] 312	Unnamed Street	N
37841581	61	STOPPED IN TRAFFIC	SLOWED OR STOPPING	Wed	ROUTE 312	Parking Lot	N
38358292	22	GOING STRAIGHT AHEAD	GOING STRAIGHT AHEAD	Tue	[Route] 312	Route 6	N
38139916		GOING STRAIGHT AHEAD		Thu	ROUTE 312	Prospect Hill Rd	N
38096846	55	MAKING RIGHT TURN	GOING STRAIGHT AHEAD	Mon	ROUTE 312	Ramp	N
37993513	21	GOING STRAIGHT AHEAD	STOPPED IN TRAFFIC	Mon	ROUTE 312	Parking Lot	N
38148425	25	MAKING LEFT TURN	MAKING LEFT TURN	Thu	[Route] 312	INDEPENDENT WAY	N

Case Num	Case Year	County	Comp Muni	Muni Type	Comp Ref Marker	At Intersection	Comp X	Comp Y	Accd Date	Accd Time	Severity	Num Of Injuries
37454443	2018	PUTNAM	Southeast	3	312 84011010	Y	614566.8055	4586711.5380	08/28/2018	12:15pm	PROPERTY DAMAGE	0
38102444	2019	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	09/30/2019	02:30pm	PROPERTY DAMAGE	0
37301622	2018	PUTNAM	Southeast	3	312 84011000	Y	613521.4700	4585796.8800	05/24/2018	04:30pm	PROPERTY DAMAGE	0
37313782	2018	PUTNAM	Southeast	3	312 84011010	Y	614572.7864	4586713.6150	06/01/2018	07:30am	PROPERTY DAMAGE	0
38538676	2020	PUTNAM	Southeast	3	312 84011013	Y	614881.2461	4586997.8475	08/30/2020	09:06pm	PROPERTY DAMAGE AND INJURY	1
38734226	2021	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	01/10/2021	01:45pm	PROPERTY DAMAGE	0
38812972	2021	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	01/16/2021	12:55pm	PROPERTY DAMAGE	0
38193609	2019	PUTNAM	Southeast	3	312 84011000	Y	613521.4700	4585796.8800	11/15/2019	04:34pm	PROPERTY DAMAGE	0
38377845	2020	PUTNAM	Southeast	3	312 84011010	Y	614573.0963	4586713.7226	03/18/2020	03:29pm	PROPERTY DAMAGE AND INJURY	1
37394290	2018	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	07/19/2018	08:30am	PROPERTY DAMAGE	0
38563207	2020	PUTNAM	Southeast	3	312 84011012	Y	614770.6003	4586846.9428	09/21/2020	07:30pm	PROPERTY DAMAGE	0
38576877	2020	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	10/03/2020	02:00pm	PROPERTY DAMAGE	0
38500264	2020	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	08/04/2020	05:05pm	PROPERTY DAMAGE	0
38256125	2019	PUTNAM	Southeast	3	312 84011010	Y	614566.8055	4586711.5380	12/31/2019	03:17pm	PROPERTY DAMAGE AND INJURY	1
37902566	2019	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	05/22/2019	09:03pm	NON-REPORTABLE	0
37398069	2018	PUTNAM	Southeast	3		Y	614879.2440	4587000.3404	07/24/2018	05:09pm	PROPERTY DAMAGE	0
38745411	2020	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	12/13/2020	04:32pm	PROPERTY DAMAGE	0
37721478	2019	PUTNAM	Southeast	3	312 84011000	N	613533.9429	4585808.0637	01/26/2019	12:35pm	PROPERTY DAMAGE	0
38704187	2020	PUTNAM	Southeast	3	312 84011005	Y	614094.3400	4586300.5000	11/23/2020	10:50am	PROPERTY DAMAGE AND INJURY	1
37326386	2018	PUTNAM	Southeast	3	6 84041100	Y	613521.5327	4585796.8403	06/11/2018	10:55am	PROPERTY DAMAGE	0
38081163	2019	PUTNAM	Southeast	3		Y	613520.8299	4585796.1490	09/14/2019	08:25pm	PROPERTY DAMAGE	0
37904542	2019	PUTNAM	Southeast	3	312 84011000	Y	613521.4700	4585796.8800	05/22/2019	01:10pm	PROPERTY DAMAGE AND INJURY	1
38371654	2020	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	03/15/2020	06:05pm	PROPERTY DAMAGE	0
37522565	2018	PUTNAM	Southeast	3		N	614596.2905	4586689.5649	09/29/2018	09:05am	PROPERTY DAMAGE AND INJURY	1
37595606	2018	PUTNAM	Southeast	3	84I84031070	N	614734.6330	4586878.2222	10/19/2018	08:43pm	PROPERTY DAMAGE	0
38286523	2020	PUTNAM	Southeast	3	312 84011012	N	614782.6483	4586859.6838	01/15/2020	03:20pm	PROPERTY DAMAGE AND INJURY	1
38091773	2019	PUTNAM	Southeast	3	312 84011006	N	614116.2777	4586449.0901	09/23/2019	11:30am	PROPERTY DAMAGE AND INJURY	1
38345112	2020	PUTNAM	Southeast	3	312 84011010	Y	614566.8055	4586711.5380	02/14/2020	01:20pm	PROPERTY DAMAGE	0
37868808	2019	PUTNAM	Southeast	3	312 84011010	Y	614566.8055	4586711.5380	04/18/2019	07:45am	PROPERTY DAMAGE	0
37269123	2018	PUTNAM	Southeast	3	312 84011000	N	613555.5102	4585827.4019	04/30/2018	02:50pm	PROPERTY DAMAGE	0
38388628	2020	PUTNAM	Southeast	3		N	614604.0000	4586663.0000	04/06/2020	04:35pm	PROPERTY DAMAGE	0
37476006	2018	PUTNAM	Southeast	3	312 84011010	N	614498.4426	4586697.1592	09/11/2018	07:30pm	PROPERTY DAMAGE AND INJURY	1
38739957	2020	PUTNAM	Southeast	3	6 84041100	N	613508.3770	4585804.6795	12/03/2020	02:40pm	PROPERTY DAMAGE	0
38485925	2020	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	07/22/2020	05:20pm	PROPERTY DAMAGE AND INJURY	1
37686843	2019	PUTNAM	Southeast	3	312 84011011	N	614642.3886	4586744.1017	01/11/2019	06:15pm	PROPERTY DAMAGE	0
38749038	2020	PUTNAM	Southeast	3	312 84011010	N	614516.6961	4586699.8793	12/15/2020	05:25pm	PROPERTY DAMAGE	0
38412563	2020	PUTNAM	Southeast	3		Y	614604.6162	4586663.1588	05/07/2020	12:00pm	PROPERTY DAMAGE	0
37405020	2018	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	07/27/2018	09:30pm	PROPERTY DAMAGE	0
37762558	2019	PUTNAM	Southeast	3	312 84011005	Y	614094.3400	4586300.5000	02/26/2019	03:40pm	NON-REPORTABLE	0
38714627	2021	PUTNAM	Southeast	3	312 84011010	Y	614573.7800	4586713.9600	02/10/2021	07:00pm	PROPERTY DAMAGE	0
38554902	2020	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	09/15/2020	07:45am	NON-REPORTABLE	0
37563122	2018	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	10/30/2018	04:20pm	PROPERTY DAMAGE	0
37624954	2018	PUTNAM	Southeast	3	312 84011012	N	614831.1640	4586918.9784	11/27/2018	07:05pm	PROPERTY DAMAGE	0
38634310	2020	PUTNAM	Southeast	3		Y	614888.4471	4587010.7642	11/05/2020	09:29am	PROPERTY DAMAGE	0
38751104	2021	PUTNAM	Southeast	3		Y	614881.5122	4586998.7146	02/22/2021	05:18pm	NON-REPORTABLE	0
37768743	2019	PUTNAM	Southeast	3	312 84011007	N	614159.9510	4586692.0587	02/25/2019	01:35am	NON-REPORTABLE	0
37664709	2018	PUTNAM	Southeast	3	312 84011000	Y	613521.4700	4585796.8800	12/27/2018	02:01pm	NON-REPORTABLE	0
37658885	2018	PUTNAM	Southeast	3	312 84011010	Y	614458.0017	4586693.9754	12/14/2018	03:30pm	PROPERTY DAMAGE	0
37780586	2019	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	03/04/2019	05:45pm	PROPERTY DAMAGE	0
37906539	2019	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	05/24/2019	11:05am	PROPERTY DAMAGE	0
38126856	2019	PUTNAM	Southeast	3	312 84011000	N	613521.4700	4585796.8800	10/15/2019	04:01pm	NON-REPORTABLE	0
37528424	2018	PUTNAM	Southeast	3	312 84011010	N	614517.9858	4586700.0878	10/01/2018	11:50am	PROPERTY DAMAGE	0
37805595	2019	PUTNAM	Southeast	3	312 84011010	Y	614572.7864	4586713.6150	03/22/2019	08:43pm	PROPERTY DAMAGE	0
37839179	2019	PUTNAM	Southeast	3	312 84011001	N	613644.8022	4585885.5587	04/11/2019	10:38am	INJURY	1
37696718	2019	PUTNAM	Southeast	3	312 84011010	Y	614566.8055	4586711.5380	01/16/2019	07:50am	PROPERTY DAMAGE	0
38584652	2020	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	10/08/2020	05:40pm	PROPERTY DAMAGE	0
38385419	2020	PUTNAM	Southeast	3	312 84011005	N	614115.7041	4586365.8636	04/04/2020	04:04pm	PROPERTY DAMAGE	0
37741137	2019	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	02/11/2019	06:40am	PROPERTY DAMAGE AND INJURY	1
38191507	2019	PUTNAM	Southeast	3		Y	614399.1181	4586699.9838	11/20/2019	06:15pm	PROPERTY DAMAGE	0

Case Num	Num Serious Injuries	Num Of Fatalities	Num Of Vehicles	Accd Type	Collision Type	Traffic Control
37454443		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NO PASSING ZONE
38102444		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	TRAFFIC SIGNAL
37301622		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NO PASSING ZONE
37313782		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38538676	0	0	2	COLLISION WITH MOTOR VEHICLE	LEFT TURN (AGAINST OTHER CAR)	TRAFFIC SIGNAL
38734226		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38812972		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38193609		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38377845	0	0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	TRAFFIC SIGNAL
37394290		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	TRAFFIC SIGNAL
38563207		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38576877		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NO PASSING ZONE
38500264		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	FLASHING LIGHT
38256125	0	0	4	COLLISION WITH MOTOR VEHICLE	OTHER	TRAFFIC SIGNAL
37902566		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37398069		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	TRAFFIC SIGNAL
38745411		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	TRAFFIC SIGNAL
37721478		0	2	COLLISION WITH MOTOR VEHICLE	HEAD ON	NO PASSING ZONE
38704187	0	0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NO PASSING ZONE
37326386		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38081163		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37904542	0	0	2	COLLISION WITH MOTOR VEHICLE	SIDESWIPE	TRAFFIC SIGNAL
38371654		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	TRAFFIC SIGNAL
37522565	0	0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	STOP SIGN
37595606		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	NONE
38286523	0	0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	STOP SIGN
38091773	0	0	1	COLLISION WITH GUIDE RAIL	OTHER	NO PASSING ZONE
38345112		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	TRAFFIC SIGNAL
37868808		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NONE
37269123		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38388628		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT TURN (WITH OTHER CAR)	NONE
37476006	0	0	3	COLLISION WITH MOTOR VEHICLE	OTHER	OTHER
38739957		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NONE
38485925	0	0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37686843		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	NO PASSING ZONE
38749038		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT TURN (AGAINST OTHER CAR)	TRAFFIC SIGNAL
38412563		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NONE
37405020		0	2	COLLISION WITH MOTOR VEHICLE	LEFT TURN (WITH OTHER CAR)	TRAFFIC SIGNAL
37762558		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	STOP SIGN
38714627		0	2	COLLISION WITH MOTOR VEHICLE	LEFT TURN (WITH OTHER CAR)	TRAFFIC SIGNAL
38554902		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37563122		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	TRAFFIC SIGNAL
37624954		0	1	COLLISION WITH DEER	OTHER	NO PASSING ZONE
38634310		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38751104		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37768743		0	1	COLLISION WITH OTHER	OTHER	NO PASSING ZONE
37664709		0	3	COLLISION WITH MOTOR VEHICLE	OTHER	TRAFFIC SIGNAL
37658885		0	2	COLLISION WITH MOTOR VEHICLE	LEFT TURN (AGAINST OTHER CAR)	NO PASSING ZONE
37780586		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37906539		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	TRAFFIC SIGNAL
38126856		0	2	COLLISION WITH MOTOR VEHICLE	SIDESWIPE	NONE
37528424		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	NONE
37805595		0	2	COLLISION WITH MOTOR VEHICLE	LEFT TURN (AGAINST OTHER CAR)	TRAFFIC SIGNAL
37839179	0	0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NONE
37696718		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38584652		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	TRAFFIC SIGNAL
38385419		0	1	COLLISION WITH GUIDE RAIL	OTHER	NO PASSING ZONE
37741137	0	0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38191507		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	STOP SIGN

Case Num	Light Condition	Weather	Road Surf Cond	Ped Loc	Ped Action	Veh Type Veh 1
37454443	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38102444	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37301622	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37313782	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38538676	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38734226	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38812972	DAYLIGHT	CLOUDY	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38193609	DUSK	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38377845	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37394290	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38563207	DARK-ROAD LIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38576877	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38500264	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38256125	DAYLIGHT	CLOUDY	WET	NOT APPLICABLE	NOT APPLICABLE	OTHER
37902566	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37398069	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38745411	DUSK	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37721478	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	OTHER
38704187	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37326386	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38081163	DARK-ROAD UNLIGHTED	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37904542	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38371654	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37522565	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37595606	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	OTHER
38286523	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38091773	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38345112	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37868808	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37269123	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38388628	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37476006	DARK-ROAD UNLIGHTED	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38739957	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38485925	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37686843	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38749038	DARK-ROAD LIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38412563	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37405020	DARK-ROAD UNLIGHTED	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37762558	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38714627	DARK-ROAD LIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38554902	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37563122	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37624954	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38634310	DAYLIGHT	OTHER	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38751104	DAYLIGHT	SNOW	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37768743	DARK-ROAD LIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37664709	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37658885	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37780586	DUSK	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37906539	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38126856	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	TRUCK
37528424	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37805595	DARK-ROAD LIGHTED	SLEET/HAIL/FREEZING RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37839179	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37696718	DAYLIGHT	CLOUDY	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38584652	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38385419	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37741137	DAWN	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38191507	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP

Case Num	Veh Type Veh 2	Dir Of Travel Veh 1	Dir Of Travel Veh 2	Apparent Factor Veh 1	Apparent Factor Veh 2	Driver Age Veh 1
37454443	CAR/VAN/PICKUP	EAST	WEST	FOLLOWING TOO CLOSELY	REACTION TO OTHER UNINVOLVED VEHICL	43
38102444	TRUCK	EAST	EAST	PASSING OR LANE USAGE IMPROPERLY	NOT APPLICABLE	76
37301622	CAR/VAN/PICKUP	EAST	EAST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	70
37313782	CAR/VAN/PICKUP	WEST	WEST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	36
38538676	CAR/VAN/PICKUP	WEST	SOUTH	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	40
38734226	CAR/VAN/PICKUP	EAST	EAST	NOT APPLICABLE	DRIVER INATTENTION	51
38812972	TRUCK	NORTH	NORTH	PASSING OR LANE USAGE IMPROPERLY	UNSAFE SPEED	77
38193609	CAR/VAN/PICKUP	NORTH-WEST	NORTH-WEST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	35
38377845	CAR/VAN/PICKUP	WEST	NORTH	TRAFFIC CONTROL DEVICES DISREGARDED	NOT APPLICABLE	41
37394290	CAR/VAN/PICKUP	EAST	EAST	PASSING OR LANE USAGE IMPROPERLY	NOT APPLICABLE	58
38563207	CAR/VAN/PICKUP	SOUTH-WEST	SOUTH-WEST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	27
38576877	CAR/VAN/PICKUP	WEST	WEST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	17
38500264	CAR/VAN/PICKUP	NORTH	WEST	TRAF CNTRL DEV IMPROPER/NON-WRKING	TRAF CNTRL DEV IMPROPER/NON-WRKING	26
38256125	CAR/VAN/PICKUP	EAST	EAST	FOLLOWING TOO CLOSELY	FOLLOWING TOO CLOSELY	
37902566	CAR/VAN/PICKUP	NORTH	NORTH	FOLLOWING TOO CLOSELY	NOT APPLICABLE	44
37398069	CAR/VAN/PICKUP	SOUTH	SOUTH	PASSING OR LANE USAGE IMPROPERLY	NOT APPLICABLE	24
38745411	CAR/VAN/PICKUP	EAST	NORTH-EAST	TRAFFIC CONTROL DEVICES DISREGARDED	UNKNOWN	27
37721478	CAR/VAN/PICKUP	SOUTH	NORTH	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	
38704187	CAR/VAN/PICKUP	EAST	EAST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	77
37326386	CAR/VAN/PICKUP	EAST	EAST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	41
38081163	CAR/VAN/PICKUP	SOUTH	SOUTH	FOLLOWING TOO CLOSELY	NOT APPLICABLE	19
37904542	TRUCK	NORTH-WEST	NORTH-EAST	UNSAFE SPEED	NOT APPLICABLE	60
38371654	CAR/VAN/PICKUP	EAST	NORTH	TRAFFIC CONTROL DEVICES DISREGARDED	NOT APPLICABLE	74
37522565	CAR/VAN/PICKUP	NORTH-WEST	SOUTH-WEST	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	17
37595606	CAR/VAN/PICKUP	WEST	WEST	NOT APPLICABLE	UNSAFE LANE CHANGE	30
38286523	CAR/VAN/PICKUP	EAST	NORTH	NOT APPLICABLE	FAILURE TO YIELD RIGHT OF WAY	19
38091773		WEST		ILLNESS		66
38345112	TRUCK	WEST	WEST	NOT APPLICABLE	REACTION TO OTHER UNINVOLVED VEHICL	59
37868808	CAR/VAN/PICKUP	WEST	WEST	NOT APPLICABLE	FOLLOWING TOO CLOSELY	54
37269123	CAR/VAN/PICKUP	WEST	WEST	ALCOHOL INVOLVEMENT	NOT APPLICABLE	30
38388628	CAR/VAN/PICKUP	NORTH-EAST	EAST	TURNING IMPROPER	NOT APPLICABLE	81
37476006	TRUCK	WEST	EAST	PASSING OR LANE USAGE IMPROPERLY	NOT APPLICABLE	86
38739957	CAR/VAN/PICKUP	UNKNOWN	UNKNOWN	BACKING UNSAFELY	NOT APPLICABLE	56
38485925	CAR/VAN/PICKUP	NORTH-EAST	NORTH-EAST	NOT APPLICABLE	FOLLOWING TOO CLOSELY	67
37686843	CAR/VAN/PICKUP	NORTH	EAST	TURNING IMPROPER	NOT APPLICABLE	62
38749038	CAR/VAN/PICKUP	NORTH	EAST	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	66
38412563	OTHER	WEST	WEST	NOT APPLICABLE	BACKING UNSAFELY	
37405020	CAR/VAN/PICKUP	SOUTH-WEST	SOUTH-EAST	TRAFFIC CONTROL DEVICES DISREGARDED	NOT APPLICABLE	44
37762558	OTHER	WEST	SOUTH	NOT APPLICABLE	FOLLOWING TOO CLOSELY	38
38714627	OTHER	SOUTH	SOUTH	NOT APPLICABLE	FAILURE TO YIELD RIGHT OF WAY	65
38554902	CAR/VAN/PICKUP	WEST	WEST	NOT APPLICABLE	FOLLOWING TOO CLOSELY	46
37563122	CAR/VAN/PICKUP	EAST	EAST	PASSING OR LANE USAGE IMPROPERLY	NOT APPLICABLE	62
37624954		NORTH		ANIMAL'S ACTION		41
38634310	CAR/VAN/PICKUP	EAST	EAST	UNSAFE SPEED	NOT APPLICABLE	57
38751104	CAR/VAN/PICKUP	EAST	EAST	NOT APPLICABLE	UNSAFE SPEED	30
37768743		EAST		OBSTRUCTION/DEBRIS		38
37664709	CAR/VAN/PICKUP	NORTH	WEST	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	18
37658885	CAR/VAN/PICKUP	WEST	EAST	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	29
37780586	CAR/VAN/PICKUP	EAST	EAST	NOT APPLICABLE	FOLLOWING TOO CLOSELY	57
37906539	CAR/VAN/PICKUP	EAST	EAST	UNKNOWN	UNKNOWN	17
38126856	CAR/VAN/PICKUP	SOUTH	NORTH	TURNING IMPROPER	NOT APPLICABLE	67
37528424	TRUCK	WEST	WEST	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	51
37805595	CAR/VAN/PICKUP	NORTH-EAST	SOUTH-EAST	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	21
37839179	CAR/VAN/PICKUP	WEST	NORTH-WEST	OTHER (VEHICLE)	NOT APPLICABLE	88
37696718	CAR/VAN/PICKUP	SOUTH-WEST	SOUTH-WEST	NOT APPLICABLE	TRAFFIC CONTROL DEVICES DISREGARDED	48
38584652	CAR/VAN/PICKUP	EAST	NORTH-WEST	TRAFFIC CONTROL DEVICES DISREGARDED	NOT APPLICABLE	74
38385419		EAST		DRIVER INATTENTION		31
37741137	CAR/VAN/PICKUP	NORTH-EAST	NORTH-EAST	UNSAFE SPEED	NOT APPLICABLE	21
38191507	CAR/VAN/PICKUP	WEST	NORTH	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	23

Case Num	Driver Age Veh 2	PRE_ACCD_ACTN_VEH1	PRE_ACCD_ACTN_VEH2	Day_Of_Week	On Street	Closest Cross Street	Parking Lot Ind
37454443	62	STARTING IN TRAFFIC	STARTING IN TRAFFIC	Tue	ROUTE 312	Ramp	N
38102444	65	MAKING RIGHT TURN	MAKING RIGHT TURN	Mon	[Route] 312	[Route] 84	N
37301622	32	GOING STRAIGHT AHEAD	STOPPED IN TRAFFIC	Thu	ROUTE 312	[Route] 6	N
37313782	27	SLOWED OR STOPPING	STOPPED IN TRAFFIC	Fri	ROUTE 312	Ramp	N
38538676	31	MAKING LEFT TURN	GOING STRAIGHT AHEAD	Sun	ROUTE 312	Ramp	N
38734226	52	STOPPED IN TRAFFIC	GOING STRAIGHT AHEAD	Sun	[Route] 312	INDEPENDENT WAY	N
38812972	57	STOPPED IN TRAFFIC	GOING STRAIGHT AHEAD	Sat	[Route] 312	INDEPENDENT WAY	N
38193609	63	GOING STRAIGHT AHEAD	GOING STRAIGHT AHEAD	Fri	[Route] 6	[Route] 312	N
38377845	38	GOING STRAIGHT AHEAD	GOING STRAIGHT AHEAD	Wed	ROUTE 312	Ramp	N
37394290	70	OVERTAKING	STARTING IN TRAFFIC	Thu	[Route] 312	INDEPENDENT WAY	N
38563207	40	GOING STRAIGHT AHEAD	STOPPED IN TRAFFIC	Mon	ROUTE 312	I 84	N
38576877	23	SLOWED OR STOPPING	SLOWED OR STOPPING	Sat	[Route] 312	[Route] 84	N
38500264	23	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Tue	[Route] 312	INDEPENDENT WAY	N
38256125	21	GOING STRAIGHT AHEAD	STARTING IN TRAFFIC	Tue	ROUTE 312	Ramp	N
37902566	36	STARTING IN TRAFFIC	STOPPED IN TRAFFIC	Wed	[Route] 312	[Route] 84	N
37398069	65	MAKING RIGHT TURN ON RED	MAKING RIGHT TURN	Tue	RAMP	Route 312	N
38745411	59	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Sun	[Route] 312	INDEPENDENT WAY	N
37721478	58	MAKING LEFT TURN	GOING STRAIGHT AHEAD	Sat	ROUTE 312	Route 6	N
38704187	52	GOING STRAIGHT AHEAD	MAKING RIGHT TURN	Mon	[Route] 312	PROSPECT HILL RD	N
37326386	43	GOING STRAIGHT AHEAD	STOPPED IN TRAFFIC	Mon	ROUTE 6	Route 312	N
38081163	26	SLOWED OR STOPPING	MAKING LEFT TURN	Sat	ROUTE 312	Route 6	N
37904542	46	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Wed	ROUTE 6	ROUTE 312	N
38371654	55	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Sun	[Route] 312	INDEPENDENT WAY	N
37522565	58	MAKING LEFT TURN	GOING STRAIGHT AHEAD	Sat	INDEPENDENT WAY	Unnamed Street	N
37595606	20	POLICE PURSUIT	CHANGING LANES	Fri	I 84	Ramp	N
38286523	51	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Wed	[Route] 312	I 84	N
38091773		GOING STRAIGHT AHEAD		Mon	[Route] 312	PROSPECT HILL RD	N
38345112	55	MAKING LEFT TURN	MAKING RIGHT TURN	Fri	ROUTE 312	Ramp	N
37868808	31	GOING STRAIGHT AHEAD	GOING STRAIGHT AHEAD	Thu	ROUTE 312	Ramp	N
37269123	62	SLOWED OR STOPPING	STOPPED IN TRAFFIC	Mon	ROUTE 312	[Route] 6	N
38388628		ENTERING PARKED POSITION	PARKED	Mon			N
37476006	59	OVERTAKING	STARTING IN TRAFFIC	Tue	[Route] 312	Parking Lot	N
38739957		BACKING	PARKED	Thu	[Route] 6	Driveway	N
38485925	26	STOPPED IN TRAFFIC	SLOWED OR STOPPING	Wed	[Route] 312	[Route] 84	N
37686843	54	MAKING U TURN	GOING STRAIGHT AHEAD	Fri	[Route] 312	INDEPENDENT WAY	N
38749038	20	MAKING RIGHT TURN	MAKING LEFT TURN	Tue	ROUTE 312	Parking Lot	N
38412563		PARKED	BACKING	Thu	INDEPENDENT WAY	Unnamed Street	N
37405020	35	MAKING U TURN	MAKING RIGHT TURN	Fri	INDEPENDENT WAY	[Route] 312	N
37762558		MAKING LEFT TURN	GOING STRAIGHT AHEAD	Tue	[Route] 312	PROSPECT HILL RD	N
38714627		MAKING LEFT TURN	MAKING RIGHT TURN	Wed	INDEPENDENT WAY	[Route] 312	N
38554902	23	GOING STRAIGHT AHEAD	GOING STRAIGHT AHEAD	Tue	[Route] 312	[Route] 84	N
37563122	30	CHANGING LANES	GOING STRAIGHT AHEAD	Tue	[Route] 312	INDEPENDENT WAY	N
37624954		GOING STRAIGHT AHEAD		Tue	ROUTE 312	Ramp	N
38634310	24	GOING STRAIGHT AHEAD	STOPPED IN TRAFFIC	Thu	RAMP	Route 312	N
38751104	44	SLOWED OR STOPPING	SLOWED OR STOPPING	Mon	RAMP	Route 312	N
37768743		AVOIDING OBJECT IN ROADWAY		Mon	ROUTE 312	Pugsley Rd	N
37664709	57	MAKING LEFT TURN	GOING STRAIGHT AHEAD	Thu	[Route] 6	[Route] 312	N
37658885	28	MAKING LEFT TURN	GOING STRAIGHT AHEAD	Fri	ROUTE 312	Parking Lot	N
37780586	60	STOPPED IN TRAFFIC	SLOWED OR STOPPING	Mon	I 84	[Route] 312	N
37906539	60	MAKING LEFT TURN	GOING STRAIGHT AHEAD	Fri	[Route] 312	INDEPENDENT WAY	N
38126856	44	GOING STRAIGHT AHEAD	GOING STRAIGHT AHEAD	Tue	[Route] 312	Route 6	N
37528424	64	MERGING	GOING STRAIGHT AHEAD	Mon	ROUTE 312	Parking Lot	N
37805595	64	MAKING RIGHT TURN	MAKING LEFT TURN	Fri	ROUTE 312	Ramp	N
37839179	34	GOING STRAIGHT AHEAD	ENTERING PARKED POSITION	Thu	[Route] 312	Route 6	N
37696718	59	STOPPED IN TRAFFIC	STARTING IN TRAFFIC	Wed	ROUTE 312	Ramp	N
38584652	48	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Thu	[Route] 312	INDEPENDENT WAY	N
38385419		GOING STRAIGHT AHEAD		Sat	ROUTE 312	Prospect Hill Rd	N
37741137	33	SLOWED OR STOPPING	STOPPED IN TRAFFIC	Mon	[Route] 312	INDEPENDENT WAY	N
38191507	51	MAKING LEFT TURN	GOING STRAIGHT AHEAD	Wed	ROUTE 312	Connecting Road	N

Case Num	Case Year	County	Comp Muni	Muni Type	Comp Ref Marker	At Intersection	Comp X	Comp Y	Accd Date	Accd Time	Severity	Num Of Injuries
38445244	2020	PUTNAM	Southeast	3	312 84011005	N	614086.7721	4586287.2718	06/17/2020	09:30pm	PROPERTY DAMAGE	0
37608497	2018	PUTNAM	Southeast	3	312 84011010	Y	614573.7800	4586713.9600	11/20/2018	07:05pm	PROPERTY DAMAGE	0
38128803	2019	PUTNAM	Southeast	3	312 84011010	Y	614566.8055	4586711.5380	10/15/2019	01:00pm	NON-REPORTABLE	0
38425969	2020	PUTNAM	Southeast	3	312 84011007	Y	614144.1700	4586676.5200	05/27/2020	10:25am	PROPERTY DAMAGE AND INJURY	1
38715186	2021	PUTNAM	Southeast	3	312 84011000	Y	613521.4700	4585796.8800	02/08/2021	02:00pm	PROPERTY DAMAGE	0
37364933	2018	PUTNAM	Southeast	3	312 84011010	N	614513.5145	4586699.3648	06/28/2018	08:45am	PROPERTY DAMAGE	0
37540212	2018	PUTNAM	Southeast	3	312 84011010	N	614563.8253	4586710.5030	10/16/2018	01:35pm	PROPERTY DAMAGE	0
37522566	2018	PUTNAM	Southeast	3	312 84011010	Y	614566.8055	4586711.5380	10/06/2018	06:53am	NON-REPORTABLE	0
38450136	2020	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	06/21/2020	01:10pm	PROPERTY DAMAGE	0
37632460	2018	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	12/09/2018	01:35pm	NON-REPORTABLE	0
38583167	2020	PUTNAM	Southeast	3		N	614573.0000	4586713.0000	09/24/2020	08:15am	PROPERTY DAMAGE	0
38302713	2020	PUTNAM	Southeast	3		Y	614448.8200	4586693.3300	01/28/2020	02:59pm	PROPERTY DAMAGE	0
38610038	2020	PUTNAM	Southeast	3	312 84011013	Y	614881.2461	4586997.8475	10/23/2020	08:00pm	PROPERTY DAMAGE	0
37922643	2019	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	06/10/2019	06:27pm	NON-REPORTABLE	0
38197687	2019	PUTNAM	Southeast	3	312 84011009	N	614411.8382	4586685.8916	11/25/2019	05:35pm	PROPERTY DAMAGE	0
38738418	2021	PUTNAM	Southeast	3	312 84011001	N	613671.9208	4585901.1378	02/20/2021	07:30am	PROPERTY DAMAGE	0
37468829	2018	PUTNAM	Southeast	3		N	614858.0000	4587013.0000	09/05/2018	04:39pm	PROPERTY DAMAGE	0
37476976	2018	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	09/10/2018	12:45pm	PROPERTY DAMAGE	0
37526440	2018	PUTNAM	Southeast	3	312 84011011	Y	614742.6142	4586818.3813	10/11/2018	05:00pm	PROPERTY DAMAGE	0
38792764	2021	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	03/23/2021	05:25pm	NON-REPORTABLE	0
37794076	2019	PUTNAM	Southeast	3	312 84011007	N	614112.9518	4586608.0695	03/03/2019	09:30pm	PROPERTY DAMAGE	0
38345149	2020	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	02/12/2020	01:47pm	PROPERTY DAMAGE	0
38057603	2019	PUTNAM	Southeast	3	312 84011000	Y	613521.4700	4585796.8800	08/23/2019	06:15am	PROPERTY DAMAGE	0
37599705	2018	PUTNAM	Southeast	3		N	614568.5957	4586732.0392	11/02/2018	12:00am	PROPERTY DAMAGE	0
37582065	2018	PUTNAM	Southeast	3	312 84011012	N	614815.7729	4586899.9119	11/07/2018	06:28pm	PROPERTY DAMAGE	0
38385417	2020	PUTNAM	Southeast	3	312 84011011	N	614663.9068	4586756.1639	03/25/2020	03:29pm	PROPERTY DAMAGE	0
38197671	2019	PUTNAM	Southeast	3	312 84011009	N	614411.8382	4586685.8916	11/25/2019	05:00pm	PROPERTY DAMAGE	0
37375259	2018	PUTNAM	Southeast	3	312 84011007	Y	614144.1700	4586676.5200	07/06/2018	05:27pm	NON-REPORTABLE	0
38795103	2021	PUTNAM	Southeast	3		Y	614881.5122	4586998.7146	03/28/2021	11:33am	PROPERTY DAMAGE AND INJURY	3
37958692	2019	PUTNAM	Southeast	3		Y	614399.1181	4586699.9838	06/30/2019	04:15pm	PROPERTY DAMAGE	0
38199237	2019	PUTNAM	Southeast	3	312 84011002	N	613794.1512	4585986.6385	11/26/2019	02:35pm	PROPERTY DAMAGE AND INJURY	1
37410233	2018	PUTNAM	Southeast	3	312 84011005	N	614078.3599	4586274.5791	07/30/2018	12:11pm	NON-REPORTABLE	0
37764421	2019	PUTNAM	Southeast	3		Y	614448.8200	4586693.3300	02/04/2019	03:25pm	PROPERTY DAMAGE	0
37797980	2019	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	03/10/2019	07:51pm	PROPERTY DAMAGE	0
37909196	2019	PUTNAM	Southeast	3		Y	614448.8200	4586693.3300	05/28/2019	04:42pm	PROPERTY DAMAGE	0
37366850	2018	PUTNAM	Southeast	3		Y	614604.6162	4586663.1588	07/06/2018	05:15pm	PROPERTY DAMAGE	0
38584691	2020	PUTNAM	Southeast	3	312 84011004	N	613990.1539	4586190.9734	09/30/2020	01:55pm	PROPERTY DAMAGE	0
37475996	2018	PUTNAM	Southeast	3	312 84011007	Y	614144.1700	4586676.5200	08/31/2018	04:56pm	PROPERTY DAMAGE	0
38403292	2020	PUTNAM	Southeast	3	312 84011000	Y	613521.4700	4585796.8800	04/28/2020	01:15pm	PROPERTY DAMAGE	0
38351413	2020	PUTNAM	Southeast	3	312 84011010	Y	614587.0800	4586718.6200	02/06/2020	07:40pm	PROPERTY DAMAGE	0
38763250	2021	PUTNAM	Southeast	3	312 84011011	N	614655.7080	4586751.5037	02/25/2021	08:11am	PROPERTY DAMAGE AND INJURY	1
37229050	2018	PUTNAM	Southeast	3	312 84011000	Y	613521.4700	4585796.8800	04/05/2018	08:50am	PROPERTY DAMAGE	0
38465413	2020	PUTNAM	Southeast	3	312 84011010	Y	614464.9592	4586694.5166	07/01/2020	11:20am	PROPERTY DAMAGE	0
37795052	2019	PUTNAM	Southeast	3	84I84031070	Y	614749.1785	4586860.5918	02/26/2019	12:00am	PROPERTY DAMAGE	0
37996937	2019	PUTNAM	Southeast	3	312 84011000	Y	613521.4700	4585796.8800	07/26/2019	02:00pm	PROPERTY DAMAGE	0
38185457	2019	PUTNAM	Southeast	3	84I84031070	Y	614765.3400	4586841.3800	11/21/2019	07:35am	PROPERTY DAMAGE	0
37538504	2018	PUTNAM	Southeast	3		N	614870.3372	4587006.5810	10/20/2018	10:08am	PROPERTY DAMAGE AND INJURY	1
37639779	2018	PUTNAM	Southeast	3	312 84011001	N	613664.0414	4585896.6112	12/07/2018	05:34pm	PROPERTY DAMAGE	0
38149396	2019	PUTNAM	Southeast	3	84I84031070	Y	614744.6378	4586806.4783	10/27/2019	05:13am	FATAL	0
38634261	2020	PUTNAM	Southeast	3	312 84011003	N	613936.8377	4586142.1636	11/11/2020	04:44am	PROPERTY DAMAGE	0

Case Num	Num Serious Injuries	Num Of Fatalities	Num Of Vehicles	Accd Type	Collision Type	Traffic Control
38445244		0	1	COLLISION WITH ANIMAL	OTHER	NO PASSING ZONE
37608497		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	TRAFFIC SIGNAL
38128803		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38425969	1	0	1	COLL. W/EARTH ELE./ROCK CUT/DITCH	OTHER	NO PASSING ZONE
38715186		0	1	COLLISION WITH FENCE	OTHER	NO PASSING ZONE
37364933		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	STOP SIGN
37540212		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37522566		0	1	COLLISION WITH GUIDERAIL - END	OTHER	NO PASSING ZONE
38450136		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT TURN (AGAINST OTHER CAR)	TRAFFIC SIGNAL
37632460		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38583167		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38302713		0	2	COLLISION WITH MOTOR VEHICLE	OTHER	NONE
38610038		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37922643		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38197687		0	3	COLLISION WITH MOTOR VEHICLE	OTHER	STOP SIGN
38738418		0	1	COLLISION WITH SNOW EMBANKMENT	OTHER	NO PASSING ZONE
37468829		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37476976		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	TRAFFIC SIGNAL
37526440		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	TRAFFIC SIGNAL
38792764		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37794076		0	1	COLL. W/EARTH ELE./ROCK CUT/DITCH	OTHER	NO PASSING ZONE
38345149		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	OTHER
38057603		0	2	COLLISION WITH MOTOR VEHICLE	LEFT TURN (AGAINST OTHER CAR)	TRAFFIC SIGNAL
37599705		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT TURN (AGAINST OTHER CAR)	UNKNOWN
37582065		0	3	COLLISION WITH MOTOR VEHICLE	OTHER	NO PASSING ZONE
38385417		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38197671		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	STOP SIGN
37375259		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	NONE
38795103	0	0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37958692		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	NO PASSING ZONE
38199237	0	0	3	COLLISION WITH MOTOR VEHICLE	OTHER	NO PASSING ZONE
37410233		0	1	COLL. W/EARTH ELE./ROCK CUT/DITCH	OTHER	NONE
37764421		0	2	COLLISION WITH MOTOR VEHICLE	SIDESWIPE	NONE
37797980		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT TURN (WITH OTHER CAR)	TRAFFIC SIGNAL
37909196		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	NONE
37366850		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NONE
38584691		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	NO PASSING ZONE
37475996		0	2	COLLISION WITH MOTOR VEHICLE	SIDESWIPE	NO PASSING ZONE
38403292		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38351413		0	2	COLLISION WITH MOTOR VEHICLE	OVERTAKING	NONE
38763250	0	0	2	COLLISION WITH MOTOR VEHICLE	RIGHT ANGLE	STOP SIGN
37229050		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38465413		0	1	COLLISION WITH GUIDE RAIL	OTHER	NO PASSING ZONE
37795052		0	1	OTHER NON-COLLISION	OTHER	UNKNOWN
37996937		0	2	COLLISION WITH MOTOR VEHICLE	RIGHT TURN (WITH OTHER CAR)	TRAFFIC SIGNAL
38185457		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37538504	0	0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
37639779		0	2	COLLISION WITH MOTOR VEHICLE	REAR END	TRAFFIC SIGNAL
38149396	0	1	1	COLLISION WITH PEDESTRIAN	OTHER	NONE
38634261		0	1	COLLISION WITH FENCE	OTHER	NO PASSING ZONE

Case Num	Light Condition	Weather	Road Surf Cond	Ped Loc	Ped Action	Veh Type Veh 1
38445244	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37608497	DARK-ROAD UNLIGHTED	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38128803	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38425969	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38715186	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37364933	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37540212	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37522566	DAWN	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38450136	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37632460	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38583167	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38302713	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38610038	DARK-ROAD LIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37922643	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38197687	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38738418	DAYLIGHT	CLOUDY	SNOW/ICE	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37468829	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37476976	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37526440	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38792764	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37794076	DARK-ROAD UNLIGHTED	SNOW	SNOW/ICE	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38345149	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38057603	DAWN	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37599705	UNKNOWN	UNKNOWN	UNKNOWN	NOT APPLICABLE	NOT APPLICABLE	OTHER
37582065	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38385417	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38197671	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37375259	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38795103	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37958692	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38199237	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37410233	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37764421	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37797980	DARK-ROAD UNLIGHTED	CLOUDY	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37909196	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37366850	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	OTHER
38584691	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37475996	DAYLIGHT	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	TRUCK
38403292	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38351413	DARK-ROAD UNLIGHTED	RAIN	WET	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38763250	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	OTHER
37229050	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38465413	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37795052	UNKNOWN	UNKNOWN	UNKNOWN	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37996937	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38185457	DAYLIGHT	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37538504	DAYLIGHT	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
37639779	DARK-ROAD UNLIGHTED	CLOUDY	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP
38149396	DARK-ROAD UNLIGHTED	RAIN	WET	PED/BICYCLIST AT INTERSECTION	CROSSING/ NO SIGNAL OR CROSSWALK	TRUCK
38634261	DARK-ROAD UNLIGHTED	CLEAR	DRY	NOT APPLICABLE	NOT APPLICABLE	CAR/VAN/PICKUP

Case Num	Veh Type Veh 2	Dir Of Travel Veh 1	Dir Of Travel Veh 2	Apparent Factor Veh 1	Apparent Factor Veh 2	Driver Age Veh 1
38445244		SOUTH-WEST		ANIMAL'S ACTION		41
37608497	CAR/VAN/PICKUP	WEST	WEST	REACTION TO OTHER UNINVOLVED VEHICL	NOT APPLICABLE	32
38128803	CAR/VAN/PICKUP	NORTH	NORTH	DRIVER INATTENTION	NOT APPLICABLE	46
38425969		SOUTH-WEST		LOST CONSCIOUSNESS		81
38715186		SOUTH-WEST		TIRE FAILURE/INADEQUATE		20
37364933	CAR/VAN/PICKUP	NORTH-WEST	EAST	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	81
37540212	CAR/VAN/PICKUP	EAST	EAST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	56
37522566		EAST		CELL PHONE (HAND HELD)		18
38450136	CAR/VAN/PICKUP	NORTH	NORTH-WEST	NOT APPLICABLE	FAILURE TO YIELD RIGHT OF WAY	67
37632460	CAR/VAN/PICKUP	NORTH	NORTH	NOT APPLICABLE	FOLLOWING TOO CLOSELY	53
38583167	CAR/VAN/PICKUP	SOUTH	SOUTH	FOLLOWING TOO CLOSELY	NOT APPLICABLE	40
38302713	CAR/VAN/PICKUP	NORTH	EAST	BACKING UNSAFELY	NOT APPLICABLE	24
38610038	CAR/VAN/PICKUP	WEST	WEST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	31
37922643	CAR/VAN/PICKUP	EAST	EAST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	35
38197687	CAR/VAN/PICKUP	EAST	NORTH	NOT APPLICABLE	FAILURE TO YIELD RIGHT OF WAY	30
38738418		SOUTH		UNSAFE SPEED		32
37468829	CAR/VAN/PICKUP	WEST	WEST	NOT APPLICABLE	FOLLOWING TOO CLOSELY	61
37476976	CAR/VAN/PICKUP	WEST	WEST	TURNING IMPROPER	TURNING IMPROPER	41
37526440	CAR/VAN/PICKUP	WEST	EAST	TRAFFIC CONTROL DEVICES DISREGARDED	NOT APPLICABLE	51
38792764	CAR/VAN/PICKUP	EAST	EAST	NOT APPLICABLE	FOLLOWING TOO CLOSELY	63
37794076		SOUTH-WEST		DRIVER INEXPERIENCE		47
38345149	CAR/VAN/PICKUP	EAST	EAST	PASSING OR LANE USAGE IMPROPERLY	NOT APPLICABLE	74
38057603	CAR/VAN/PICKUP	WEST	NORTH-EAST	TRAFFIC CONTROL DEVICES DISREGARDED	UNKNOWN	54
37599705	OTHER	UNKNOWN	UNKNOWN	NOT ENTERED	NOT ENTERED	
37582065	CAR/VAN/PICKUP	NORTH	NORTH	FOLLOWING TOO CLOSELY	NOT APPLICABLE	39
38385417	CAR/VAN/PICKUP	SOUTH	SOUTH	FOLLOWING TOO CLOSELY	REACTION TO OTHER UNINVOLVED VEHICL	51
38197671	CAR/VAN/PICKUP	EAST	NORTH	NOT APPLICABLE	FAILURE TO YIELD RIGHT OF WAY	38
37375259	CAR/VAN/PICKUP	NORTH	NORTH-EAST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	33
38795103	CAR/VAN/PICKUP	EAST	EAST	NOT APPLICABLE	FOLLOWING TOO CLOSELY	68
37958692	CAR/VAN/PICKUP	SOUTH	SOUTH	NOT APPLICABLE	DRIVER INATTENTION	42
38199237	CAR/VAN/PICKUP	EAST	EAST	NOT APPLICABLE	NOT APPLICABLE	49
37410233		NORTH		UNSAFE SPEED		17
37764421	CAR/VAN/PICKUP	WEST	EAST	DRIVER INATTENTION	NOT APPLICABLE	37
37797980	CAR/VAN/PICKUP	EAST	EAST	LANE MARKING IMPROPER/INADEQUATE	LANE MARKING IMPROPER/INADEQUATE	33
37909196	CAR/VAN/PICKUP	NORTH-EAST	NORTH-WEST	ILLNESS	NOT APPLICABLE	73
37366850	CAR/VAN/PICKUP	EAST	EAST	UNKNOWN	NOT APPLICABLE	
38584691	CAR/VAN/PICKUP	EAST	EAST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	31
37475996	CAR/VAN/PICKUP	NORTH-EAST	SOUTH-WEST	PAVEMENT SLIPPERY	NOT APPLICABLE	54
38403292	CAR/VAN/PICKUP	WEST	WEST	DRIVER INATTENTION	NOT APPLICABLE	72
38351413	CAR/VAN/PICKUP	EAST	EAST	NOT APPLICABLE	PASSING OR LANE USAGE IMPROPERLY	70
38763250	CAR/VAN/PICKUP	NORTH	EAST	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE	43
37229050	CAR/VAN/PICKUP	WEST	WEST	NOT APPLICABLE	FOLLOWING TOO CLOSELY	50
38465413		NORTH		TURNING IMPROPER		69
37795052		UNKNOWN		NOT ENTERED		50
37996937	CAR/VAN/PICKUP	SOUTH-EAST	EAST	VIEW OBSTRUCTED/LIMITED	NOT APPLICABLE	53
38185457	CAR/VAN/PICKUP	SOUTH	SOUTH	NOT APPLICABLE	FOLLOWING TOO CLOSELY	62
37538504	CAR/VAN/PICKUP	EAST	EAST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	18
37639779	CAR/VAN/PICKUP	WEST	WEST	FOLLOWING TOO CLOSELY	NOT APPLICABLE	63
38149396	PEDESTRIAN	EAST	NOT APPLICABLE	NOT APPLICABLE	PEDESTRIAN'S ERROR/CONFUSION	34
38634261		EAST		UNSAFE SPEED		30

Case Num	Driver Age Veh 2	PRE_ACCD_ACTN_VEH1	PRE_ACCD_ACTN_VEH2	Day_Of_Week	On Street	Closest Cross Street	Parking Lot Ind
38445244		GOING STRAIGHT AHEAD		Wed	[Route] 312	PROSPECT HILL RD	N
37608497	35	MAKING LEFT TURN	MAKING LEFT TURN	Tue	[Route] 312	INDEPENDENT WAY	N
38128803	17	GOING STRAIGHT AHEAD	STOPPED IN TRAFFIC	Tue	ROUTE 312	Ramp	N
38425969		GOING STRAIGHT AHEAD		Wed	[Route] 312	PUGSLEY RD	N
38715186		GOING STRAIGHT AHEAD		Mon	[Route] 312	[Route] 6	N
37364933	23	MAKING LEFT TURN	GOING STRAIGHT AHEAD	Thu	[Route] 312	Parking Lot	N
37540212	30	SLOWED OR STOPPING	STOPPED IN TRAFFIC	Tue	ROUTE 312	Ramp	N
37522566		GOING STRAIGHT AHEAD		Sat	ROUTE 312	Ramp	N
38450136	26	GOING STRAIGHT AHEAD	MAKING RIGHT TURN	Sun	[Route] 312	INDEPENDENT WAY	N
37632460	50	MAKING RIGHT TURN	GOING STRAIGHT AHEAD	Sun	INDEPENDENT WAY	[Route] 312	N
38583167	33	MAKING RIGHT TURN	MAKING RIGHT TURN	Thu			N
38302713	58	BACKING	STOPPED IN TRAFFIC	Tue	[Route] 312		N
38610038	36	GOING STRAIGHT AHEAD	GOING STRAIGHT AHEAD	Fri	ROUTE 312	Ramp	N
37922643	58	GOING STRAIGHT AHEAD	SLOWED OR STOPPING	Mon	[Route] 84	[Route] 312	N
38197687	48	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Mon	ROUTE 312	Driveway	N
38738418		GOING STRAIGHT AHEAD		Sat	ROUTE 312	Unnamed Street	N
37468829	29	STOPPED IN TRAFFIC	GOING STRAIGHT AHEAD	Wed			N
37476976	44	MAKING LEFT TURN	MAKING LEFT TURN	Mon	[Route] 312	INDEPENDENT WAY	N
37526440	80	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Thu	STATE HWY 312	Route 312	N
38792764	22	STOPPED IN TRAFFIC	GOING STRAIGHT AHEAD	Tue	[Route] 84	[Route] 312	N
37794076		GOING STRAIGHT AHEAD		Sun	[Route] 312	PUGSLEY RD	N
38345149	59	MAKING LEFT TURN	GOING STRAIGHT AHEAD	Wed	[Route] 312	INDEPENDENT WAY	N
38057603	62	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Fri	ROUTE 312	[Route] 6	N
37599705	32	UNKNOWN	UNKNOWN	Fri	RAMP	I 84	N
37582065	43	GOING STRAIGHT AHEAD	STARTING IN TRAFFIC	Wed	ROUTE 312	Ramp	N
38385417	48	MAKING LEFT TURN	SLOWED OR STOPPING	Wed	ROUTE 312	Ramp	N
38197671	45	GOING STRAIGHT AHEAD	MAKING LEFT TURN	Mon	ROUTE 312	Driveway	N
37375259	37	GOING STRAIGHT AHEAD	MAKING RIGHT TURN	Fri	[Route] 312	PUGSLEY RD	N
38795103	53	SLOWED OR STOPPING	STARTING IN TRAFFIC	Sun	RAMP	Route 312	N
37958692	63	GOING STRAIGHT AHEAD	MERGING	Sun	ROUTE 312	Connecting Road	N
38199237	22	SLOWED OR STOPPING	SLOWED OR STOPPING	Tue	ROUTE 312	Unnamed Street	N
37410233		GOING STRAIGHT AHEAD		Mon	[Route] 312	PROSPECT HILL RD	N
37764421		ENTERING PARKED POSITION	PARKED	Mon	[Route] 312		N
37797980	28	MAKING RIGHT TURN	GOING STRAIGHT AHEAD	Sun	[Route] 312	[Route] 84	N
37909196		MAKING RIGHT TURN	PARKED	Tue	[Route] 312		N
37366850	47	MAKING LEFT TURN	MAKING LEFT TURN	Fri	INDEPENDENT WAY	Unnamed Street	N
38584691	21	GOING STRAIGHT AHEAD	SLOWED OR STOPPING	Wed	[Route] 312	Unnamed Street	N
37475996	27	GOING STRAIGHT AHEAD	GOING STRAIGHT AHEAD	Fri	[Route] 312	PUGSLEY RD	N
38403292	68	MAKING RIGHT TURN	MAKING RIGHT TURN	Tue	ROUTE 312	[Route] 6	N
38351413	34	GOING STRAIGHT AHEAD	GOING STRAIGHT AHEAD	Thu	[Route] 312	INDEPENDENT WAY	N
38763250	62	SLOWED OR STOPPING	GOING STRAIGHT AHEAD	Thu	[Route] 312	INDEPENDENT WAY	N
37229050	23	MAKING RIGHT TURN	GOING STRAIGHT AHEAD	Thu	ROUTE 312	[Route] 6	N
38465413		MAKING U TURN		Wed	ROUTE 312	Parking Lot	N
37795052		GOING STRAIGHT AHEAD		Tue	I 84	Ramp	N
37996937	19	MAKING RIGHT TURN	GOING STRAIGHT AHEAD	Fri	ROUTE 6	ROUTE 312	N
38185457	27	MAKING RIGHT TURN	GOING STRAIGHT AHEAD	Thu	I 84	[Route] 312	N
37538504	62	GOING STRAIGHT AHEAD	SLOWED OR STOPPING	Sat	RAMP	Route 312	N
37639779	67	GOING STRAIGHT AHEAD	MAKING RIGHT TURN	Fri	ROUTE 312	Route 6	N
38149396	32	GOING STRAIGHT AHEAD	NOT APPLICABLE	Sun	I 84	Route 312	N
38634261		GOING STRAIGHT AHEAD		Wed	ROUTE 312	Unnamed Street	N

APPENDIX F

TURNING MOVEMENT DIAGRAMS

Firetruck	
Overall Length	47.130ft
Overall Width	8.000ft
Overall Body Height	10.432ft
Min Body Ground Clearance	0.862ft
Track Width	8.000ft
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	38.300ft

DTS • PROVIDENT
Intelligent Land Use

DTS Provident Design Engineering, LLP
One North Broadway
White Plains, NY 10601
P: 914.428.0010
F: 914.428.0017

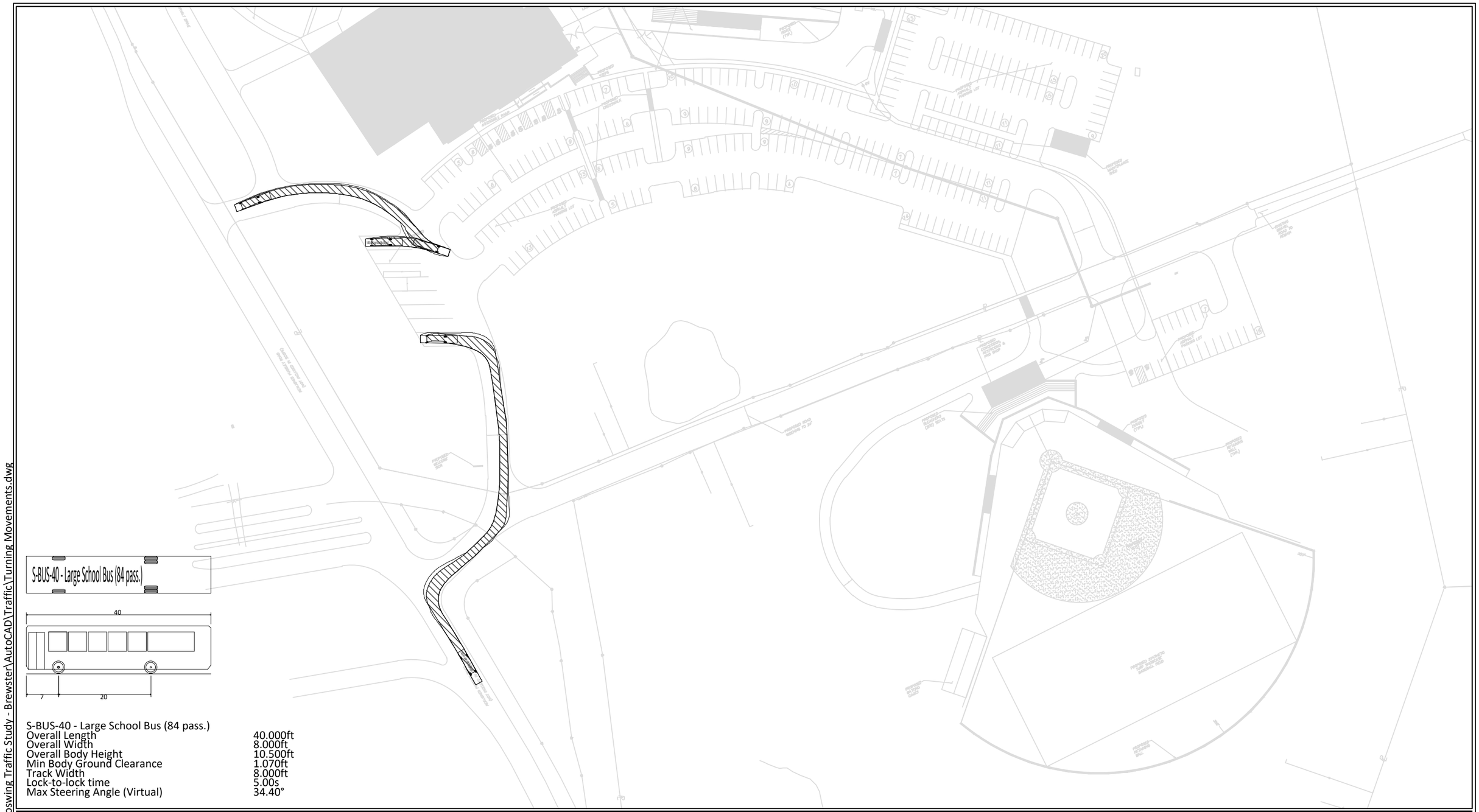
Vehicle Turning Analysis - Firetruck

Brewster Yards
Town of Southeast, Putnam County, New York

Project No. 21-076
Scale: 1" = 100'
December 2021

Figure No. F-1

Q:\PROJECTS-21\21-076 Proswing Traffic Study - Brewster\AutoCAD\Traffic\Turning Movements.dwg



S-BUS-40 - Large School Bus (84 pass.)

Overall Length	40.000ft
Overall Width	8.000ft
Overall Body Height	10.500ft
Min Body Ground Clearance	1.070ft
Track Width	8.000ft
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	34.40°

DTS • PROVIDENT
Intelligent Land Use

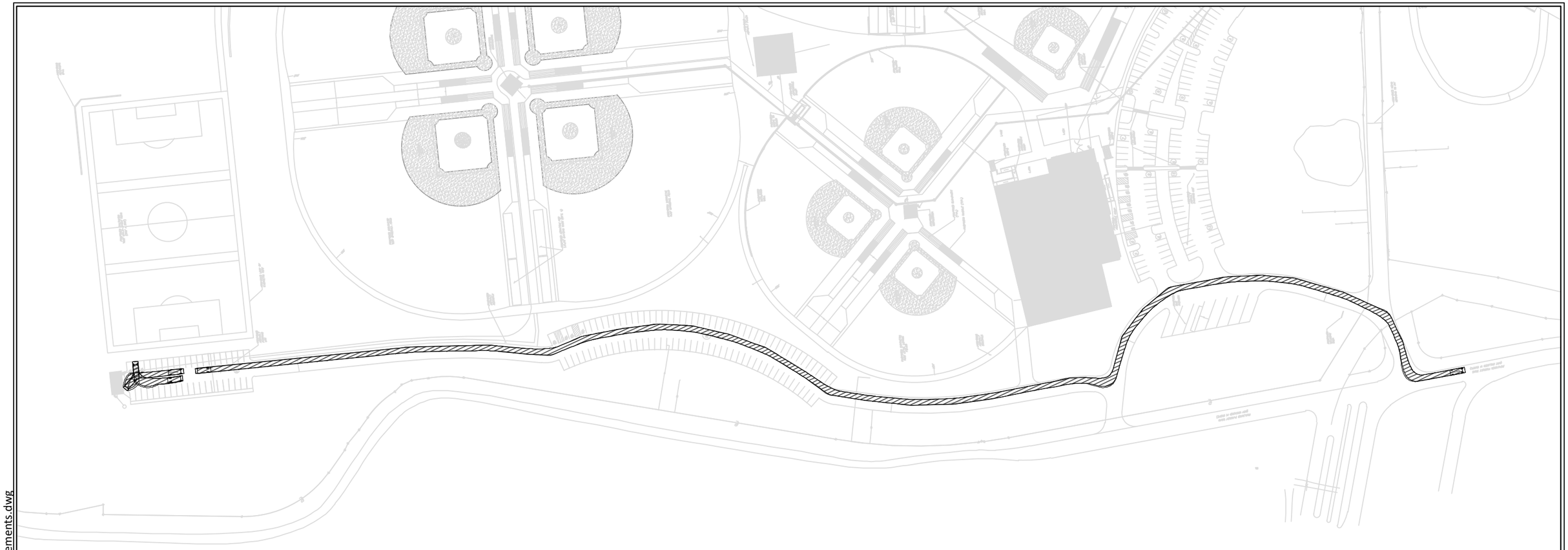
DTS Provident Design Engineering, LLP
One North Broadway
White Plains, NY 10601
P: 914.428.0010
F: 914.428.0017

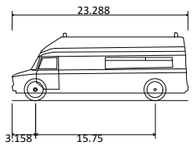
Vehicle Turning Analysis - Bus
Brewster Yards
Town of Southeast, Putnam County, New York

Project No. 21-076
Scale: 1" = 100'
December 2021

Figure No. F-2

Q:\PROJECTS-21\21-076 Proswing Traffic Study - Brewster\AutoCAD\Traffic\Turning Movements.dwg





Horton 453 Type I Ford E-Series Ambulance	
Overall Length	23.288ft
Overall Width	8.021ft
Overall Body Height	9.000ft
Min Body Ground Clearance	1.075ft
Track Width	8.021ft
Lock-to-lock time	5.00s
Curb to Curb Turning Radius	27.400ft

DTS • PROVIDENT
Intelligent Land Use

DTS Provident Design Engineering, LLP
One North Broadway
White Plains, NY 10601
P: 914.428.0010
F: 914.428.0017

Vehicle Turning Analysis - Ambulance
Brewster Yards
Town of Southeast, Putnam County, New York

Project No. 21-076
Scale: 1" = 150'
December 2021

Figure No. F-3

Q:\PROJECTS-21\21-076 Proswing Traffic Study - Brewster\AutoCAD\Traffic\Turning Movements.dwg

DTS • PROVIDENT
Intelligent Land Use

DTS Provident Design Engineering, LLP
One North Broadway
White Plains, NY 10601
P: 914.428.0010
F: 914.428.0017
www.dtsprovident.com

Andrew V. Tung, ASLA, Esq., LEED AP
Gerhard M. Schwalbe, P.E.
Charles 'Carlito' Holt, P.E., PTOE
Brian Dempsey, P.E., PTOE, RSP1

ADDENDUM

TO: Town of Southeast

DATE: May 13, 2022

FROM: DTS Provident Design Engineering, LLP

RE: Traffic Impact Study
Brewster Yards

DTS Provident Design Engineering, LLP (DTS Provident) has prepared this Traffic Impact Study (TIS) Addendum in response to comments contained in a Review Letter dated April 19, 2022 prepared by AKRF Environmental, Planning, and Engineering Consultants, with regard to the above-referenced project. The Review Letter contains comments pertaining to the completeness review of the preliminary Draft Environmental Impact Statement (DEIS) submitted for the above-referenced project on April 4, 2022.

The following are our specific responses to the comments contained in the Review Letter, which are referenced in the order they appeared in the Letter:

Chapter 11: Traffic

95. Additional technical comments on the TIS are pending:

a. The TIS should cite the source of the 1 percent per year growth factor utilized to account for background traffic growth.

Response: ***The 1 percent per year growth rate factor was obtained from the Commercial Campus at Fields Corner Final Environmental Impact Statement (FEIS), which did not cite a source. However, a review of New York State Department of Transportation (NYSDOT) historical traffic volume data indicates that the traffic volumes along the roadways surrounding the Proposed Project have slightly decreased between the most recent two counted years. Therefore, the 1 percent per year growth rate factor is conservative. Copies of the NYSDOT historical traffic data are provided in Attachment A.***

b. The TIS should acknowledge any future independent proposed roadway improvement projects, if any, in the area in addition to those affiliated with other area projects (e.g., the Logistics Center), or lack thereof.

Response: ***At this time, no other future independent proposed roadway improvement projects are anticipated in the area other than those cited in the Traffic Impact Study for the Proposed Project.***

c. The TIS appendix should contain copies of the traffic signal timing plans utilized to enter signal timing information into the Synchro models.

Response: ***Copies of the traffic signal timing information is contained in Attachment B.***

d. The TIS should include a queuing analysis for Existing, No Build, and Build conditions as per the scoping document.

Response: ***A queuing analysis table for the Existing, No-Build and Build conditions is contained in Attachment C.***

e. The TIS states that the HCM 2010 methodology was utilized for the traffic capacity analyses. The most recently approved methodology by NYSDOT is the HCM6 (2016) methodology. While the differences between the two methodologies are not likely to produce notable differences in the analysis results, the HCM6 methodology should be applied for scope compliance.

Response: ***Reference to the HCM 2010 methodology in the Traffic Impact Study for the Proposed Project was a typographical error. Traffic analysis contained in the Traffic Impact Study for the Proposed Project was conducted with Synchro Version 11, which incorporates the methodologies presented in the Highway Capacity Manual, 6th Edition (HCM6).***

f. Trip generation data for the individual No Build projects, including volume figures where applicable, should be provided as part of the TIS appendix.

Response: ***Trip generation data and traffic volume figures, where applicable, for the adjacent developments contained in the traffic volumes for the No-Build conditions are contained in Attachment D.***

g. The TIS should provide more detail regarding proposed operations of the proposed facility for each of the components of the proposed project, including variations in facility uses by time of day, seasons, and special events.

Response: ***The outdoor facilities (fields) are anticipated to operate between April and October. The indoor facility is anticipated to operate year-round. Variations in the operations of the different components of the Proposed Project will not result in any significant deviations from the results of the Traffic Impact Study, as the Study conservatively utilizes the highest trip generation characteristics studied at a similar venue (Connecticut Sportsplex) to estimate the number of peak hour trips that the Proposed Project would generate.***

h. As a mitigation measure, the DEIS/TIS recommends installation of "No Right Turn" traffic signs at the driveway approaches to Pugsley Road to discourage any drivers leaving the site from making right-turns towards Fields Corner Road. In

addition to the "No Right Turn" signage it is recommended that the following options are evaluated in the TIS at this location (1) the restoration of dirt road conditions between the project site & the Patterson town line and (2) the installation of geometric barriers to prevent right turns.

Response: ***The Proposed Project as well as the nearby Commercial Campus at Fields Corner project propose no improvements to Fields Corner Road north of the Proposed Project's driveway to the Patterson town line. This portion of Fields Corner Road will remain a gravel roadway as it exists today.***

During final development design, the Applicant will provide geometric changes to the proposed access driveway to channelize drivers to turn left upon exiting the northern driveway, thereby further discouraging right-turn exits, along with the originally proposed right-turn restriction signs.

DTS Provident has evaluated the effects that the geometric changes to the northern driveway would have on the analysis results and recommendations contained in the TIS. Based upon the origin/destination patterns developed in the TIS for the Proposed Project, only 2% of the Proposed Project's traffic volumes is expected to utilize Fields Corner Road to the north, which amounts to four vehicles, at most, in any given Peak Hour. Given the extremely limited amount of Proposed Project-generated traffic volumes that would utilize Fields Corner Road to the north, any redistribution of those traffic volumes to other study intersections as a result of the geometric changes to the access driveway would have no effect on the results or recommendations contained in the TIS.

ATTACHMENT A

NYSDOT Historical Traffic Volume Data

Station	FC	County Order	End Mile Point	Section Length	Road Name	Beginning Description	End Description	2019 Estimate AADT	2019 Estimate % Trucks	<<< Previous Counts YEAR	AADT	YEAR	AADT	YEAR	AADT	YEAR	AADT >>>
83_0010	12	01	2411	0081	US 6/NY 17/NY 1	GREENWICH AVE OVER	EXIT 125		3.9	2000	47746						
83_0011	12	01	2723	0312	US 6/NY 17	EXIT 125	RT 94 OVER	66937	3.9	2012	61524	2002	54591				
83_0004	12	01	2932	0209	US 6/NY 17	RT 94 OVER	ON RAMP FROM RT 17M CHESTER		3.9								
83_0002	12	01	3251	0319		ON RAMP FROM RT 17M CHESTER	RT 208	62054	3.9	2019	62054	2018	62263	2015	58951	2014	57318
83_0025	12	01	3544	0293	US 6/NY 17	RT 208	END US 6/NY 17 OLAP/EXIT 130	65283	3.9	2012	60004	2007	41828				
83_0097	14	01	3629	0085		END US 6/NY 17 OLAP/EXIT 130	RT 32 CONNECTOR	21413	1.9	2018	21490	2014	18193	2011	18100	2008	16882
83_0027	14	01	3912	0283		RT 32 CONNECTOR	NY 293	27298	2.4	2015	27697	2009	26466	2005	27081	2000	19498
83_0905	4	01	4249	0337	LONG MOUNTAIN P	NY 293	START US 6/NY 987E OLAP	27978	0.9	2018	28042	2014	23447	2011	24165	2007	25106
83_0028	2	01	4296	0047	Seven Lakes Pkw	START US 6/NY 987E OLAP	END EXIT 18 ON-RAMP FROM US	7750	0.9	2013	6399	2009	6089	2006	6170	2003	5898
83_0072	2	01	4308	0012	Palisades Int P	END EXIT 18 ON-RAMP FROM US	START EXIT 19 OFF-RAMP TO SE	20883	0.7	2014	17758	2011	18658	2008	16577	2005	18874
83_0029	2	01	4544	0236	Palisades Int P	START EXIT 19 OFF-RAMP TO SE	END 6/987C OLAP END RT 987C	41372	3.9	2007	29088	2004	20484	2001	15459		
83_0067	4	01	4564	0020	Bear Mountain B	END 6/987C OLAP END RT 987C	Orange/Rock Co Line	21512	3.4	2012	15507	2015	20374	2014	19147	2012	15507
Route	**US6**		**County**	**087**	**Rockland**		**Region**	**08**									
85_0009	12	02	0026	0026	Bear Mountain B	Orange/Rock Co Line	Rock/West Co Line	22477	3.9	2014	19147	2015	20374	2014	19147	2012	15507
Route	**US6**		**County**	**119**	**Westchester**		**Region**	**08**									
87_0501	14	03	0019	0019	Bear Mountain B	Rock/West Co Line	RT 9D	20675	2.5	2019	20675	2016	21660	2015	20374	2014	19147
87_0031	14	03	0383	0364		RT 9D	END 6/202 OLAP START 6/9/202	18904	2.5	2018	18972	2015	16921	2009	13203	2006	13392
87_0099	12	03	0395	0012	US6/ US9/ US202	END 6/202 OLAP START 6/9/202	RT 987H BEAR MTN STATE PKWY	32399	3.9	2017	31605	2011	27022	2008	25779	2000	23442
87_0032	14	03	0454	0059	US6/ US9/ US202	RT 987H BEAR MTN STATE PKWY	END 6/202 OLAP START 6/9/202	40292	4.7	2017	40584						
87_0033	14	03	0535	0081	MAIN ST	END 6/202 OLAP START 6/9/202	END 6/35/202 OLAP START 35/2	9263	5.6	2018	9296	2015	9050	2011	6539	2010	6990
87_0034	14	03	0680	0145	MAIN ST	END 6/35/202 OLAP START 35/2	PEEKSKILL C/L / CORTLANDT T/	13246	5.9	2017	13342	2011	10468	2010	12093	2009	19166
87_0035	14	03	0703	0023		PEEKSKILL C/L / CORTLANDT T/	RT 987H BEAR MOUNTAIN PKWY	22496	4.4	2015	22824	2013	19128	2009	26667	2006	19905
87_0123	14	03	0939	0236		RT 987H BEAR MOUNTAIN PKWY	MOHEGAN AVE	18825	6.3	2015	19100	2013	16522	2009	22461	2006	17331
87_0036	14	03	1130	0191		MOHEGAN AVE	RT 132 SHRUB OAK	21252	5.3	2015	21562	2013	25254	2012	29056	2009	19448
87_0037	14	03	1151	0021		RT 132 SHRUB OAK	ACC TACONIC STATE PKWY 987G	28664	2.9	2019	28664	2011	30554	2008	28973	2005	29560
87_0038	14	03	1190	0039		ACC TACONIC STATE PKWY 987G	LEE BLVD	35891	2.5	2017	36151	2011	27819	2008	35610	2002	36674
87_0156	14	03	1236	0046		LEE BLVD	HILL BLVD	20784	4.7	2015	21087	2011	18870	2008	18321	2005	19520
87_0157	14	03	1335	0099		HILL BLVD	RT 6N JEFFERSON VALLEY	19533	3.6	2017	19675	2013	18940	2009	20163	2003	20587
87_0102	14	03	1500	0165		RT 6N JEFFERSON VALLEY	West/Putnam Co Line	22364	6.5	2018	22445	2015	21805	2011	18425	2007	19563
Route	**US6**		**County**	**079**	**Putnam**		**Region**	**08**									

Station	FC	County Order	End Mile Point	Section Length	Road Name	Beginning Description	End Description	2019 Estimate AADT	2019 Estimate % Trucks	Previous Counts YEAR	Previous Counts AADT	Previous Counts YEAR	Previous Counts AADT	Previous Counts YEAR	Previous Counts AADT	Previous Counts YEAR	Previous Counts AADT
84_0039	14	04	0049	0049		West/Putnam Co Line	MILLER RD	17926	5.2	2017	18056	2011	18342	2007	16843	2004	20925
84_0040	14	04	0245	0196		MILLER RD	RT 6N MAHOPAC	14813	3.5	2017	14920	2011	15338	2007	16544	2004	18210
84_0004	14	04	0470	0225		RT 6N MAHOPAC	CRANE RD	14811	4.9	2018	14864	2014	15936	2011	14726	2008	15439
84_0041	14	04	0764	0294		CRANE RD	RT 52 CARMEL	12382	5	2017	12472	2012	12997	2009	12973	2003	14056
84_0042	14	04	0845	0081		RT 52 CARMEL	CR 35 STONELEIGH AVE	15601	3.6	2018	15657	2015	17498	2009	16518	2006	16974
84_0020	14	04	0995	0150		CR 35 STONELEIGH AVE	RT 312	14276	3.9	2017	14379	2011	14470	2007	14755	2004	16421
84_0047	14	04	1121	0126		RT 312	CR 36 DREWVILLE RD	8902	3.8	2017	8967	2011	9341	2006	8299	2003	9688
84_0043	14	04	1291	0170		CR 36 DREWVILLE RD	START 6/22/202 OLAP	9741	3.4	2017	9812	2011	10241	2007	10892	2004	12376
84_0197	14	04	1335	0044		START 6/22/202 OLAP	CR 50	14974	3.9	2017	15083	2012	15633	2006	16942	2003	16114
84_0009	14	04	1383	0048		CR 50	END 6/22/202 OLAP	17852	5.9	2019	17852	2011	16916	2008	17782	2005	16465
84_0045	16	04	1461	0078		END 6/22/202 OLAP	RT 121	17061	3.7	2019	17061	2017	13166	2008	11933	2005	13264
84_0046	16	04	1686	0225		RT 121	CONN STATE LINE	11874	3.7	2019	11874	2017	8872	2008	8029	2005	7955
Route	**NY6N**			**County**	**119**	**Westchester**	**Region**	**08**									
87_0047	16	01	0032	0032		RT 6 JEFFERSON VALLEY	E MAIN ST	3112	5.7	2016	3125	2013	2830				
87_0041	16	01	0069	0037		E MAIN ST	West/Putnam Co Line	9754	3.1	2015	9809	2013	8467	2009	9598	2005	11102
Route	**NY6N**			**County**	**079**	**Putnam**	**Region**	**08**									
84_0001	16	02	0194	0194		West/Putnam Co Line	CR 30 LAKE SECOR RD	7788	1.8	2019	7788	2015	8534	2009	8108	2005	8437
84_0003	16	02	0439	0245		CR 30 LAKE SECOR RD	RT 6 MAHOPAC END RT 6N	11007	3.8	2018	11023	2014	10394	2011	12074	2007	11577
Route	**NY7**			**County**	**007**	**Broome**	**Region**	**09**									
91_0082	17	01	0125	0125		PA STATE LINE	RT 7A CORBETTSVILLE	2642	10.3	2019	2642	2015	2420	2012	2910	2009	2467
91_0002	17	01	0282	0157		RT 7A CORBETTSVILLE	CR 20 CONKLIN FORKS RD	3684	4.2	2016	3786	2013	4432	2010	4615	2007	5303
91_0376	16	01	0497	0215		CR 20 CONKLIN FORKS RD	CR 161 POWERS RD	3233	10.5	2015	3342	2012	3191	2009	3426	2006	4064
91_0364	16	01	0760	0263		CR 161 POWERS RD	CR 177 CONKLIN KIRKWOOD DR	8216	5.9	2018	8284	2014	8372	2011	8693	2007	9658
91_0003	16	01	0911	0151		CR 177 CONKLIN KIRKWOOD DR	BINGHAMTON C/L	6896	7.6	2019	6896	2014	6934	2011	6928	2010	6641
91_0148	16	01	1053	0142	CONKLIN AVE	BINGHAMTON C/L	TOMPKINS ST & CONKLIN AVE	10558	3.7	2017	10734	2007	12131	2004	12347	2001	11326
91_0004	16	01	1108	0055	TOMPKINS ST	TOMPKINS ST & CONKLIN AVE	RT 11 COURT ST	11926	3.7	2017	12124	2012	7997	2011	9223	2008	9145
91_0092	16	01	1141	0033	BRANDYWINE AVE	RT 11 COURT ST	ROBINSON ST	8652	5.2	2018	8723	2014	9347	2011	9325	2008	9626
91_0093	16	01	1163	0022		ROBINSON ST	RT 363 NORTH SHORE DRIVE	9511	8.5	2014	9916	2011	11905	2008	13206	2005	13324
91_0012	12	01	1171	0008		RT 363 NORTH SHORE DRIVE	FREDERICK ST	34339	6.6	2010	35148	2005	37587				
91_0011	12	01	1199	0028	BRANDYWINE HWY	FREDERICK ST	I-81 OVER	36141	6.4	2009	37089	2005	45195	2001	34179		

Station	FC	County Order	End Mile Point	Section Length	Road Name	Beginning Description	End Description	2019 Estimate AADT	2019 Estimate % Trucks	<<< Previous Counts YEAR	AADT	YEAR	AADT	YEAR	AADT	YEAR	AADT >>>
75_0057	7	01	0716	0268		ELLIS RD	CR 34	3192	9.6	2014	3192	2011	3207	2008	3121	2005	3050
75_0059	7	01	1069	0353		CR 34	JCT RT 345	2859	8.7	2014	2859	2011	3009	2007	2373	2003	2905
75_0060	7	01	1644	0575		JCT RT 345	CR 38	2682	7.6	2018	2682	2014	2751	2008	2583	2005	2817
75_0061	7	01	2144	0500		CR 38	RT 56 END RT 310	2200	9.6	2016	2200	2013	2241	2007	1820	2005	2019
Route	**NY311**		**County**	**079**	**Putnam**	**Region**	**08**										
84_0598	16	01	0037	0037		RT 52 KENT COR	CR 46 TERRY HILL RD	9367	5.5	2018	9380	2015	8960	2009	8859	2006	9681
84_0021	16	01	0107	0070		CR 46 TERRY HILL RD	ACC RT 84I	9985	5	2019	9985	2014	9620	2008	9562	2005	11498
84_0005	16	01	0252	0145		ACC RT 84I	RT 164	10292	3.7	2018	10307	2015	9778	2008	8520	2005	9946
84_0561	16	01	0477	0225		RT 164	RT 292	7370	4.3	2018	7380	2014	6145	2008	6388	2005	8012
84_0599	16	01	0612	0135		RT 292	RT 22 END RT 311	9235	5.4	2019	9235	2014	8544	2008	9149	2005	10722
Route	**NY312**		**County**	**079**	**Putnam**	**Region**	**08**										
84_0026	16	01	0113	0113		RT 6	ACC RT 84I	19837	3.1	2017	19893	2011	19126	2008	19712	2005	18898
84_0600	16	01	0262	0149		ACC RT 84I	CR 62 FARM TO MKT RD	12948	3.9	2015	13022	2009	11234	2006	10534	2003	10601
84_0601	16	01	0436	0174		CR 62 FARM TO MKT RD	RT 22 SEAR COR END RT 312	10195	4.4	2019	10195	2015	11389	2009	10449	2006	10629
Route	**NY313**		**County**	**115**	**Washington**	**Region**	**01**										
18_0040	7	01	0045	0045		RT 22 JCT CAMBRIDGE	CR 67	1319	5.5	2016	1332	2010	1450	2006	1651	2004	1466
18_0319	7	01	0895	0850		CR 67	VERMONT STATE LINE END RT 31	1771	12.7	2017	1782	2011	1655	2006	1368	2005	1579
Route	**NY314**		**County**	**019**	**Clinton**	**Region**	**07**										
71_0006	14	01	0076	0076	MOFFITT RD NY 3	MOFFITT RD	US 9	3549	6.9	2017	3588	2009	5165	2006	7783	2003	8329
Route	**NY315**		**County**	**065**	**Oneida**	**Region**	**02**										
26_0326	6	01	0410	0410		RT 12 WATERVILLE	CR 9 SHANLEY RD	1891	6.7	2015	1894	2011	1645	2008	1635	2005	1594
26_0313	6	01	0527	0117		CR 9 SHANLEY RD	RT 12B END RT 315	2122	7.7	2018	2123	2014	2084	2011	1992	2008	2136
Route	**NY316**		**County**	**053**	**Madison**	**Region**	**02**										
24_0001	17	01	0021	0021		RT 46	CR 76 CANAL RD	3915	6.7	2015	4054	2012	3559	2007	3763	2003	3939
24_0035	17	01	0272	0251		CR 76 CANAL RD	ONEIDA CL / LENOX TL	2343	4.4	2018	2363	2012	1772	2004	2516	2000	2619
24_0128	8	01	0404	0132		ONEIDA CL / LENOX TL	RT 31 END RT 316	2299	5.2	2018	2299	2014	2023	2011	2353	2008	2108
Route	**NY317**		**County**	**067**	**Onondaga**	**Region**	**03**										

Station	Func. Class	End Mile Point	Section Length	Road Name	Beginning Description	End Description	2019 Estimate AADT	2019 Estimate % Trucks	YEAR	AADT	YEAR	AADT	YEAR	AADT	YEAR	AADT
84_8013	17	0028	0028	TERRY HILL RD	FAIR ST	TALMADGE RD	2447	3.6	2019	2447	2016	2477	2013	1820		
84_2039	17	0087	0059	TERRY HILL RD	TALMADGE RD	NY 311	4262	4.4	2019	4262	2015	4549	2009	2273		
Road Number CR51				**County 079 Putnam**		**Region 08**										
84_6013	19	0008	0008	MORNINGTHORPE A	DEAD END	RAILROAD AVE		5								
84_1001	17	0067	0067	TURK HILL RD	N SALEM RD	CARRIAGE HILL RD	1351	3.2	2011	1356	2006	1501				
84_2042	17	0179	0112	TURK HILL RD	CARRIAGE HILL RD	NY 22	1389	4.7	2016	1391	2010	1240	2005	1459		
Road Number CR53				**County 079 Putnam**		**Region 08**										
84_6014	16	0146	0146	TONETTA LAKE RD	BREWSTER VL	N BREWSTER/TONETTA LAKE	2878	3.9	2017	2886	2009	3562				
Road Number CR54				**County 079 Putnam**		**Region 08**										
84_6005	17	0356	0356	MILLTOWN RD	NY22	CONN STATE LIN	6637	2.4	2015	6649	2012	6452	2009	6590	2005	6554
Road Number CR55				**County 079 Putnam**		**Region 08**										
84_2030	17	0090	0090	NORTH SALEM RD	WESTCHESTER C/L	TURK HILL RD	3323	6.3	2015	3329	2009	2799				
84_2008	17	0238	0148	DEANS CORNER RD	TURK HILL RD	RT22	2043	9.7	2019	2043	2015	2016	2009	1496		
Road Number CR56				**County 079 Putnam**		**Region 08**										
84_6041	17	0030	0030	RAILROAD AVE	NY 22	MARVIN AVE	3896	4.3	2017	3899	2009	3847				
84_1214	17	0040	0010	RAILROAD AVE	MARVIN AVE	US 6 MAIN ST	3832	3.6	2009	3849						
Road Number CR57				**County 079 Putnam**		**Region 08**										
84_2022	16	0119	0119	JOHN SIMPSON RD	US 6	SOUTHEAST TL	9925	2.3	2019	9925	2015	9827	2009	10141		
84_8006	16	0134	0015	JOHN SIMPSON RD	SOUTHEAST TL	FAIR ST	11222	3.7	2018	11238	2015	10009	2013	9104		
Road Number CR58				**County 079 Putnam**		**Region 08**										
84_2028	16	0284	0138	N BREWSTER RD	N BREWSTER/TONETTA LAKE	NY 312	3871	5.6	2019	3871	2015	4354	2009	3620		
Road Number CR60				**County 079 Putnam**		**Region 08**										
84_8007	16	0107	0107	FAIR ST	NY 52	CR 44	7761	3.7	2018	7772	2011	7127				
84_8008	16	0136	0029	FAIR ST	CR 44	CR 57	9367	3.7	2019	9367	2016	9912	2013	8012		
84_6015	16	0319	0183	FAIR ST	CR 57	CR 45	9386	4.5	2018	9399	2014	8107	2011	4311	2005	4395
84_8014	16	0468	0149	FAIR ST	CR 45	NY 311	3696	5.2	2017	3706	2010	3724				

Station	Func. Class	End Mile Point	Section Length	Road Name	Beginning Description	End Description	2019 Estimate AADT	2019 Estimate % Trucks	YEAR	AADT--	<<< Previous Counts YEAR	AADT	YEAR	AADT	YEAR	AADT >>>
07_5997	19	0010	0010	CENTER ST	CORRIGAN ST	BISHOPS LA	63	4.1	2015	65						
07_5998	19	0049	0049	CORRIGAN ST	HILL ST	MOSES LA	304	4.1	2015	315						
07_5999	19	0027	0027	DALE ST	WILLOW ST	CR 39A	242	4.1	2015	251						
07_7108	17	0048	0048	DAVID WHITES LA	HAMPTON RD	TOWN LINE	5477	9.1	2016	5587	2013	4942	2011	4744	2008	4739
07_5967	19	0041	0041	DOWNS PATH	WICKAPOGUE RD	HALSEY FARM DR	414	4.1	2015	429						
07_1559	17	0071	0071	FLYING POINT RD	HAMPTON RD	WICKAPOGUE RD	3588	3.5	2019	3588						
07_2249	19	0086	0086	GREAT PLAINS RD	FIRST NECK LA	CAPTAINS NECK LA		4.1								
07_1663	17	0150	0150	HALSEY NECK LA	HILL ST	MEADOW LA	1613	3.5	2018	1624	2014	1616				
07_5990	19	0023	0023	HALSEY ST	HILL ST	ARMANDE ST	1495	4.1	2015	1551						
07_1029	16	0122	0122	HAMPTON RD	MAIN ST	FLYING POINT RD	8976	4.3	2017	8923	2011	9641	2008	10720	2007	11689
07_1013	16	0088	0088	HILL ST	TUCKAHOE LA	MOSES LA	13055	5.9	2016	12940	2010	11019	2008	14026	2007	16785
07_1005	16	0159	0071	HILL ST	MOSES LA	WINDMILL LA	13087	4.2	2017	13010	2011	13411	2010	13226	2008	12553
07_5988	19	0011	0011	JAMES ST	HERRICK RD	POST LA	283	4.1	2015	294						
07_5956	19	0009	0009	JUNIPER LA	MEADOWGRASS LA	END LOOP	47	4.1	2015	49						
07_5957	19	0020	0020	LEOS LA	ADAMS LA	ANNS LA	137	4.1	2015	142						
07_5958	19	0015	0015	LITTLE PLAINS R	HAMPTON RD	BURNETT ST	2349	4.1	2015	2436						
07_1664	17	0029	0029	MAGEE ST	BISHOPS LA	SOUTHAMPTON VL	393	8.1	2018	396	2015	691				
07_1665	17	0421	0421	MEADOW LA	FIRST NECK LA	END	1008	3.5	2018	1015	2015	1543				
07_1666	17	0060	0060	MOSES LA	HILL ST	SOUTHAMPTON V/L	2810	1.9	2018	2829	2014	1646				
07_1667	16	0071	0071	NORTH MAIN ST	NORTH SEA RD	CR 39A	6327	3.8	2018	6308	2015	5117	2014	5729		
07_1668	16	0066	0066	NORTH SEA RD	NORTH MAIN ST	CR39	13593	6.1	2018	13553	2015	14355				
07_1669	16	0020	0020	NUGENT ST	WINDMILL LA	MAIN ST	7432	6.2	2018	7410	2015	8236	2014	5908		
07_1670	17	0116	0116	OLD TOWN RD	HAMPTON RD	END	3472	7	2018	3495	2015	4151				
07_5959	19	0019	0019	PLEASANT LA	SOMERSET AVE	SOMERSET AVE	102	4.1	2015	106						
07_5960	19	0014	0014	RAYMONDS LA	SOUTH ROSKO DR	DEAD END	160	4.1	2015	166						
07_1671	17	0075	0075	SOUTH MAIN ST	JOBS LA	GIN LA	2424	4.6	2018	2440	2014	1293				
07_1672	16	0021	0021	TUCKAHOE LA	HILL ST	SOUTHAMPTON V/L	1816	7.3	2019	1816	2017	2040				
07_5961	19	0008	0008	WALL ST	MAIN ST	OAK ST	225	4.1	2015	233						
07_1673	17	0106	0106	WICKAPOGUE RD	OLD TOWN RD	FOWLER ST	3532	3.5	2019	3532	2017	3635				
07_1674	16	0015	0015	WINDMILL LA	HILL ST	NUGENT ST	10466	4.3	2018	10435	2015	11197				

Municipality 0789 **Southeast** **Region 08**

Station	Func. Class	End Mile Point	Section Length	Road Name	Beginning Description	End Description	2019 Estimate AADT	2019 Estimate % Trucks	YEAR	AADT--	<<< Previous Counts YEAR	AADT	YEAR	AADT >>> YEAR	AADT
84_5214	19	0047	0047	BIRCH HILL RD	NY 22	ALLVIEW AVE	307	5	2016	309					
84_2201	19	0068	0068	BLACKBERRY DR	CR 58	SCOTT PL		5							
84_1210	17	0248	0248	BREWSTER HILL R	SODOM RD	NY 312	2121	3.6	2019	2121	2015	2526	2009	2767	
84_7001	19	0057	0032	BREWSTER REST A	PARKING AREA	I-684 NB (ON)	1441	25	2019	1441					
84_7000	19	0025	0025	BREWSTER REST A	I-684 NB (OFF)	PARKING AREA	1325	25.1	2019	1325					
84_2203	19	0076	0076	CARRIAGE HILL R	CR 51	ALLVIEW AVE		5							
84_5215	19	0013	0013	ELIZABETH CT	WELFARE RD	END LOOP	36	5	2015	36					
84_5216	19	0121	0121	FEDERAL HILL RD	CR 54	CT S/L	1186	5	2015	1197					
84_6032	19	0052	0052	FIELDS CORNER R	PUGSLEY RD	PATTERSON T/L	82	2.5	2019	82					
84_5217	19	0159	0159	GUINEA RD	CR 55	WESTCHESTER C/L	492	5	2016	496					
84_5218	19	0031	0031	HILLSIDE PARK	VIL LINE	DEAD END	40	5	2016	40					
84_5219	19	0065	0065	ICE POND RD	NY 312	PATTERSON T/L	459	5	2015	463					
84_5220	19	0048	0048	LAKE VIEW DR	SHORE DR	BREWSTER HLL R	230	5	2015	232					
84_6033	19	0136	0136	LOWER MINE RD	NY 22	CARMEL T/L	432	1.3	2019	432	2014	388			
84_5243	19	0020	0020	MAPLE DR	BREWSTER RD	SUNSET DR	121	5	2015	122					
84_5221	19	0023	0023	MEOLA DR	DAISY LA	END LOOP	142	5	2016	143					
84_5222	19	0016	0016	MERRICK CT	WETHERILL RD	END LOOP	108	5	2015	109					
84_5223	19	0021	0021	MILLFARM LA	CR 65	END LOOP	124	5	2015	125					
84_2208	19	0079	0079	MINOR RD	NY 312	BREWSTER HILL RD		5							
84_5224	19	0018	0018	MOSS DR	MINOR RD	END LOOP	102	5	2015	103					
84_5225	19	0042	0042	PADDOCK FARM RD	CR 54	BALTIC PL	120	5	2015	121					
84_6034	17	0113	0113	PROSPECT HILL R	CR 53	NY 312	751	3.6	2016	752					
84_6035	19	0111	0111	RESERVOIR RD	CR 36	LOWER MINE RD	329	5	2019	329	2014	330			
84_2210	19	0091	0091	SEVEN OAKS LA	7 OAKS LA	7 OAKS LA		5							
84_1211	17	0085	0085	SHERWOOD HILL R	MILLTOWN RD	OLD DOANSBURG RD	1098	3.5	2019	1098	2015	950	2009	874	
84_5226	19	0122	0122	SHORE DR	DEAD END	MERIDIAN DR	295	5	2015	298					
84_6036	17	0065	0065	SODOM RD	DEAD END	NY 22	2980	3.7	2015	2985	2012	3100	2009	2893	
84_6042	17	0219	0087	STARR RIDGE RD	COBB RD	US 6	3291	4.1	2015	3297	2012	3076	2009	3308	
84_1212	17	0132	0132	STARR RIDGE RD	STARR LEA RD	COBB RD	3650	3.3	2015	3657	2009	3068			
84_5227	19	0016	0016	TAMARIX DR	SYCAMORE RD	END LOOP	120	5	2015	121					
84_5228	19	0030	0030	TULIP DR	CR 58	BREWSTER HILL RD	120	5	2016	121					

ATTACHMENT B

Traffic Signal Timing Information

TE-26X

STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING & SAFETY DIVISION
TRAFFIC CONTROL SPECIFICATIONS

STUDY :
CONTRACT :
PIN :
FILE :

P 31 — SIGNAL NO(S)

PUTNAM — COUNTY

INTERSECTION RTE. 6 @ RTE. 312

☐ CITY ☐ VILLAGE ☒ TOWN OF SOUTHEAST

Department Order filed _____ as Section 2037.09 Subdivision (e)

Prior specifications hereby superseded ☐ None ☒ October 11, 1985

Purpose : UPGRADE TO PRESSENCE DETECTORS ON RTE. 312.

These specifications will be effective upon the ☐ Installation ☒ Modification of the necessary traffic control device(s) reguired by and conforming to the State Manual
of Uniform Traffic Control Devices

I. This Signal shall

A. Operate in accordance with the Table of Operations and / of Change intervals as shown on page(s) 2 as a :

- ☐ Pretimed Signal
- ☐ Semi-traffic actuated signal
- ☒ Full-traffic actuated signal
- ☐ Pedestrian actuated signal
- ☒ Other Phase timing changes 12-21-07 CAM

B.
- ☒ Display vehicular indications
- ☐ Display pedestrian indications
- ☒ Be equipped with vehicle detectors
- ☐ Be equipped with Pedestrian pushbuttons

as shown in the ☒ schematic ☐ scaled drawing on page 3

C. Be equipped with ☐ pre-emption ☐ interconnection and / or coordination which are described as follows

cc:
- (1) ☒ Main Office
- (2) ☒ Region 8 Traffic Engineer
- (2) ☒ FRED HAALCK
- (1) ☒ RES. 84

7/30/96 — Date
W. D. F. — Signature
RTE — Title

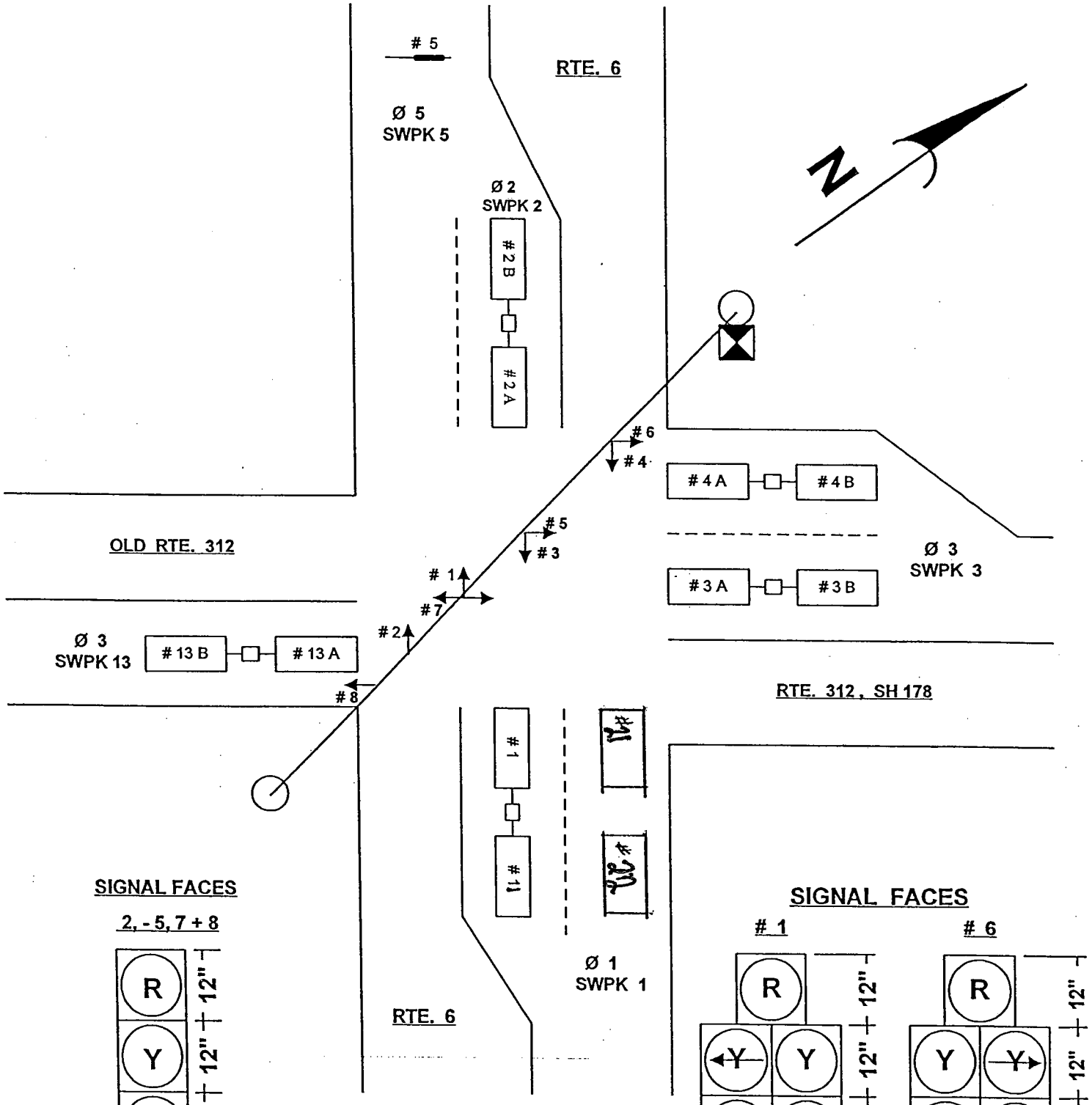
Installation Date _____

Modification Date July 30, 1996

STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION
TRAFFIC AND SAFETY DIVISION
TRAFFIC CONTROL SIGNAL SPECIFICATIONS (CONTINUED)

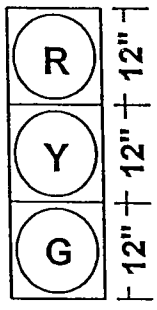
STUDY:
CONTRACT:
PIN:
FILE:

P 31 (SIGNAL NO(S)) | PUTNAM (COUNTY) | 7/31/96 (DATE) | PAGE 3 OF 20 PAGES



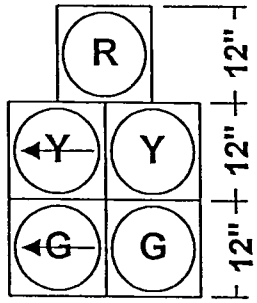
SIGNAL FACES

2, - 5, 7 + 8

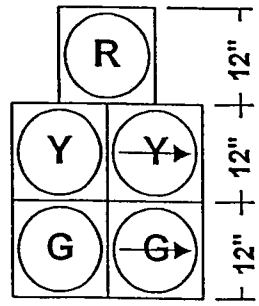


SIGNAL FACES

1



6



STD8

Phase Times [1.1.1]

	1	2	3	4	5	6	7	8
Min Green	5	5	5		15			
Gap, Ext	3	3	3		6			
Max 1	50	35	40		50			
Max 2								
Yel Clearance	5	5	5		5			
Red Clearance	1	1	1		1			
Walk								
Ped Clearance								
Red Revert								
Add Initial					25			
Max Initial					20			
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce					20			
Reduce By					10			
Min Gap					4			
DyMaxLim		55	55					
Max Step		10	5					

Options [1.1.2]

	1	2	3	4	5	6	7	8
Enable	On	On	On		On			
Min Recall					On			
Max Recall								
Ped Recall								
Soft Recall								
Lock Calls								
Auto Flash Entry								
Auto Flash Exit								
Dual Entry		On		On		On		On
Enable Simul Gap	On	On	On	On	On	On	On	On
Gaurantee Passag								
Rest In Walk								
Conditon Service								
Non-Actuated 1								
Non-Actuated 2								
Add Init Calc								

Options+ [1.1.3]

	1	2	3	4	5	6	7	8
Reservice								
PedClr Thru Yel								
Skip Red No Call								
Red Rest								
Max II								
Call Phase								
Conflicting Phase								
Omit Yellow								
Ped Delay								
Grn/Ped Delay								

ID: 4031 RTE 6 @ RTE 312

Coordination Patterns [2.4] and Coordination Split Tables [2.7.1]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1			1	1	13	0	0	13	1	25	0	0	0	1	37	0	0	0	1
2			2	1	14	0	0	14	1	26	0	0	0	1	38	0	0	0	1
3			3	1	15	0	0	15	1	27	0	0	0	1	39	0	0	0	1
4			4	1	16	0	0	16	1	28	0	0	0	1	40	0	0	0	1
5			5	1	17	0	0	17	1	29	0	0	0	1	41	0	0	0	1
6			6	1	18	0	0	18	1	30	0	0	0	1	42	0	0	0	1
7			7	1	19	0	0	19	1	31	0	0	0	1	43	0	0	0	1
8			8	1	20	0	0	20	1	32	0	0	0	1	44	0	0	0	1
9			9	1	21	0	0	21	1	33	0	0	0	1	45	0	0	0	1
10			10	1	22	0	0	22	1	34	0	0	0	1	46	0	0	0	1
11			11	1	23	0	0	23	1	35	0	0	0	1	47	0	0	0	1
12			12	1	24	0	0	24	1	36	0	0	0	1	48	0	0	0	1

Split	1	2	3	4	5	6	7	8	Split	1	2	3	4	5	6	7	8
1 Coord									13 Coord	0	0	0	0	0	0	0	0
####									####	NON	NON	NON	NON	NON	NON	NON	NON
2 Coord									14 Coord	0	0	0	0	0	0	0	0
####									####	NON	NON	NON	NON	NON	NON	NON	NON
3 Coord									15 Coord	0	0	0	0	0	0	0	0
####									####	NON	NON	NON	NON	NON	NON	NON	NON
4 Coord									16 Coord	0	0	0	0	0	0	0	0
####									####	NON	NON	NON	NON	NON	NON	NON	NON
5 Coord									17 Coord	0	0	0	0	0	0	0	0
####									####	NON	NON	NON	NON	NON	NON	NON	NON
6 Coord									18 Coord	0	0	0	0	0	0	0	0
####									####	NON	NON	NON	NON	NON	NON	NON	NON
7 Coord									19 Coord	0	0	0	0	0	0	0	0
####									####	NON	NON	NON	NON	NON	NON	NON	NON
8 Coord									20 Coord	0	0	0	0	0	0	0	0
####									####	NON	NON	NON	NON	NON	NON	NON	NON
9 Coord									21 Coord	0	0	0	0	0	0	0	0
####									####	NON	NON	NON	NON	NON	NON	NON	NON
10 Coord									22 Coord	0	0	0	0	0	0	0	0
####									####	NON	NON	NON	NON	NON	NON	NON	NON
11 Coord									23 Coord	0	0	0	0	0	0	0	0
####									####	NON	NON	NON	NON	NON	NON	NON	NON
12 Coord									24 Coord	0	0	0	0	0	0	0	0
####									####	NON	NON	NON	NON	NON	NON	NON	NON

Page#	
1	8 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param
1A&1B	16 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param
2	Overlaps; Channel Settings; Coord Alt Table+ (values not associated with time-of-day)
3	Detection; Sample Time and Unit Parameters related to detection
4	Preemption and Alternate Phase Time and Phase Options
5	Annual Schedule
6	Day Plans; Action Tables; Coord Alt Table+ (values varied by time-of-day)
7	Communications; Secutiry; I/O Setup
8	Misc - Events/Alarms; Call/Inhibit/Redirect; P/OLAP Auto Flash; CIC; Misc Unit Param

Ring/Startup [1.1.4]

Phs	Ring	Start	Enable
1	1	GREEN	On
2	1	RED	On
3	1	RED	On
4	1	RED	Off
5	2	GREEN	On
6	2	RED	Off
7	2	RED	Off
8	2	RED	Off

Coord Modes [2.1]

Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX 1
Force-Off	FLOAT
Closed Loop	ON
Stop-in-Walk	OFF
Auto Reset	ON
Expand Splt	OFF
Ped Recycle	NO_RECYCLE
Before	TIMED
After	TIMED

Auto Flash [1.4.1]

Auto Flash	PH OVER
Flash Yel	45
Flash Red	0

Unit Params [1.2.1]

Phase Mode	STD8
IO Mode	USER
Loc Flsh Start	RED
Start Flash(s)	0
Start AllRed(s)	6
Yellow < 3"	OFF
Display Time	20
Red Revert	3
MCE Timeout	0
Feature Profile	0
Free Ring Seq	1
Auxswitch	STOPTM
SDLC Retry	0
TS2 Det Faults	ON
Auto Ped Clear	OFF
SDLC Retry	0

Overlap 1-16 Program Parms & Parm+ [1.5.2.1] [1.5.2.2]

Overlap Conflict Lock	OFF	Overlap Lock Inhibit	OFF	Parent Ph Clearance	ON	Extra Included Ph	OFF

	Included Ø	2	3							NORMAL			Included Ø										NORMAL	
1	Modifier Ø	3								Grn		9	Modifier Ø										Grn	
	Conflict Ø									Yel	5		Conflict Ø										Yel	3.5
A	Conflict Olap									Red	1	I	Conflict Olap										Red	1.5
	Conflict Ped									LG			Conflict Ped										LG	
	Included Ø									NORMAL			Included Ø										NORMAL	
2	Modifier Ø									Grn		10	Modifier Ø										Grn	
	Conflict Ø									Yel	3.5		Conflict Ø										Yel	3.5
B	Conflict Olap									Red	1.5	J	Conflict Olap										Red	1.5
	Conflict Ped									LG			Conflict Ped										LG	
	Included Ø									NORMAL			Included Ø										NORMAL	
3	Modifier Ø									Grn		11	Modifier Ø										Grn	
	Conflict Ø									Yel	3.5		Conflict Ø										Yel	3.5
C	Conflict Olap									Red	1.5	K	Conflict Olap										Red	1.5
	Conflict Ped									LG			Conflict Ped										LG	
	Included Ø									NORMAL			Included Ø										NORMAL	
4	Modifier Ø									Grn		12	Modifier Ø										Grn	
	Conflict Ø									Yel	3.5		Conflict Ø										Yel	3.5
D	Conflict Olap									Red	1.5	L	Conflict Olap										Red	1.5
	Conflict Ped									LG			Conflict Ped										LG	
	Included Ø									NORMAL			Included Ø										NORMAL	
5	Modifier Ø									Grn		13	Modifier Ø										Grn	
	Conflict Ø									Yel	3.5		Conflict Ø										Yel	3.5
E	Conflict Olap									Red	1.5	M	Conflict Olap										Red	1.5
	Conflict Ped									LG			Conflict Ped										LG	
	Included Ø									NORMAL			Included Ø										NORMAL	
6	Modifier Ø									Grn		14	Modifier Ø										Grn	
	Conflict Ø									Yel	3.5		Conflict Ø										Yel	3.5
F	Conflict Olap									Red	1.5	N	Conflict Olap										Red	1.5
	Conflict Ped									LG			Conflict Ped										LG	
	Included Ø									NORMAL			Included Ø										NORMAL	
7	Modifier Ø									Grn		15	Modifier Ø										Grn	
	Conflict Ø									Yel	3.5		Conflict Ø										Yel	3.5
G	Conflict Olap									Red	1.5	O	Conflict Olap										Red	1.5
	Conflict Ped									LG			Conflict Ped										LG	
	Included Ø									NORMAL			Included Ø										NORMAL	
8	Modifier Ø									Grn		16	Modifier Ø										Grn	
	Conflict Ø									Yel	3.5		Conflict Ø										Yel	3.5
H	Conflict Olap									Red	1.5	P	Conflict Olap										Red	1.5
	Conflict Ped									LG			Conflict Ped										LG	

Channel Settings [1.8.1]

.....Channel ->>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Phase / Olap #	1	2	3		5				1				3											
Channel Type	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	OLP	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH
Channel Flash	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK
Alt Hz																								

Channel+ Settings [1.8.4]

.....Channel ->>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Flash Red+																								
Flash Yellow+																								
Flash Green+																								
Flash Inh Red+																								

Channel Params[1.8.3] C1 IO Mode: USER | Single BIU Map: SINGLE | Invert Rail Input: OFF

Coord Transition, CoorPhs [2.5]

Pat#	Short	Long	Dwell	No Shortway Ø				E-Yld	Offset	RetHld	Float	Min Veh Perm	Min Ped Perm
1	12	22	0	0	0	0	0	0	EndGRN				
2	12	22	0	0	0	0	0	0	EndGRN				
3	12	22	0	0	0	0	0	0	EndGRN				
4	12	22	0	0	0	0	0	0	EndGRN				
5	12	22	0	0	0	0	0	0	EndGRN				
6	12	22	0	0	0	0	0	0	EndGRN				
7	12	22	0	0	0	0	0	0	EndGRN				
8	12	22	0	0	0	0	0	0	EndGRN				
9	12	22	0	0	0	0	0	0	EndGRN				
10	12	22	0	0	0	0	0	0	EndGRN				
11	12	22	0	0	0	0	0	0	EndGRN				
12	12	22	0	0	0	0	0	0	EndGRN				
13	12	22	0	0	0	0	0	0	EndGRN				
14	12	22	0	0	0	0	0	0	EndGRN				
15	12	22	0	0	0	0	0	0	EndGRN				
16	12	22	0	0	0	0	0	0	EndGRN				
17	12	22	0	0	0	0	0	0	EndGRN				
18	12	22	0	0	0	0	0	0	EndGRN				
19	12	22	0	0	0	0	0	0	EndGRN				
20	12	22	0	0	0	0	0	0	EndGRN				
21	12	22	0	0	0	0	0	0	EndGRN				
22	12	22	0	0	0	0	0	0	EndGRN				
23	12	22	0	0	0	0	0	0	EndGRN				
24	12	22	0	0	0	0	0	0	EndGRN				
25	0	0	0	0	0	0	0	0	BegGRN				
26	0	0	0	0	0	0	0	0	BegGRN				
27	0	0	0	0	0	0	0	0	BegGRN				
28	0	0	0	0	0	0	0	0	BegGRN				
29	0	0	0	0	0	0	0	0	BegGRN				
30	0	0	0	0	0	0	0	0	BegGRN				
31	0	0	0	0	0	0	0	0	BegGRN				
32	0	0	0	0	0	0	0	0	BegGRN				
33	0	0	0	0	0	0	0	0	BegGRN				
34	0	0	0	0	0	0	0	0	BegGRN				
35	0	0	0	0	0	0	0	0	BegGRN				
36	0	0	0	0	0	0	0	0	BegGRN				
37	0	0	0	0	0	0	0	0	BegGRN				
38	0	0	0	0	0	0	0	0	BegGRN				
39	0	0	0	0	0	0	0	0	BegGRN				
40	0	0	0	0	0	0	0	0	BegGRN				
41	0	0	0	0	0	0	0	0	BegGRN				
42	0	0	0	0	0	0	0	0	BegGRN				
43	0	0	0	0	0	0	0	0	BegGRN				
44	0	0	0	0	0	0	0	0	BegGRN				
45	0	0	0	0	0	0	0	0	BegGRN				
46	0	0	0	0	0	0	0	0	BegGRN				
47	0	0	0	0	0	0	0	0	BegGRN				
48	0	0	0	0	0	0	0	0	BegGRN				

Veh Par 1-64 [5.1]

Det #	Call Ø	Swi Ø	Dlay	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time
1	1						45	50	30
2	2		3				45	50	15
3	3		3				45	50	24
4	3		5				45	50	24
5	5						45	50	30
6									
7									
8									
9									
10									
11	1						45	50	30
12									
13	3		3				45	50	24
14									
15									
16									
17									
18									
19									
20									
21	1						45	50	30
22	1						45	50	30
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									

Veh Par 1-64 [5.1]

Det #	Call Ø	Swi Ø	Dlay	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time
33	0	0	0	0	0	0	45	50	0
34	0	0	0	0	0	0	45	50	0
35	0	0	0	0	0	0	45	50	0
36	0	0	0	0	0	0	45	50	0
37	0	0	0	0	0	0	45	50	0
38	0	0	0	0	0	0	45	50	0
39	0	0	0	0	0	0	45	50	0
40	0	0	0	0	0	0	45	50	0
41	0	0	0	0	0	0	45	50	0
42	0	0	0	0	0	0	45	50	0
43	0	0	0	0	0	0	45	50	0
44	0	0	0	0	0	0	45	50	0
45	0	0	0	0	0	0	45	50	0
46	0	0	0	0	0	0	45	50	0
47	0	0	0	0	0	0	45	50	0
48	0	0	0	0	0	0	45	50	0
49	0	0	0	0	0	0	45	50	0
50	0	0	0	0	0	0	45	50	0
51	0	0	0	0	0	0	45	50	0
52	0	0	0	0	0	0	45	50	0
53	0	0	0	0	0	0	45	50	0
54	0	0	0	0	0	0	45	50	0
55	0	0	0	0	0	0	45	50	0
56	0	0	0	0	0	0	45	50	0
57	0	0	0	0	0	0	45	50	0
58	0	0	0	0	0	0	45	50	0
59	0	0	0	0	0	0	45	50	0
60	0	0	0	0	0	0	45	50	0
61	0	0	0	0	0	0	45	50	0
62	0	0	0	0	0	0	45	50	0
63	0	0	0	0	0	0	45	50	0
64	0	0	0	0	0	0	45	50	0

Vehicle Options 1-64 [5.2]

Det #	Call	Ext	Que	Add Init	Red Lock	Yell Lock	occ	vol
1	On	On		On				
2	On	On		On				
3	On	On		On				
4	On	On		On				
5	On	On		On				
6	On	On		On				
7	On	On		On				
8	On	On		On				
9	On	On		On				
10	On	On		On				
11	On	On		On				
12	On	On		On				
13	On	On		On				
14	On	On		On				
15	On	On		On				
16	On	On		On				
17	On	On		On				
18	On	On		On				
19	On	On		On				
20	On	On		On				
21	On	On		On				
22	On	On		On				
23	On	On		On				
24	On	On		On				
25	On	On		On				
26	On	On		On				
27	On	On		On				
28	On	On		On				
29	On	On		On				
30	On	On		On				
31	On	On		On				
32	On	On		On				

Vehicle Options 1-64 [5.2]

Det #	Call	Ext	Que	Add AddIni	Red Lock	Yell Lock	occ	vol
33	On	On		On				
34	On	On		On				
35	On	On		On				
36	On	On		On				
37	On	On		On				
38	On	On		On				
39	On	On		On				
40	On	On		On				
41	On	On		On				
42	On	On		On				
43	On	On		On				
44	On	On		On				
45	On	On		On				
46	On	On		On				
47	On	On		On				
48	On	On		On				
49	On	On		On				
50	On	On		On				
51	On	On		On				
52	On	On		On				
53	On	On		On				
54	On	On		On				
55	On	On		On				
56	On	On		On				
57	On	On		On				
58	On	On		On				
59	On	On		On				
60	On	On		On				
61	On	On		On				
62	On	On		On				
63	On	On		On				
64	On	On		On				

Parameters+ 1-64 [5.3]

Det #	oc G	oc Y	oc R	Dlay 1	Dlay 2	Type	Src
1				0	0	NORM	
2				0	0	NORM	
3				0	0	NORM	
4				0	0	NORM	
5				0	0	NORM	
6				0	0	NORM	
7				0	0	NORM	
8				0	0	NORM	
9				0	0	NORM	
10				0	0	NORM	
11				0	0	NORM	
12				0	0	NORM	
13				0	0	NORM	
14				0	0	NORM	
15				0	0	NORM	
16				0	0	NORM	
17				0	0	NORM	
18				0	0	NORM	
19				0	0	NORM	
20				0	0	NORM	
21				0	0	NORM	
22				0	0	NORM	
23				0	0	NORM	
24				0	0	NORM	
25				0	0	NORM	
26				0	0	NORM	
27				0	0	NORM	
28				0	0	NORM	
29				0	0	NORM	
30				0	0	NORM	
31				0	0	NORM	
32				0	0	NORM	

Parameters+ 1-64 [5.3]

Det #	occ Grn	occ Yell	occ Red	Dlay 1	Dlay 2	Type	Src
33				0	0	NORM	0
34				0	0	NORM	0
35				0	0	NORM	0
36				0	0	NORM	0
37				0	0	NORM	0
38				0	0	NORM	0
39				0	0	NORM	0
40				0	0	NORM	0
41				0	0	NORM	0
42				0	0	NORM	0
43				0	0	NORM	0
44				0	0	NORM	0
45				0	0	NORM	0
46				0	0	NORM	0
47				0	0	NORM	0
48				0	0	NORM	0
49				0	0	NORM	0
50				0	0	NORM	0
51				0	0	NORM	0
52				0	0	NORM	0
53				0	0	NORM	0
54				0	0	NORM	0

Parameters+ 1-64 [5.3]

Det #	occ Grn	occ Yell	occ Red	Dlay 1	Dlay 2	Type	Src
55				0	0	NORM	0
56				0	0	NORM	0
57				0	0	NORM	0
58				0	0	NORM	0
59				0	0	NORM	0
60				0	0	NORM	0
61				0	0	NORM	0
62				0	0	NORM	0
63				0	0	NORM	0
64				0	0	NORM	0

Ped Det Parms [5.4]

Det #	Call Ø	No Act	Max Pres	Err Cnt
1	0	0	15	0
2	0	0	15	0
3	0	0	15	0
4	0	0	15	0
5	0	0	15	0
6	0	0	15	0
7	0	0	15	0
8	0	0	15	0

Unit Paramters [1.2.1]

TS2 Det Faults	ON

Vol/Occ Report Parm [1.5.8]

Vol/Occ Period Minutes	15
Vol/Occ Period Minutes	0

ID: 4031 RTE 6 @ RTE 312

Preemption Times [3.1], Options+ [3.6]

Pre #	Enable	Type	Output	Delay	MinDura
1	ON	RAIL	DWELL		
2	ON	RAIL	DWELL		
3	ON	EMERG	DWELL		
4	ON	EMERG	DWELL		
5	ON	EMERG	DWELL		
6	ON	EMERG	DWELL		

Pre #	MaxPres	MinGrn	MinWlk	PedClr	Co+Pre
1					ON
2					ON
3					ON
4					ON
5					ON
6					ON

Pre #	Track Grn	Min Dwell	Ext Dwell	PedClr+	Yel
1		2			
2		2			
3		2			
4		2			
5		2			
6		2			

Pre #	Red	Pattern	Skip
1			OFF
2			OFF
3			OFF
4			OFF
5			OFF
6			OFF

Low Priority Preempts

Pre #	Type	Min	Max
7	OFF		
8	OFF		
9	OFF		
10	OFF		

Unit Parameters [1.2.1]

Stop Timer Over Preempt	OFF	
Preempt or Ext Output	PRE	
Max Seek Track Time		
Max Seek Dwell Time		

Channel Parameters [1.8.3]

D Conn Mappings	NONE
Pre Invert Rail Input	OFF

Track Clear Phases [3.2], Track Clear Overlaps+ [3.5]

Pre #	Track Phases	Track Overlaps
1		
2		
3		
4		
5		
6		

Dwell Phases [3.2] and Overlaps+ [3.5]

Pre #		
1	Phases	
	Overlaps	
	Peds	
2	Phases	
	Overlaps	
	Peds	
3	Phases	
	Overlaps	
	Peds	
4	Phases	
	Overlaps	
	Peds	
5	Phases	
	Overlaps	
	Peds	
6	Phases	
	Overlaps	
	Peds	

Exit Phases [3.2]

Pre #	Exit Phase
1	
2	
3	
4	
5	
6	

Preemption 1, Options+ [3.6]

Pre #	Lock	Override Auto Flsh	Override Higher	Flsh Dwel	Link
1	ON	ON	ON	OFF	
2	ON	ON	ON	OFF	
3	ON	ON	ON	OFF	
4	ON	ON	ON	OFF	
5	ON	ON	ON	OFF	
6	ON	ON	ON	OFF	

Alt# 1 Times Table [1.1.6.1]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 2 Times Table [1.1.6.1]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 3 Times Table [1.1.6.1]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 1 Options Table [1.1.6.2]

Column # ->	1	2	3	4	5	6	7	8
Assign Ø								
Lock Calls	On	On	On	On	On	On	On	On
Soft Recall								
Dual Enrty								
Enabl SimGap	On	On	On	On	On	On	On	On
Guar Passage								
Rest In Walk								
Cond Service								
Reservice								
Non-Act 1								
Red Rest								
Max2								
Ped Delay								
Conflicting Ø1								

Annual Schedule [4.3] Month of Year | Day of Week | Date | Day Plan | Link To

	Month of Year	Day of Week	Date	Day Plan	Link To
1	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
2	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
3	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
4	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
5	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
6	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
7	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
8	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
9	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
10	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
11	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
12	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
13	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
14	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
15	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
16	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
17	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
18	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
19	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
20	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
21	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
22	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
23	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	
24	J F M A M J J A S O N D	S M T W T F S	1 2 3 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 31	1	

Day Plans [4.4]

Day Plan 1

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 2

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Day Plan 3

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Day Plan 4

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Day Plan 5

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Day Plan 6

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Day Plan 7

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Day Plan 8

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Day Plan 9

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Day Plan 10

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Day Plan 11

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Day Plan 12

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Day Plan 13

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Day Plan 14

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Day Plan 15

	Hour	Min	Act		Hour	Min	Act
1	0	0	0	9	0	0	0
2	0	0	0	10	0	0	0
3	0	0	0	11	0	0	0
4	0	0	0	12	0	0	0
5	0	0	0	13	0	0	0
6	0	0	0	14	0	0	0
7	0	0	0	15	0	0	0
8	0	0	0	16	0	0	0

Action Table [4.5]

Act#	Pat#	A1	A2	A3	S1	S2	S3	S4	S5	S6	S7	S8
1	1											
2	2											
3	3											
4	4											
5	5											
6	6											
7	7											
8	8											
9	9											
10	10											
11	11											
12	12											
13	13											
14	14											
15	15											
16	16											
17	17											
18	18											
19	19											
20	20											
21	21											
22	22											
23	23											
24	24											
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												
48												
98												
99												
100	255											

Coord Alternate Tables - Pat+ [2.6]

Pat#	ØOpt	ØTime	DetG	Call Inh	CIC	CNA1	Overlap Off 1	2	3	4	5	6	7	8	Dia	Max2
1															DFT	
2															DFT	
3															DFT	
4															DFT	
5															DFT	
6															DFT	
7															DFT	
8															DFT	
9															DFT	
10															DFT	
11															DFT	
12															DFT	
13															DFT	
14															DFT	
15															DFT	
16															DFT	
17															DFT	
18															DFT	
19															DFT	
20															DFT	
21															DFT	
22															DFT	
23															DFT	
24															DFT	
25															DFT	
26															DFT	
27															DFT	
28															DFT	
29															DFT	
30															DFT	
31															DFT	
32															DFT	
33															DFT	
34															DFT	
35															DFT	
36															DFT	
37															DFT	
38															DFT	
39															DFT	
40															DFT	
41															DFT	
42															DFT	
43															DFT	
44															DFT	
45															DFT	
46															DFT	
47															DFT	
48															DFT	

C1-USER IO Map [1.8.9.1 In]

I1-1	1	Veh Call 1
I1-2	2	Veh Call 2
I1-3	3	Veh Call 3
I1-4	3	Veh Call 3
I1-5	5	Veh Call 5
I1-6	189	Unused
I1-7	189	Unused
I1-8	189	Unused
I2-1	189	Unused
I2-2	189	Unused
I2-3	11	Veh Call 11
I2-4	189	Unused
I2-5	13	Veh Call 13
I2-6	189	Unused
I2-7	189	Unused
I2-8	189	Unused
I3-1	189	Unused
I3-2	189	Unused
I3-3	189	Unused
I3-4	189	Unused
I3-5	21	Veh Call 21
I3-6	22	Veh Call 22
I3-7	189	Unused
I3-8	189	Unused
I4-1	C11S Connector	
I4-2		
I4-3		
I4-4		
I4-5	189	Unused
I4-6	189	Unused
I4-7	229	33xCMUStop
I4-8	228	33xFlashSns
I5-1	189	Unused
I5-2	189	Unused
I5-3	189	Unused
I5-4	189	Unused
I5-5	189	Unused
I5-6	189	Unused
I5-7	189	Unused
I5-8	189	Unused
I6-1	189	Unused
I6-2	189	Unused
I6-3	189	Unused
I6-4	189	Unused
I6-5	189	Unused
I6-6	189	Unused
I6-7	189	Unused
I6-8	189	Unused

C1-USER IO Map [1.8.9.2 Out]

O1-1	1	Ch1 Red
O1-2	49	Ch1 Green
O1-3	2	Ch2 Red
O1-4	26	Ch2 Yellow
O1-5	50	Ch2 Green
O1-6	3	Ch3 Red
O1-7	27	Ch3 Yellow
O1-8	51	Ch3 Green
O2-1	4	Ch4 Red
O2-2	52	Ch4 Green
O2-3	5	Ch5 Red
O2-4	29	Ch5 Yellow
O2-5	53	Ch5 Green
O2-6	6	Ch6 Red
O2-7	30	Ch6 Yellow
O2-8	54	Ch6 Green
O3-1	7	Ch7 Red
O3-2	55	Ch7 Green
O3-3	8	Ch8 Red
O3-4	32	Ch8 Yellow
O3-5	56	Ch8 Green
O3-6	9	Ch9 Red
O3-7	33	Ch9 Yellow
O3-8	57	Ch9 Green
O4-1	10	Ch10 Red
O4-2	58	Ch10 Green
O4-3	11	Ch11 Red
O4-4	35	Ch11 Yellow
O4-5	59	Ch11 Green
O4-6	12	Ch12 Red
O4-7	36	Ch12 Yellow
O4-8	60	Ch12 Green
O5-1	28	Ch4 Yellow
O5-2	34	Ch10 Yellow
O5-3	25	Ch1 Yellow
O5-4	31	Ch7 Yellow
O5-5	115	Not Used
O5-6	115	Not Used
O5-7	115	Not Used
O5-8	114	Watchdog
O6-1	115	Not Used
O6-2	115	Not Used
O6-3	13	Ch13 Red
O6-4	37	Ch13 Yellow
O6-5	61	Ch13 Green
O6-6	14	Ch14 Red
O6-7	38	Ch14 Yellow
O6-8	62	Ch14 Green

C1-USER IO Map [1.8.9.2 Out]

O7-1	115	Not Used
O7-2	115	Not Used
O7-3	115	Not Used
O7-4	115	Not Used
O7-5	115	Not Used
O7-6	115	Not Used
O7-7	115	Not Used
O7-8	115	Not Used

C11S-USER IO Map [1.8.9.1 In]

I4-1	189	Unused
I4-2	189	Unused
I4-3	189	Unused
I4-4	189	Unused
I7-1	189	Unused
I7-2	189	Unused
I7-3	189	Unused
I7-4	189	Unused
I7-5	189	Unused
I7-6	189	Unused
I7-7	189	Unused
I7-8	189	Unused
I8-1	189	Unused
I8-2	189	Unused
I8-3	189	Unused
I8-4	189	Unused
I8-5	189	Unused
I8-6	189	Unused
I8-7	189	Unused
I8-8	189	Unused

C11S-USER IO Map [1.8.9.2 Out]

O8-1	115	Not Used
O8-2	115	Not Used
O8-3	115	Not Used
O8-4	115	Not Used
O8-5	115	Not Used
O8-6	115	Not Used
O8-7	115	Not Used
O8-8	115	Not Used

IO Logic [1.8.7]

Result			Fcn	Oper		Fcn	Oper		Fcn	Timer	
I	0	=	I	----	0	I	----	0	I	----	0 DLY
I	0	=	I	----	0	I	----	0	I	----	0 DLY
I	0	=	I	----	0	I	----	0	I	----	0 DLY
I	0	=	I	----	0	I	----	0	I	----	0 DLY
I	0	=	I	----	0	I	----	0	I	----	0 DLY
I	0	=	I	----	0	I	----	0	I	----	0 DLY
I	0	=	I	----	0	I	----	0	I	----	0 DLY
I	0	=	I	----	0	I	----	0	I	----	0 DLY
I	0	=	I	----	0	I	----	0	I	----	0 DLY
I	0	=	I	----	0	I	----	0	I	----	0 DLY

Security Access Levels [8.2]

1	SWLOAD	22	NONE	43	NONE
2	SECURE	23	NONE	44	NONE
3	NONE	24	NONE	45	NONE
4	NONE	25	NONE	46	NONE
5	NONE	26	NONE	47	NONE
6	NONE	27	NONE	48	NONE
7	NONE	28	NONE	49	NONE
8	NONE	29	NONE	50	NONE
9	NONE	30	NONE	51	NONE
10	NONE	31	NONE	52	NONE
11	NONE	32	NONE	53	NONE
12	NONE	33	NONE	54	NONE
13	NONE	34	NONE	55	NONE
14	NONE	35	NONE	56	NONE
15	NONE	36	NONE	57	NONE
16	NONE	37	NONE	58	NONE
17	NONE	38	NONE	59	NONE
18	NONE	39	NONE	60	NONE
19	NONE	40	NONE	61	NONE
20	NONE	41	NONE	62	NONE
21	NONE	42	NONE	63	NONE
				64	NONE

Com Parameters [6.1]

Station ID	4031
Group ID	
Master ID	0
Backup Time	0

SysUp Modem [6.1]

Enable Modem	OFF
Idle Time	
Dial Time	
Tel:	#N/A
Alt:	#N/A

2070 Port Parms [6.2]

Port	Baud Rate	FCM
SP1	9600	MODE 6
SP2	9600	MODE 6
SP3	19200	MODE 6
SP4	38400	MODE 6
SP5	1200	AUTO
SP6	1200	AUTO
SP7	1200	AUTO
SP8	1200	AUTO

2070 IP 1 Addressing [6.5]

	Addressing			
Addr				
Mask				
Brdcst				
GtWay				
Port				

2070 IP 2 Addressing [6.5]

	Addressing			
Addr				
Mask				
Brdcst				
GtWay				
Port				

2070 Port Binding Ports [6.6]

	Port	Echo	Mode
ASYNC1	SP1	OFF	
ASYNC2	SP2	OFF	
ASYNC3	SP3	OFF	
ASYNC4	SP4	OFF	
SYNC1	SP5S	SYNC3	OFF
SYNC2	OFF	SYNC4	OFF

2070 Port Binding Functions [6.6]

Function	Channel	Function	Channel
TS2/CVM	NONE	SYSUp	ASYNC2
CMU/MMU	NONE	SYSDown	ASYNC1
Opticom	NONE	Shell	NONE
Loop Det.	NONE		
GPS	NONE		

#	Event / Alarm	Ev	Alr
1	Power Up Alarm.	On	On
2	Stop Timing	On	On
3	TS1 Cabinet Door		
4	Coordination Failure	On	On
5	External Alarm # 1	On	On
6	External Alarm # 2	On	On
7	External Alarm # 3		
8	External Alarm # 4		
9	Closed Loop Disabled		On
10	External Alarm # 5		
11	External Alarm # 6		
12	Manual Control Enable	On	On
13	Coord Free Input		
14	Local Flash Input	On	On
15	MMU Flash		
16	CMU Flash		
17	Cycle Fault		On
18	Cycle Failure		On
19	Coordination Fault		On
20	Controller Fault	On	On
21	Detector SDLC Failure		
22	MMU SDLC Failure		
23	Critical SDLC Failure		
24	Reserved		
25	EEPROM CRC Fault	On	On
26	Detector Diagnostic Failur		
27	BIU Detector Failure	On	On
28	Queue detector alarm		On
29	Ped Detector Fault		On
30	Coord Diagnostic Fault		
41	TempAlert Probe Ch. A		
42	TempAlert Probe Ch. B		
47	Coord Active		
48	Preempt Active		On
49	Preempt 1 Input		On
50	Preempt 2 Input		On
51	Preempt 3 Input		On
52	Preempt 4 Input		On
53	Preempt 5 Input		On
54	Preempt 6 Input		On
55	Preempt 7 Input		On
56	Preempt 8 Input		On
57	Preempt 9 Input		On
58	Preempt 10 Input		On
61	In Transition		On
81	FIO Status Alarm		

Call Phases[1.1.5]

Ø	Phases Called By Ø			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Redirect Phases[1.1.5]

	From	To	From	To	From	To	From	To
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

Inhibit Phases[1.1.5]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																

Alt Call & Redirect # 1 [1.1.6.3]

Col	Ø	Phases Called By Ø				
1						
2						
3						
4						
5						
6						
7						
8						

	From	To	From	To	From	To	From	To
1								
2								
3								
4								
5								
6								
7								
8								

Alt Inhibit Phases # 1 [1.1.6.3]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
6																
7																
8																

Alt Call & Redirect # 2 [1.1.6.3]

Col	Ø	Phases Called By Ø				
1						
2						
3						
4						
5						
6						
7						
8						

	From	To	From	To	From	To	From	To
1								
2								
3								
4								
5								
6								
7								
8								

Alt Inhibit Phases # 2 [1.1.6.3]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
6																
7																
8																

Coord, CIC Plans [2.3]

CIC	CoØ	Grow	1	2	3	4	5	6	7	8
1	OFF									
2	OFF									
3	OFF									
4	OFF									

Auto Flash Phase/Olap Settings [1.4.2]

Yel Ø								
Yel (olaps)								

Unit Parameters [1.2.1]

Allow Skip Yellow	OFF	Max Cycle Time	
TOD Dim Enable	OFF	Cycle Fault Action	ALARM
Tone Disable	OFF		
Diamond Mode	4Ph		
Backup Time (s)	900		
Disable Init Ped	OFF		
Cycle Fault Action	ALARM		
Enable Run Timer	ON		

TE 252-12 (7/91)

MODEL 179 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION

TAPS _____
STUDY # _____
FILE # _____
PAGE 18 OF 20

SIGNAL # P 31 COUNTY # PUTNAM DATE 7/30/96

SWITCH PACK	FUNCTION	INDICATIONS	FACE	TERMINAL WIRING BOARD		FACE	TERMINAL WIRING BOARD	
				TERMINAL	WIRE COLOR CODE		TERMINAL	WIRE COLOR CODE
1	Ø 1	RED YELLOW GREEN Ground Wire	3 + 4	SP 1 R SP 1 Y SP 1 G Grnd Bus	14 / 10C - D - R - O - G - W		SP 1 R SP 1 Y SP 1 G Grnd Bus	
2	Ø 2	 Ground Wire	1	SP 2 R SP 2 Y SP 2 G Grnd Bus	---------- 14 / 10C - C - O - G - W		SP 2 R SP 2 Y SP 2 G Grnd Bus	
3	Ø 3	RED YELLOW GREEN Ground Wire	5 + 6	SP 3 R SP 3 Y SP 3 G Grnd Bus	14 / 10C - D - R - O - G - W		SP 3 R SP 3 Y SP 3 G Grnd Bus	
4		Ground Wire		SP 4 R SP 4 Y SP 4 G Grnd Bus			SP 4 R SP 4 Y SP 4 G Grnd Bus	
5	Ø 5	RED YELLOW GREEN Ground Wire	1 + 2	SP 5 R SP 5 Y SP 5 G Grnd Bus	14 / 15C - D - R - O - G - W		SP 5 R SP 5 Y SP 5 G Grnd Bus	
6		Ground Wire		SP 6 R SP 6 Y SP 6 G Grnd Bus			SP 6 R SP 6 Y SP 6 G Grnd Bus	
7		Ground Wire		SP 7 R SP 7 Y SP 7 G Grnd Bus			SP 7 R SP 7 Y SP 7 G Grnd Bus	
8		Ground Wire		SP 8 R SP 8 Y SP 8 G Grnd Bus			SP 8 R SP 8 Y SP 8 G Grnd Bus	
9	OVL. A Ø 2 + 3	 Ground Wire	6	SP 9 R SP 9 Y SP 9 G Grnd Bus	---------- 14 / 10C - C - O - G - W		SP 9 R SP 9 Y SP 9 G Grnd Bus	
10		Ground Wire		SP 10 R SP 10 Y SP 10 G Grnd Bus			SP 10 R SP 10 Y SP 10 G Grnd Bus	
11		Ground Wire		SP 11 R SP 11 Y SP 11 G Grnd Bus			SP 11 R SP 11 Y SP 11 G Grnd Bus	
12		Ground Wire		SP 12 R SP 12 Y SP 12 G Grnd Bus			SP 12 R SP 12 Y SP 12 G Grnd Bus	
13	Ø 3	RED YELLOW GREEN Ground Wire	7+ 8	SP 13 R SP 13 Y SP 13 G Grnd Bus	14 / 15C - D - R - O - G - W		SP 13 R SP 13 Y SP 13 G Grnd Bus	
14		Ground Wire		SP 14 R SP 14 Y SP 14 G Grnd Bus			SP 14 R SP 14 Y SP14 G Grnd Bus	

TE 262-13 (7/91)

MODEL 179 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION

TAPS _____
STUDY # _____
FILE # _____
PAGE 19 OF 20

SIGNAL # P 31 COUNTY # PUTNAM DATE 7/30/96

CONFLICT/CURRENT MONITOR PROGRAMMING

CONFLICT MONITOR DIODES TO BE CUT			CONFLICT MONITOR YELLOW JUMPERS TO BE INSTALLED	CURRENT MONITOR DIODES TO BE CUT
SP.1 - SP.5				SP. 2, 4, 6, - 12, + 14
SP.2 - SP.5				
SP.2 - SP.9				
SP.3 - SP.9				
SP.3 - SP.13				
SP.5 - SP.9				
SP.9 - SP.13				

NOTES: _____

TE 262-14 (7/91)

MODEL 179 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION

TAPS _____
STUDY # _____
FILE # _____
PAGE 20 OF 20

SIGNAL # P 31 COUNTY # PUTNAM DATE 7/30/96

TABLE OF INPUT WIRING

TERM NUMBER	FUNCTION	DET. NO.	DET. TYPE	DET. AN OVER	REMARKS
1A, 1B	Ø 1	1A +B	NORM.		PRES. LOOP
2A, 2B	Ø 2	2A + B	NORM.		PRES. LOOP
3A, 3B	Ø 3	3A + B	NORM.		PRES. LOOP
4A, 4B	Ø 3	4A + B	NORM.		PRES. LOOP
5A, 5B	Ø 5	5	NORM.		MAG.PROBE
6A, 6B					
7A, 7B					
8A, 8B					
9A, 9B					
10A, 10B					
11A, 11B	Ø 1	11	NORM		MAG. PROBE
12A, 12B					
13A, 13B	Ø 3	13A + B	NORM		PRES. LOOP
14A, 14B					
15A, 15B					
16A, 16B					
17A, 17B					
18A, 18B					
19A, 19B					
20A, 20B					
21A, 21B					
22A, 22B					
23A, 23B					
24A, 24B					
25A, 25B					
26A, 26B					
27A, 27B					
28A, 28B					

P-63
Signal #

STATE OF NEW YORK – DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING SAFETY DIVISION
TRAFFIC CONTROL SPECIFICATIONS

Signal: **P-63**
File: 37.09-312
D/HWP: D263786
PIN: 8058.12

INTERSECTION: RT 312 @ I-84 EB RAMPS

☐ CITY ☐ VILLAGE ☑ TOWN OF: SOUTHEAST

Department Order filed previously as Section: 2037.09 Subdivision: (L)

Prior specification hereby superseded ☐ None ☑ Dated: _____

Purpose: TRAFFIC SIGNAL REPLACEMENT UNDER CONTRACT D263786.

These specifications will be effective upon the ☐ Installation ☐ Modification / Reinstallation of the necessary traffic control device(s) required by and conforming to the Federal Manual on Uniform Traffic Control Devices.

This signal shall

A. Operate in accordance with the table of operations and / or change intervals as shown on the attached pages as a:

- ☐ Pretimed Signal
- ☐ Semi-traffic actuated
- ☑ Full-traffic actuated
- ☐ Pedestrian actuated
- ☐ Other

B.
- ☑ Display vehicular indications
- ☐ Display pedestrian indications
- ☑ Be equipped with vehicle detectors
- ☐ Be equipped with pedestrian buttons
- ☐ as shown in the attached plans / drawings.

C. Be equipped with ☐ Pre-emption ☐ Interconnection and/or coordination which are described as follows:

Description:

cc:
- ☐ Region 8 Traffic Engineer
- ☑ Signal Shop
- ☐ Contract Maintainer
- ☐ Main Office

3/4/2020
NOA Date

ED GOFF R.T.E.
Signature Title

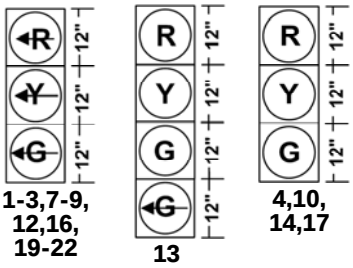
3/5/2020
Installation Date

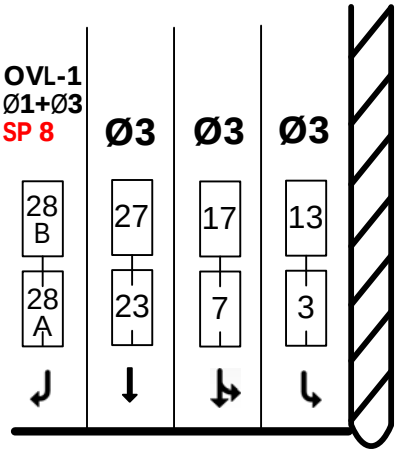
Reinstallation/Modification

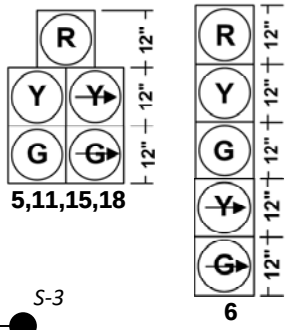
P-63
Signal #

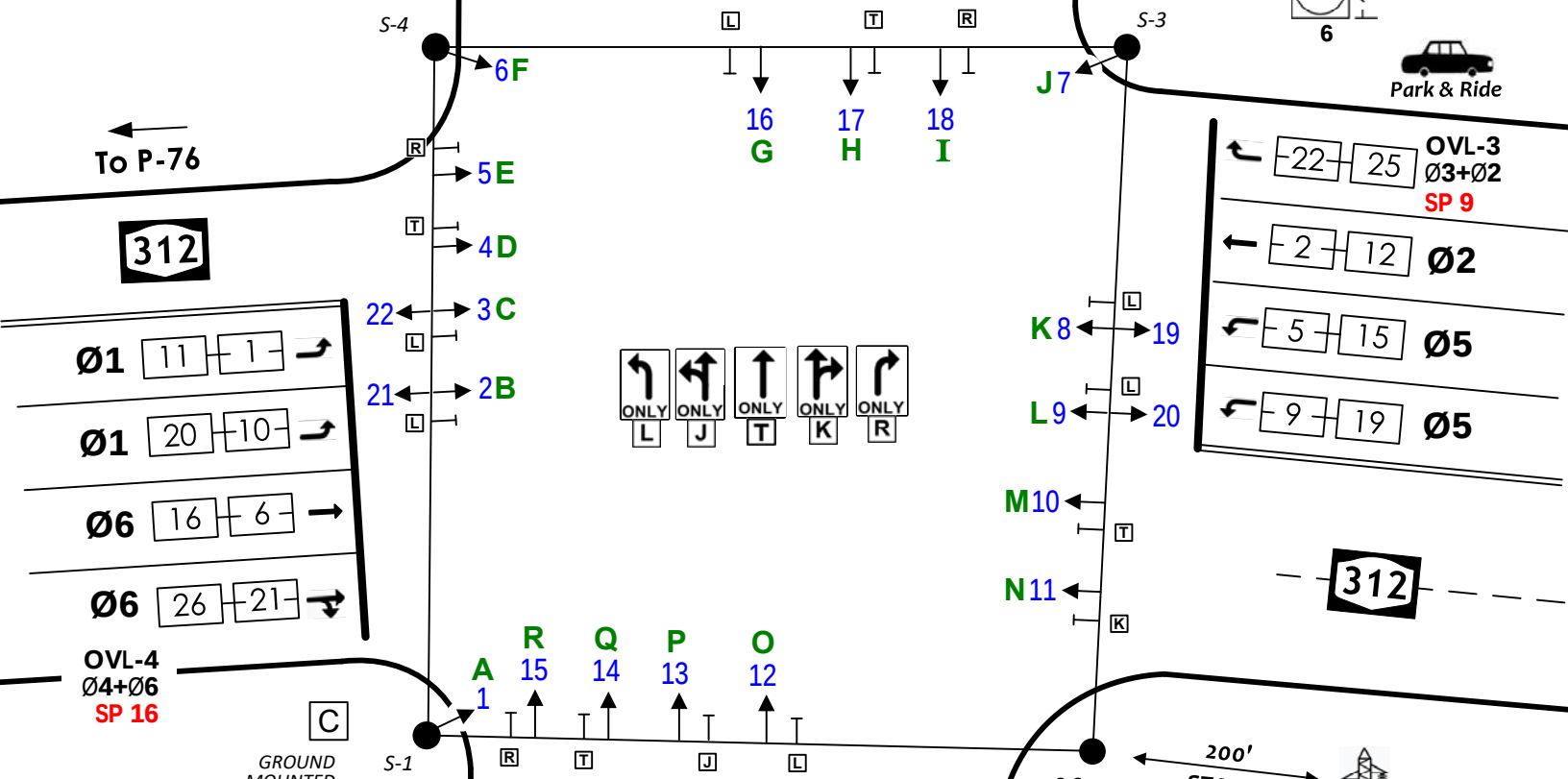
STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION
TRAFFIC AND SAFETY DIVISION
in the Town of ***SOUTHEAST***

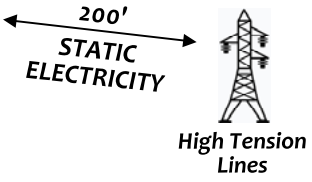
Signal: **P-63**
File: 37.09-312
D/HWP: D263786
PIN: 8058.12



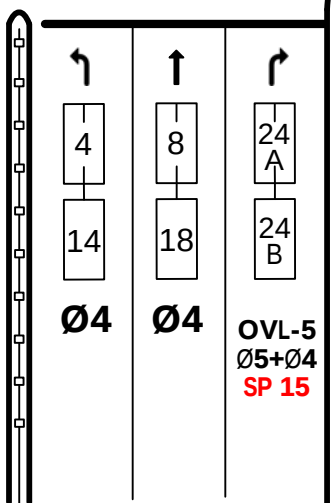








NOTE: There is no overlap #2.



Printed: 3/4/2020

P-63
Signal #

MODEL 2070 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION

Signal: **P-63**
File: 37.09-312
D/HWP: D263786
PIN: 8058.12

TABLE OF SWITCH PACKS

Date: 3/4/2020

SWITCH PACK	FUNCTION	INDICATIONS	FACE	TERMINAL	WIRE COLOR CODE	FACE	TERMINAL	WIRE COLOR CODE
1 *Yellow*	Ø1	← / ⟲ / ← / Ground Wire	8	SP 1 R	14 / 10C - K - R	9	SP 1 R	14 / 10C - L - R
				SP 1 Y	- O		SP 1 Y	- O
				SP 1 G	- G		SP 1 G	- G
				Grnd Bus	- W		Grnd Bus	- W
2 *Yellow*	Ø2	Red / Yellow / Green / Ground Wire	4	SP 2 R	14 / 05C - D - R	5	SP 2 R	14 / 10C - E - R
				SP 2 Y	- O		SP 2 Y	- O
				SP 2 G	- G		SP 2 G	- G
				Grnd Bus	- W		Grnd Bus	- W
3 *Red*	Ø3	Red / Yellow / Green / Ground Wire	13	SP 10 R	14 / 10C - P - R	14	14 / 05C - Q - R	15 / 14 / 10C - R - R
				SP 10 Y	- O		- O	- O
				SP 10 G	- G		- G	- G
				Grnd Bus	- W		- W	- W
4. *Red*	Ø4	← / ⟲ / ← / Ground Wire	16	SP 4 R	14 / 05C - G - R		SP 4 R	
				SP 4 Y	- O		SP 4 Y	
				SP 4 G	- G		SP 4 G	
				Grnd Bus	- W		Grnd Bus	
5. *Yellow*	Ø5	← / ⟲ / ← / Ground Wire	2	SP 5 R	14 / 10C - B - R	3	SP 5 R	14 / 10C - C - R
				SP 5 Y	- O		SP 5 Y	- O
				SP 5 G	- G		SP 5 G	- G
				Grnd Bus	- W		Grnd Bus	- W
6. *Yellow*	Ø6	Red / Yellow / Green / Ground Wire	10	SP 6 R	14 / 05C - M - R	11	SP 6 R	14 / 10C - N - R
				SP 6 Y	- O		SP 6 Y	- O
				SP 6 G	- G		SP 6 G	- G
				Grnd Bus	- W		Grnd Bus	- W
7.		Ground Wire		SP 7 R			SP 7 R	
				SP 7 Y			SP 7 Y	
				SP 7 G			SP 7 G	
				Grnd Bus			Grnd Bus	
8 *White*	OVL-1 Ø1+Ø3	- - - - - / ⟲ / → / Ground Wire	15	SP 8 R	- - - - - - - -		SP 8 R	
				SP 8 Y	14 / 10C - R - O/B		SP 8 Y	
				SP 8 G	- G/B		SP 8 G	
				Grnd Bus	- W/B		Grnd Bus	
9 *White*	OVL-3 Ø3+Ø2	- - - - - / ⟲ / → / Ground Wire	5	SP 9 R	- - - - - - - -	6 SUP	SP 9 R	- - - - - - - -
				SP 9 Y	14 / 10C - E - O/B		SP 9 Y	14 / 10C - F - O/B
				SP 9 G	- G/B		SP 9 G	- G/B
				Grnd Bus	- W/B		Grnd Bus	- W/B
10 *White*	Ø5	← / ⟲ / ← / Ground Wire	1 SUP	SP 10 R	14 / 05C - A - R	19 SUP	14 / 10C - K - R / B	20 SUP / 14 / 10C - L - R / B
				SP 10 Y	- O		- O / B	- O / B
				SP 10 G	- G		- G / B	- G / B
				Grnd Bus	- W		- W / B	- W / B
11. *White*	Ø1	← / ⟲ / ← / Ground Wire	7 SUP	SP 10 R	14 / 05C - J - R	21 SUP	14 / 10C - B - R / B	22 SUP / 14 / 10C - C - R / B
				SP 10 Y	- O		- O / B	- O / B
				SP 10 G	- G		- G / B	- G / B
				Grnd Bus	- W		- W / B	- W / B
12. *White*	Ø2	Red / Yellow / Green / Ground Wire	6 SUP	SP 12 R	14 / 10C - F - R		SP 12 R	
				SP 12 Y	- O		SP 12 Y	
				SP 12 G	- G		SP 12 G	
				Grnd Bus	- W		Grnd Bus	
13 *Red*	Ø3	← - - - - / ⟲ - - - - / ← ← / Ground Wire	12	SP 13 R	14 / 05C - O - R	13	SP 13 R	- - - - - - - -
				SP 13 Y	- O		SP 13 Y	- - - - - - - -
				SP 13 G	- G		SP 13 G	14 / 10C - P - O/B
				Grnd Bus	- W		Grnd Bus	- W/B
14. *Red*	Ø4	Red / Yellow / Green / Ground Wire	17	SP 14 R	14 / 05C - H - R	18	SP 14 R	14 / 10C - I - R
				SP 14 Y	- O		SP 14 Y	- O
				SP 14 G	- G		SP 14 G	- G
				Grnd Bus	- W		Grnd Bus	- W
15 *White*	OVL-5 Ø5+Ø4	- - - - - / ⟲ / → / Ground Wire	18	SP 15 R	- - - - - - - -		SP 15 R	
				SP 15 Y	14 / 10C - I - O/B		SP 15 Y	
				SP 15 G	- G/B		SP 15 G	
				Grnd Bus	- W/B		Grnd Bus	
16 *White*	OVL-4 Ø4+Ø6	- - - - - / ⟲ / → / Ground Wire	11	SP 16 R	- - - - - - - -		SP 16 R	
				SP 16 Y	14 / 10C - N - O/B		SP 16 Y	
				SP 16 G	- G/B		SP 16 G	
				Grnd Bus	- W/B		Grnd Bus	

P-63
Signal #

MODEL 2070 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION

Signal: **P-63**
File: 37.09-312
D/HWP: D263786
PIN: 8058.12
Date: 3/4/2020

TRAFFIC SIGNAL MONITOR PROGRAMMING

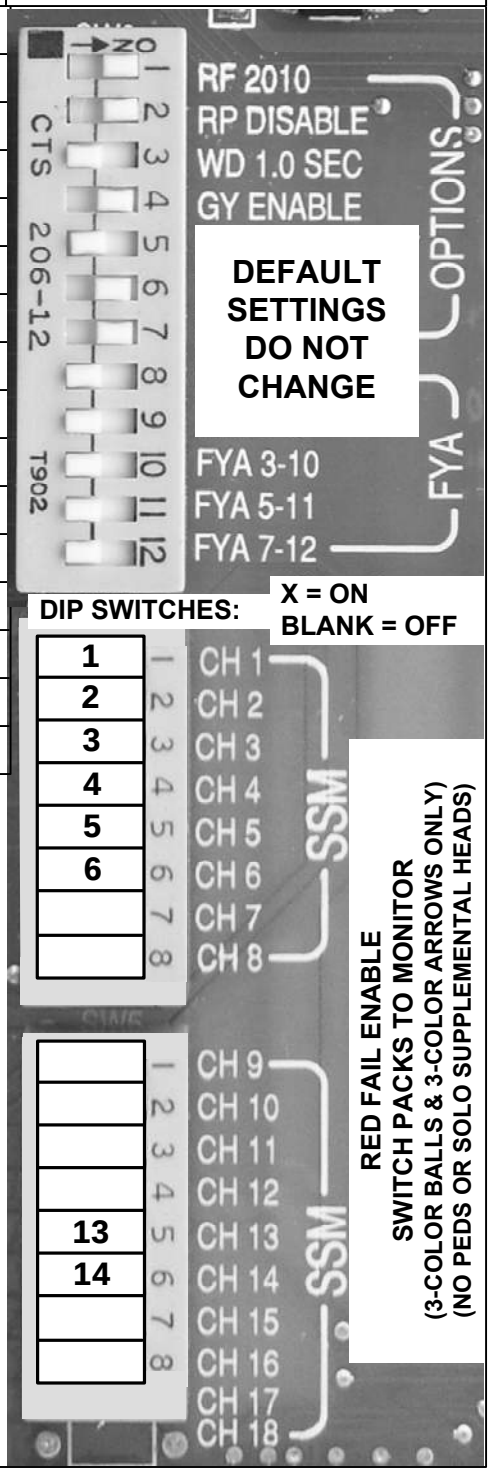
CONFLICT MONITOR DIODES TO BE CUT
(SWITCH PACKS TO RUN TOGETHER)

1 - 5	4 - 14	8 - 9	11 - 15
1 - 6	4 - 15	8 - 10	11 - 16
1 - 8	4 - 16	8 - 11	
1 - 10		8 - 13	12 - 15
1 - 11	5 - 8	8 - 15	12 - 16
1 - 15	5 - 9	8 - 16	
1 - 16	5 - 10		14 - 15
	5 - 11	9 - 10	14 - 16
2 - 5	5 - 12	9 - 12	
2 - 6	5 - 15	9 - 13	15 - 16
2 - 9		9 - 15	
2 - 10	6 - 8	9 - 16	
2 - 12	6 - 9		
2 - 15	6 - 11	10 - 11	
2 - 16	6 - 12	10 - 12	
	6 - 16	10 - 15	
3 - 8			
3 - 9			
3 - 13			

YELLOW DISABLE: WIRE JUMPERS TO BE INSTALLED FOR PEDS

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

210NYR MONITOR BOARD
(SWITCH PACKS TO MONITOR)



CURRENT MONITOR BOARD
(IF USED)

CURRENT MONITOR DIODES TO BE CUT (SWITCH PACKS TO *NOT* MONITOR)
7-12, 15-16

Notes:

_____

_____

P-63
Signal #

MODEL 2070 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION

Signal: **P-63**
File: 37.09-312
D/HWP: D263786
PIN: 8058.12

Date: 3/4/2020

TABLE OF INPUT WIRING

TERM. NUMBER	FUNCTION	DET. NO.	DET. TYPE	DET. AN OVER	REMARKS
1A, 1B	**Ø 1**	1	QUADRAPOLE		PRESENCE LOOP
2A, 2B	**Ø 2**	2	QUADRAPOLE		PRESENCE LOOP
3A, 3B	**Ø 3**	3	QUADRAPOLE		PRESENCE LOOP
4A, 4B	**Ø 4**	4	QUADRAPOLE		PRESENCE LOOP
5A, 5B	**Ø 5**	5	QUADRAPOLE		PRESENCE LOOP
6A, 6B	**Ø 6**	6	QUADRAPOLE		PRESENCE LOOP
7A, 7B	**Ø 3**	7	QUADRAPOLE		PRESENCE LOOP
8A, 8B	**Ø 4**	8	QUADRAPOLE		PRESENCE LOOP
9A, 9B	**Ø 5**	9	QUADRAPOLE		PRESENCE LOOP
10A, 10B	**Ø 1**	10	QUADRAPOLE		PRESENCE LOOP
11A, 11B	**Ø 1**	11	NORMAL		PRESENCE LOOP
12A, 12B	**Ø 2**	12	NORMAL		PRESENCE LOOP
13A, 13B	**Ø 3**	13	NORMAL		PRESENCE LOOP
14A, 14B	**Ø 4**	14	NORMAL		PRESENCE LOOP
15A, 15B	**Ø 5**	15	NORMAL		PRESENCE LOOP
16A, 16B	**Ø 6**	16	NORMAL		PRESENCE LOOP
17A, 17B	**Ø 3**	17	NORMAL		PRESENCE LOOP
18A, 18B	**Ø 4**	18	NORMAL		PRESENCE LOOP
19A, 19B	**Ø 5**	19	NORMAL		PRESENCE LOOP
20A, 20B	**Ø 1**	20	NORMAL		PRESENCE LOOP
21A, 21B	**Ø 6**	21	QUADRAPOLE		PRESENCE LOOP
22A, 22B	**Ø 2**	22	QUADRAPOLE		PRESENCE LOOP
23A, 23B	**Ø 3**	23	QUADRAPOLE		PRESENCE LOOP
24A, 24B	**Ø 4**	24A,B	QUAD + NORMAL		PRESENCE LOOP
25A, 25B	**Ø 2**	25	NORMAL		PRESENCE LOOP
26A, 26B	**Ø 6**	26	NORMAL		PRESENCE LOOP
27A, 27B	**Ø 3**	27	NORMAL		PRESENCE LOOP
28A, 28B	**Ø 3**	28A,B	QUAD + NORMAL		PRESENCE LOOP

Phase Times [1.1.1]

Times [1.1.1]	1	2	3	4	5	6	7	8
Min Green	3	10	5	5	3	10		
Gap, Ext	2	2	2	2	2	2		
Max 1	20	45	35	35	20	45		
Max 2								
Yel Clearance	4.0	4.0	4.0	4.0	4.0	4.0		
Red Clearance	2.0	2.0	2.0	2.0	2.0	2.0		
Walk								
Ped Clearance								
Red Revert								
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								

Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	X	X	X	X	X	X		
Min Recall		X				X		
Max Recall								
Ped Recall								
Soft Recall								
Lock Calls								
Auto Flash Entry								
Auto Flash Exit								
Dual Entry								
Enable Simul Gap		1		1		1		1
Gaurantee Passag	1	1	1	1	1	1	1	1
Rest In Walk								
Conditon Service								
Non-Actuated 1								
Non-Actuated 2								
Add Init Calc								

Options+ [1.1.3]	1	2	3	4	5	6	7	8
Reservice								
PedClr Thru Yel								
Skip Red No Call								
Red Rest								
Max II								
Conflicting Phase								
Red Rest On Gap								
Omit Yellow								
Ped Delay								
Grn/Ped Delay Adv								

P-63 Printed 3/4/2020

Coordination Patterns [2.4] and Coordination Split Tables [2.7.1]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	130		1	1	13					25					37				
2			2		14					26					38				
3			3		15					27					39				
4			4		16					28					40				
5			5		17					29					41				
6			6		18					30					42				
7			7		19					31					43				
8			8		20					32					44				
9			9		21					33					45				
10			10		22					34					46				
11			11		23					35					47				
12			12		24					36					48				

Split		1	2	3	4	5	6	7	8	Split		1	2	3	4	5	6	7	8
1	Coord	26	36	34	34	26	36	34	34	13	Coord								
	6		Max				Max												
2	Coord									14	Coord								
3	Coord									15	Coord								
4	Coord									16	Coord								
5	Coord									17	Coord								
6	Coord									18	Coord								
7	Coord									19	Coord								
8	Coord									20	Coord								
9	Coord									21	Coord								
10	Coord									22	Coord								
11	Coord									23	Coord								
12	Coord									24	Coord								

Page#	
1	8 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param
1A&1B	16 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param
2	Overlaps; Channel Settings; Coord Alt Table+ (values not associated with time-of-day)
3	Detection; Sample Time and Unit Parameters related to detection
4	Preemption and Alternate Phase Time and Phase Options
5	Annual Schedule
6	Day Plans; Action Tables; Coord Alt Table+ (values varied by time-of-day)
7	Communications; Secutiry; I/O Setup
8	Misc - Events/Alarms; Call/Inhibit/Redirect; P/OLAP Auto Flash; CIC; Misc Unit Param

P-63

Ring/Startup [1.1.4]

Phs	Ring	Start	Enable
1	1		
2	1	GREEN	
3	1		
4	1		
5	2		
6	2	GREEN	
7	2		
8	2		

Coord Modes [2.1]

Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX 1
Force-Off	FLOAT
Closed Loop	ON
Stop-in-Walk	OFF
Auto Reset	ON
Expand Splt	OFF
Ped Recycle	NO_RECYCLE
Before	TIMED
After	TIMED

Auto Flash [1.4.1]

Auto Flash	PH OVER
Flash Yel	4.5
Flash Red	2

Unit Params [1.2.1]

Phase Mode	STD8
IO Mode	USER
Loc Flsh Start	RED
Start Flash(s)	0
Start AllRed(s)	6
Yellow < 3"	OFF
Display Time	20
Red Revert	3
MCE Timeout	0
Feature Profile	0
Free Ring Seq	1
Auxswitch	STOPTM
SDLC Retry	0
TS2 Det Faults	ON
Auto Ped Clear	OFF
SDLC Retry	0

Page 1A

Overlap 1-16 Program Parms & Parm+ [1.5.2.1] [1.5.2.2]

Overlap Conflict Lock	OFF	Overlap Lock Inhibit	OFF	Parent Ph Clearance	ON	Extra Included Ph	ON

1	Included Ø	1	3							NORMAL	9	Included Ø									NORMAL				
	Modifier Ø									Grn		Modifier Ø									Grn				
	Conflict Ø									Yel	4.0	Conflict Ø									Yel				
A	Conflict Olap									Red	2.0	I	Conflict Olap									Red				
	Conflict Ped									LG			Conflict Ped									LG				
2	Included Ø									NORMAL	10	Included Ø									NORMAL				
	Modifier Ø									Grn		Modifier Ø									Grn				
	Conflict Ø									Yel		Conflict Ø									Yel				
B	Conflict Ola									Red		J	Conflict Olap									Red				
	Conflict Ped									LG			Conflict Ped									LG				
3	Included Ø	3	2							NORMAL	11	Included Ø									NORMAL				
	Modifier Ø									Grn		Modifier Ø									Grn				
	Conflict Ø									Yel	4.0	Conflict Ø									Yel				
C	Conflict Olap									Red	2.0	K	Conflict Olap									Red				
	Conflict Ped									LG			Conflict Ped									LG				
4	Included Ø	4	6							NORMAL	12	Included Ø									NORMAL				
	Modifier Ø									Grn		Modifier Ø									Grn				
	Conflict Ø									Yel	4.0	Conflict Ø									Yel				
D	Conflict Olap									Red	2.0	L	Conflict Olap									Red				
	Conflict Ped									LG			Conflict Ped									LG				
5	Included Ø	5	4							NORMAL	13	Included Ø									NORMAL				
	Modifier Ø									Grn		Modifier Ø									Grn				
	Conflict Ø									Yel	4.0	Conflict Ø									Yel				
E	Conflict Olap									Red	2.0	M	Conflict Olap									Red				
	Conflict Ped									LG			Conflict Ped									LG				
6	Included Ø									NORMAL	14	Included Ø									NORMAL				
	Modifier Ø									Grn		Modifier Ø									Grn				
	Conflict Ø									Yel		Conflict Ø									Yel				
F	Conflict Olap									Red		N	Conflict Olap									Red				
	Conflict Ped									LG			Conflict Ped									LG				
7	Included Ø									NORMAL	15	Included Ø									NORMAL				
	Modifier Ø									Grn		Modifier Ø									Grn				
	Conflict Ø									Yel		Conflict Ø									Yel				
G	Conflict Olap									Red		O	Conflict Olap									Red				
	Conflict Ped									LG			Conflict Ped									LG				
8	Included Ø									NORMAL	16	Included Ø									NORMAL				
	Modifier Ø									Grn		Modifier Ø									Grn				
	Conflict Ø									Yel		Conflict Ø									Yel				
H	Conflict Olap									Red		P	Conflict Olap									Red				
	Conflict Ped									LG			Conflict Ped									LG				

THERE IS NO OVL-2

Channel Settings [1.8.1]

.....Channel ->>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Phase / Olap #	1	2	3	4	5	6		1	3	5	1	2	3	4	5	4								
Channel Type	V	V	V	V	V	V		OVL	OVL	V	V	V	V	V	OVL	OVL								
Channel Flash	Y	Y	R	R	Y	Y		D	D	D	D	D	R	R	D	D								
Alt Hz																								

Channel+ Settings [1.8.4]

.....Channel ->>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Flash Red+																								
Flash Yellow+																								
Flash Green+																								
Flash Inh Red+																								

Channel Params[1.8.3]	C1 IO Mode	USER	Single BIU Map	SINGLE	Invert Rail Input	OFF	Olap Ovrd							

Coord Transition, CoorPhs [2.5]

Pat#	Short	Long	Dwell	No Shortway Ø	E-Yld	Offset	RetHld	Float	Min Veh Perm	Min Ped Perm
1	12	22				EndGRN				
2	12	22				EndGRN				
3	12	22				EndGRN				
4	12	22				EndGRN				
5	12	22				EndGRN				
6	12	22				EndGRN				
7	12	22				EndGRN				
8	12	22				EndGRN				
9	12	22				EndGRN				
10	12	22				EndGRN				
11	12	22				EndGRN				
12	12	22				EndGRN				
13	12	22				EndGRN				
14	12	22				EndGRN				
15	12	22				EndGRN				
16	12	22				EndGRN				
17	12	22				EndGRN				
18	12	22				EndGRN				
19	12	22				EndGRN				
20	12	22				EndGRN				
21	12	22				EndGRN				
22	12	22				EndGRN				
23	12	22				EndGRN				
24	12	22				EndGRN				
25	0	0				BegGRN				
26	0	0				BegGRN				
27	0	0				BegGRN				
28	0	0				BegGRN				
29	0	0				BegGRN				
30	0	0				BegGRN				
31	0	0				BegGRN				
32	0	0				BegGRN				
33	0	0				BegGRN				
34	0	0				BegGRN				
35	0	0				BegGRN				
36	0	0				BegGRN				
37	0	0				BegGRN				
38	0	0				BegGRN				
39	0	0				BegGRN				
40	0	0				BegGRN				
41	0	0				BegGRN				
42	0	0				BegGRN				
43	0	0				BegGRN				
44	0	0				BegGRN				
45	0	0				BegGRN				
46	0	0				BegGRN				
47	0	0				BegGRN				
48	0	0				BegGRN				

P-63

Printed 3/4/2020

Veh Par 1-64 [5.1]

Det #	Call Ø	Swi Ø	Dlay	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time
1	1		3						13
2	2								30
3	3		3						23
4	4		3						23
5	5		3						13
6	6								30
7	3								23
8	4								23
9	5		3						13
10	1		3						13
11	1								0
12	2								0
13	3								0
14	4								0
15	5								0
16	6								0
17	3								0
18	4								0
19	5								0
20	1								0
21	6								30
22	2		10						0
23	3								23
24	4		10						0
25	2								0
26	6								0
27	3								0
28	3		10						0
29									
30									
31									
32									

Veh Par 1-64 [5.1]

Det #	Call Ø	Swi Ø	Dlay	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time
1									
2									
3									
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									
31									
32									

Vehicle Options 1-64 [5.2]

Det #	Call	Ext	Que	Add Init	Red Lock	Yell Lock	occ	vol
1								
2								
3								
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								
31								
32								

Vehicle Options 1-64 [5.2]

Det #	Call	Ext	Que	Add AddIni	Red Lock	Yell Lock	occ	vol
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								
54								
55								
56								
57								
58								
59								
60								
61								
62								
63								
64								

Parameters+ 1-64 [5.3]

Det #	oc G	oc Y	oc R	Dlay 1	Dlay 2	Type	Src
1							
2							
3							
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							
31							
32							

Parameters+ 1-64 [5.3]

Det #	occ Grn	occ Yell	occ Red	Dlay 1	Dlay 2	Type	Src	Det #	occ Grn	occ Yell	occ Red	Dlay 1	Dlay 2	Type	Src	Det #	occ Grn	occ Yell	occ Red	Dlay 1	Dlay 2	Type	Src
33						NORM		44						NORM		55						NORM	
34						NORM		45						NORM		56						NORM	
35						NORM		46						NORM		57						NORM	
36						NORM		47						NORM		58						NORM	
37						NORM		48						NORM		59						NORM	
38						NORM		49						NORM		60						NORM	
39						NORM		50						NORM		61						NORM	
40						NORM		51						NORM		62						NORM	
41						NORM		52						NORM		63						NORM	
42						NORM		53						NORM		64						NORM	
43						NORM		54						NORM									

Ped Det Parms [5.4]

Det #	Call Ø	No Act	Max Pres	Err Cnt
1				
2				
3				
4				
5				
6				
7				
8				

Unit Paramters [1.2.1]

TS2 Det Faults	ON

Vol/Occ Report Parm [1.5.8]

Vol/Occ Period Minutes	0
Vol/Occ Period Minutes	15

P-63

Printed 3/4/2020

Preemption Times [3.1], Options+ [3.6]

Pre #	Enable	Type	Output	Delay	MinDura
1	ON	RAIL	DWELL		
2	ON	RAIL	DWELL		
3	ON	EMERG	DWELL		
4	ON	EMERG	DWELL		
5	ON	EMERG	DWELL		
6	ON	EMERG	DWELL		

Pre #	MaxPres	MinGrn	MinWlk	PedClr	Co+Pre
1					ON
2					ON
3					ON
4					ON
5					ON
6					ON

Pre #	Track Grn	Min Dwell	Ext Dwell	PedClr	Yel
1		2			
2		2			
3		2			
4		2			
5		2			
6		2			

Pre #	Red	Pattern	Skip	
1			OFF	
2			OFF	
3			OFF	
4			OFF	
5			OFF	
6			OFF	

Low Priority Preempts

Pre #	Type	Min	Max		
7	OFF	0	0		
8	OFF	0	0		
9	OFF	0	0		
10	OFF	0	0		

Unit Parameters [1.2.1]

Stop Timer Over Preempt	OFF
Preempt or Ext Output	PRE
Max Seek Track Time	0
Max Seek Dwell Time	0

Channel Parameters [1.8.3]

D Conn Mappings	NONE
Pre Invert Rail Input	

Adv Timers [3.8]

enterYellowChange			
enterRedClr		trackRedClr	
trackYellowClr		AllRedB4Dwell	

Track Clear Phases [3.2], Track Clear Overlaps+ [3.5]

Pre #	Track Phases	Track Overlaps
1		
2		
3		
4		
5		
6		

Dwell Phases [3.2] and Overlaps+ [3.5]

Pre #		
1	Phases	
	Overlaps	
	Peds	
2	Phases	
	Overlaps	
	Peds	
3	Phases	
	Overlaps	
	Peds	
4	Phases	
	Overlaps	
	Peds	
5	Phases	
	Overlaps	
	Peds	
6	Phases	
	Overlaps	
	Peds	

Exit Phases [3.2]

Pre #	Exit Phase
1	
2	
3	
4	
5	
6	

Preemption 1, Options+ [3.6]

Pre #	Lock	Override Auto Flsh	Override Higher	Flsh Dwell	Link
1	ON	ON	ON	OFF	
2	ON	ON	ON	ON	
3	ON	ON	ON	OFF	
4	ON	ON	ON	OFF	
5	ON	ON	ON	OFF	
6	ON	ON	ON	OFF	

Init'l Dwell [3.9]

Phases									
Peds									
Overlap									

Alt# 1 Times Table [1.1.6.1]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 2 Times Table [1.1.6.1]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 3 Times Table [1.1.6.1]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 1 Options Table [1.1.6.2]

Column # ->	1	2	3	4	5	6	7	8
Assign Ø								
Lock Calls	1	1	1	1	1	1	1	1
Soft Recall								
Dual Entry								
Enabl SimGap	1	1	1	1	1	1	1	1
Gaur Passage								
Rest In Walk								
Cond Service								
Reservice								
Non-Act 1								
Red Rest								
Max2								
Ped Delay								
Conflicting Ø1								

Annual Schedule [4.3]

	Month of Year												Day of Week							Date																							Day Plan	Link To
	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	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	31		
1	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1	
2	x	x	x	x	x	x	x	x	x	x	x	x	x						x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	
3																																																	1	
4																																																	1	
5																																																	1	
6																																																	1	
7																																																	1	
8																																																	1	
9																																																	1	
10																																																	1	
11																																																	1	
12																																																	1	
13																																																	1	
14																																																	1	
15																																																	1	
16																																																	1	
17																																																	1	
18																																																	1	
19																																																	1	
20																																																	1	
21																																																	1	
22																																																	1	
23																																																	1	
24																																																	1	

P-63

Printed 3/4/2020

Day Plans [4.4]

Day Plan 1

	Hour	Min	Act		Hour	Min	Act
1	6	30	1	9			
2	9	30	99	10			
3	16	0	1	11			
4	20	0	99	12			
5	0	0	99	13			
6				14			
7				15			
8				16			

Day Plan 2

	Hour	Min	Act		Hour	Min	Act
1	9	0	1	9			
2	20	0	99	10			
3	0	0	99	11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 3

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 4

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 5

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 6

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 7

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 8

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 9

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 10

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 11

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 12

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 13

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 14

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 15

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Action Table [4.5]

Act#	Pat#	A1	A2	A3	S1	S2	S3	S4	S5	S6	S7	S8
1	1											
2	2											
3	3											
4	4											
5	5											
6	6											
7	7											
8	8											
9	9											
10	10											
11	11											
12	12											
13	13											
14	14											
15	15											
16	16											
17	17											
18	18											
19	19											
20	20											
21	21											
22	22											
23	23											
24	24											
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												
48												
98												
99												
100	255											

Coord Alternate Tables - Pat+ [2.6]

Pat#	ØOpt	ØTime	DetG	CIR	CIC	CNA1	Overlap Off 1	2	3	4	5	6	7	8	Dia	Max2
1															DFT	
2															DFT	
3															DFT	
4															DFT	
5															DFT	
6															DFT	
7															DFT	
8															DFT	
9															DFT	
10															DFT	
11															DFT	
12															DFT	
13															DFT	
14															DFT	
15															DFT	
16															DFT	
17															DFT	
18															DFT	
19															DFT	
20															DFT	
21															DFT	
22															DFT	
23															DFT	
24															DFT	
25															DFT	
26															DFT	
27															DFT	
28															DFT	
29															DFT	
30															DFT	
31															DFT	
32															DFT	
33															DFT	
34															DFT	
35															DFT	
36															DFT	
37															DFT	
38															DFT	
39															DFT	
40															DFT	
41															DFT	
42															DFT	
43															DFT	
44															DFT	
45															DFT	
46															DFT	
47															DFT	
48															DFT	

P-63

Printed **3/4/2020**

C1-USER IO Map [1.8.9.1 In]

I1-1	1	veh 1
I1-2	2	veh 2
I1-3	3	veh 3
I1-4	4	veh 4
I1-5	5	veh 5
I1-6	6	veh 6
I1-7	7	veh 7
I1-8	8	veh 8
I2-1	9	veh 9
I2-2	10	veh 10
I2-3	11	veh 11
I2-4	12	veh 12
I2-5	13	veh 13
I2-6	14	veh 14
I2-7	15	veh 15
I2-8	16	veh 16
I3-1	17	veh 17
I3-2	18	veh 18
I3-3	19	veh 19
I3-4	20	veh 20
I3-5	21	veh 21
I3-6	22	veh 22
I3-7	23	veh 23
I3-8	24	veh 24
I4-1		C11S Connector
I4-2		
I4-3		
I4-4		
I4-5		
I4-6		
I4-7		32xCMUStop
I4-8		32xFlashSns
I5-1	25	veh 25
I5-2	26	veh 26
I5-3	27	veh 27
I5-4	28	veh 28
I5-5		
I5-6		
I5-7		
I5-8		
I6-1		
I6-2		
I6-3		
I6-4		
I6-5		
I6-6		
I6-7		
I6-8		

C1-USER IO Map [1.8.9.2 Out]

O1-1	1	Ch1 Red
O1-2	49	Ch1 Green
O1-3	2	Ch2 Red
O1-4	26	Ch2 Yellow
O1-5	50	Ch2 Green
O1-6	3	Ch3 Red
O1-7	27	Ch3 Yellow
O1-8	51	Ch3 Green
O2-1	4	Ch4 Red
O2-2	52	Ch4 Green
O2-3	5	Ch5 Red
O2-4	29	Ch5 Yellow
O2-5	53	Ch5 Green
O2-6	6	Ch6 Red
O2-7	30	Ch6 Yellow
O2-8	54	Ch6 Green
O3-1	7	Ch7 Red
O3-2	55	Ch7 Green
O3-3	8	Ch8 Red
O3-4	32	Ch8 Yellow
O3-5	56	Ch8 Green
O3-6	9	Ch9 Red
O3-7	33	Ch9 Yellow
O3-8	57	Ch9 Green
O4-1	10	Ch10 Red
O4-2	58	Ch10 Green
O4-3	11	Ch11 Red
O4-4	35	Ch11 Yellow
O4-5	59	Ch11 Green
O4-6	12	Ch12 Red
O4-7	36	Ch12 Yellow
O4-8	60	Ch12 Green
O5-1	28	Ch4 Yellow
O5-2	34	Ch10 Yellow
O5-3	25	Ch1 Yellow
O5-4	31	Ch7 Yellow
O5-5	115	Not Used
O5-6	115	Not Used
O5-7	115	Not Used
O5-8	114	Watchdog
O6-1	115	Not Used
O6-2	115	Not Used
O6-3	13	Ch13 Red
O6-4	37	Ch13 Yellow
O6-5	61	Ch13 Green
O6-6	14	Ch14 Red
O6-7	38	Ch14 Yellow
O6-8	62	Ch14 Green

C1-USER IO Map [1.8.9.2 Out]

O7-1	115	Not Used
O7-2	115	Not Used
O7-3	115	Not Used
O7-4	115	Not Used
O7-5	115	Not Used
O7-6	115	Not Used
O7-7	115	Not Used
O7-8	115	Not Used

C11S-USER IO Map [1.8.9.1 In]

I4-1	189	Unused
I4-2	189	Unused
I4-3	189	Unused
I4-4	189	Unused
I7-1	189	Unused
I7-2	189	Unused
I7-3	189	Unused
I7-4	189	Unused
I7-5	189	Unused
I7-6	189	Unused
I7-7	189	Unused
I7-8	189	Unused
I8-1	189	Unused
I8-2	189	Unused
I8-3	189	Unused
I8-4	189	Unused
I8-5	189	Unused
I8-6	189	Unused
I8-7	189	Unused
I8-8	189	Unused

C11S-USER IO Map [1.8.9.2 Out]

O8-1	115	Not Used
O8-2	115	Not Used
O8-3	115	Not Used
O8-4	115	Not Used
O8-5	115	Not Used
O8-6	115	Not Used
O8-7	115	Not Used
O8-8	115	Not Used

IO Logic [1.8.7]

	Result			Fcn	Oper		Fcn	Oper		Fcn Timer		
I	0	=	I	0	----	I	0	----	I	0	DLY	0
I	0	=	I	0	----	I	0	----	I	0	DLY	0
I	0	=	I	0	----	I	0	----	I	0	DLY	0
I	0	=	I	0	----	I	0	----	I	0	DLY	0
I	0	=	I	0	----	I	0	----	I	0	DLY	0
I	0	=	I	0	----	I	0	----	I	0	DLY	0
I	0	=	I	0	----	I	0	----	I	0	DLY	0
I	0	=	I	0	----	I	0	----	I	0	DLY	0
I	0	=	I	0	----	I	0	----	I	0	DLY	0
I	0	=	I	0	----	I	0	----	I	0	DLY	0

Security Access Levels [8.2]

1	SWLOAD
2	SECURE
3	NONE
4	NONE
5	NONE
6	NONE
7	NONE
8	NONE
9	NONE
10	NONE
11	NONE
12	NONE
13	NONE
14	NONE
15	NONE
16	NONE
17	NONE
18	NONE
19	NONE
20	NONE
21	NONE
22	NONE
23	NONE
24	NONE
25	NONE
26	NONE
27	NONE
28	NONE
29	NONE
30	NONE
31	NONE
32	NONE
33	NONE
34	NONE
35	NONE
36	NONE
37	NONE
38	NONE
39	NONE
40	NONE
41	NONE
42	NONE
43	NONE
44	NONE
45	NONE
46	NONE
47	NONE
48	NONE
49	NONE
50	NONE
51	NONE
52	NONE
53	NONE
54	NONE
55	NONE
56	NONE
57	NONE
58	NONE
59	NONE
60	NONE
61	NONE
62	NONE
63	NONE
64	NONE

Com Parameters [6.1]

Station ID	1
Group ID	
Master ID	0
Backup Time	900

SysUp Modem [6.1]

Enable Modem	OFF
Idle Time	15
Dial Time	5
Tel:	0,0-000-000-0000
Alt:	0,0-000-000-0000

2070 Port Parms [6.2]

Port	Baud Rate	FCM
SP1	9600	6
SP2	9600	6
SP3	19200	6
SP4	38400	6
SP5	1200	
SP6	1200	
SP7	1200	
SP8	1200	

2070 IP 1 Addressing [6.5]

	Addressing			
Addr				
Mask				
Brdcst				
GtWay				
Port				

2070 IP 2 Addressing [6.5]

	Addressing			
Addr				
Mask				
Brdcst				
GtWay				
Port				

2070 Port Binding Ports [6.6]

	Port	Echo	Mode
ASYNC1	SP1	NONE	
ASYNC2	SP2	NONE	
ASYNC3	SP3	NONE	
ASYNC4	SP4	NONE	
SYNC1	SP5S		
SYNC2	OFF		

2070 Port Binding Functions [6.6]

Function	Channel	Function	Channel
TS2/CVM	NONE	SYSUp	ASYNC2
CMU/MMU	NONE	SYSDown	ASYNC1
Opticom	NONE	Shell	NONE
Loop Det.	NONE		
GPS	NONE		

#	Event / Alarm	Ev	Alr
1	Power Up Alarm.	1	
2	Stop Timing	1	1
3	TS1 Cabinet Door		
4	Coordination Failure	1	1
5	External Alarm # 1	1	1
6	External Alarm # 2	1	1
7	External Alarm # 3		
8	External Alarm # 4		
9	Closed Loop Disabled	1	
10	External Alarm # 5		
11	External Alarm # 6		
12	Manual Control Enable	1	1
13	Coord Free Input		
14	Local Flash Input	1	1
15	MMU Flash		
16	CMU Flash		
17	Cycle Fault	1	
18	Cycle Failure	1	
19	Coordination Fault	1	
20	Controller Fault	1	1
21	Detector SDLC Failure		
22	MMU SDLC Failure		
23	Critical SDLC Failure		
24	Reserved		
25	EEPROM CRC Fault	1	
26	Detector Diagnostic Failure		1
27	BIU Detector Failure	1	
28	Queue detector alarm	1	
29	Ped Detector Fault	1	1
30	Coord Diagnostic Fault		1
41	TempAlert Probe Ch. A		
42	TempAlert Probe Ch. B		
47	Coord Active		
48	Preempt Active	1	
49	Preempt 1 Input	1	
50	Preempt 2 Input	1	
51	Preempt 3 Input	1	
52	Preempt 4 Input	1	
53	Preempt 5 Input	1	
54	Preempt 6 Input	1	
55	Preempt 7 Input	1	
56	Preempt 8 Input	1	
57	Preempt 9 Input	1	
58	Preempt 10 Input	1	
61	In Transition	1	
81	FIO Status Alarm		

Call Phases[1.1.5]

Ø	Phases Called By Ø
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

Redirect Phases[1.1.5]

	From	To	From	To	From	To	From	To
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

Inhibit Phases[1.1.5]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																

Alt Call & Redirect # 1 [1.1.6.3]

Col	Ø	Phases Called By Ø
1		
2		
3		
4		
5		
6		
7		
8		

	From	To	From	To	From	To	From	To
1								
2								
3								
4								
5								
6								
7								
8								

Alt Inhibit Phases # 1 [1.1.6.3]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
6																
7																
8																

Alt Call & Redirect # 2 [1.1.6.3]

Col	Ø	Phases Called By Ø
1		
2		
3		
4		
5		
6		
7		
8		

	From	To	From	To	From	To	From	To
1								
2								
3								
4								
5								
6								
7								
8								

Alt Inhibit Phases # 2 [1.1.6.3]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
6																
7																
8																

Coord, CIC Plans [2.3]

CIC	CoØ	Grow	1	2	3	4	5	6	7	8
1	OFF									
2	OFF									
3	OFF									
4	OFF									

Auto Flash Phase/Olap Settings [1.4.2]

Yel Ø								
Yel (olaps)								

Unit Parameters [1.2.1]

Allow Skip Yellow	OFF	Max Cycle Time	0
TOD Dim Enable	OFF	Cycle Fault Action	ALARM
Tone Disable	OFF		
Diamond Mode	4Ph		
Backup Time (s)	900		
Disable Init Ped	OFF		
Cycle Fault Action	ALARM		
Enable Run Timer	ON		

Advanced Warning [1,1,9]

	Phase	Time
Aux Out 1	0	0
Aux Out 2	0	0

P-76
Signal #

STATE OF NEW YORK – DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING SAFETY DIVISION
TRAFFIC CONTROL SPECIFICATIONS

Signal: **P-76**
File: 37.09-312
D/HWP: D263786
PIN: 8058.12

INTERSECTION: RT 312 @ I-84 WB RAMPS

☐ CITY ☐ VILLAGE ☑ TOWN OF: SOUTHEAST

Department Order filed 12-27-2001 as Section: 2037.09 Subdivision: (p)

Prior specification hereby superseded ☐ None ☑ Dated: previous

Purpose: SIGNAL HEAD AND SPAN REPLACEMENT UNDER CONTRACT **D263786.**

These specifications will be effective upon the ☐ Installation ☑ Modification / Reinstallation of the necessary traffic control device(s) required by and conforming to the Federal Manual on Uniform Traffic Control Devices.

This signal shall

A. Operate in accordance with the table of operations and / or change intervals as shown on the attached pages as a:

- ☐ Pretimed Signal
- ☐ Semi-traffic actuated
- ☑ Full-traffic actuated
- ☐ Pedestrian actuated
- ☐ Other

B.
- ☑ Display vehicular indications
- ☐ Display pedestrian indications
- ☑ Be equipped with vehicle detectors
- ☐ Be equipped with pedestrian buttons
- ☐ as shown in the attached plans / drawings.

C. Be equipped with ☐ Pre-emption ☐ Interconnection and/or coordination which are described as follows:

Description:

cc:
- ☐ Region 8 Traffic Engineer
- ☑ Signal Shop
- ☐ Contract Maintainer
- ☐ Main Office

NOA Date

ED GOFF — R.T.E.
Signature — Title

Installation Date

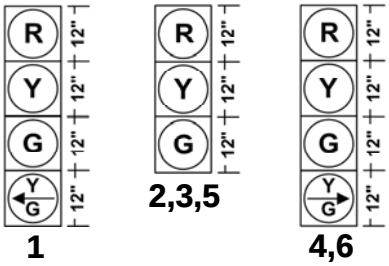
Reinstallation/Modification

P-76
Signal #

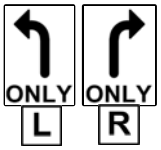
STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION
TRAFFIC AND SAFETY DIVISION
in the Town of ***SOUTHEAST***

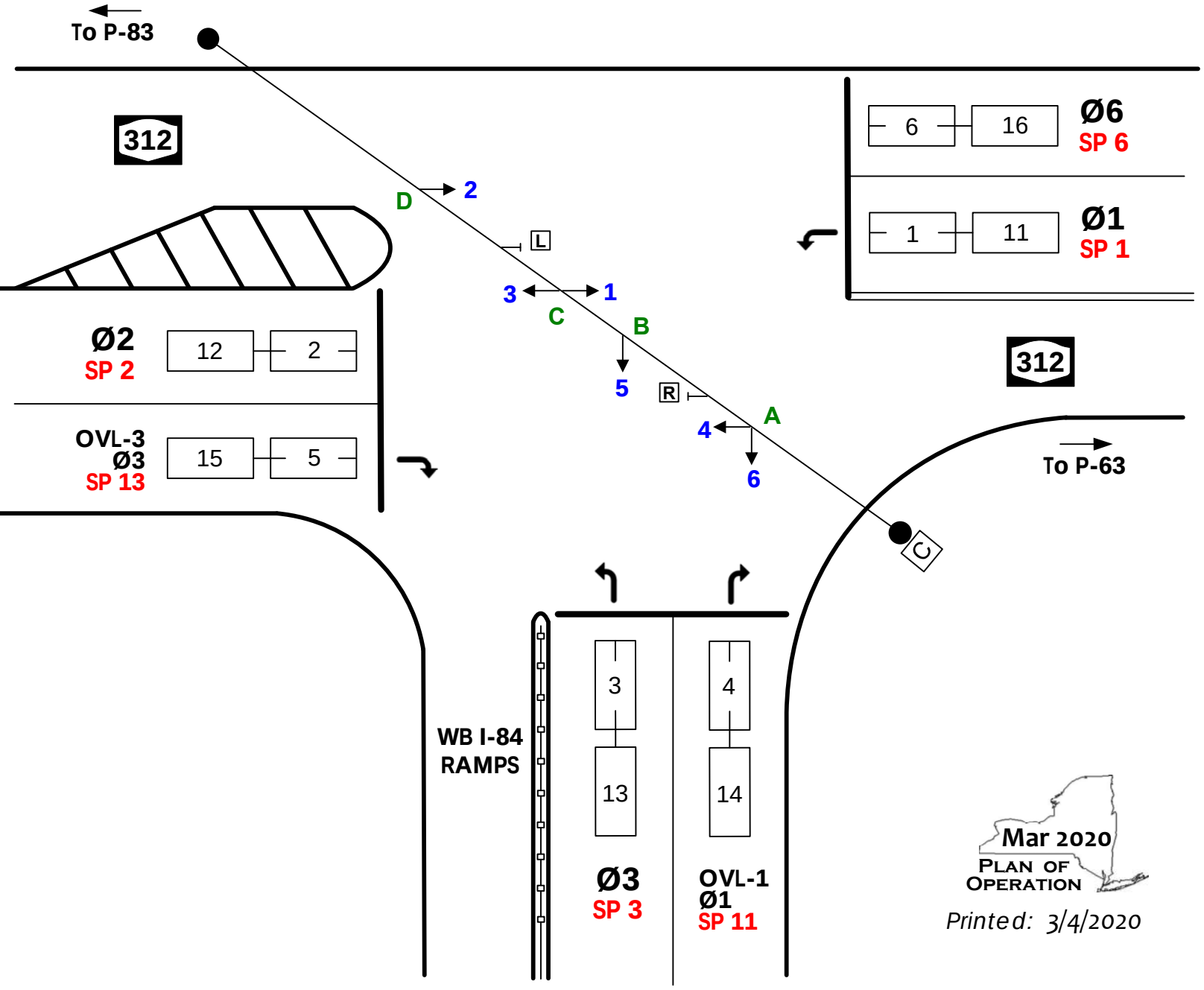
Signal: **P-76**
File: 37.09-312
D/HWP: D263786
PIN: 8058.12

FACES



SPAN SIGNS





Mar 2020
PLAN OF OPERATION

Printed: 3/4/2020

P-76
Signal #

MODEL 2070 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION

Signal: **P-76**
File: 37.09-312
D/HWP: D263786
PIN: 8058.12

TABLE OF SWITCH PACKS

Date: 3/4/2020

SWITCH PACK	FUNCTION	INDICATIONS	FACE	TERMINAL	WIRE COLOR CODE	FACE	TERMINAL	WIRE COLOR CODE
1	Ø1	- - - - -	1	SP 1 R	- - - - - - - - - -		SP 1 R	
		⟵		SP 1 Y	14 / 15C - C - O / B		SP 1 Y	
		←		SP 1 G	- G / B		SP 1 G	
		Ground Wire		Grnd Bus	- W / B		Grnd Bus	
2	Ø2	Red	3	SP 2 R	14 / 15C - C - R / W	4	SP 2 R	14 / 19C - A - R
		Yellow		SP 2 Y	- BL / W		SP 2 Y	- O
		Green		SP 2 G	- G / W		SP 2 G	- G
		Ground Wire		Grnd Bus	- B / W		Grnd Bus	- W
3	Ø3	Red	5	SP 3 R	14 / 05C - B - R	6	SP 3 R	14 / 19C - A - R / W
		Yellow		SP 3 Y	- O		SP 3 Y	- BL / W
		Green		SP 3 G	- G		SP 3 G	- G / W
		Ground Wire		Grnd Bus	- W		Grnd Bus	- B / W
4.				SP 4 R			SP 4 R	
				SP 4 Y			SP 4 Y	
				SP 4 G			SP 4 G	
		Ground Wire		Grnd Bus			Grnd Bus	
5.				SP 5 R			SP 5 R	
				SP 5 Y			SP 5 Y	
				SP 5 G			SP 5 G	
		Ground Wire		Grnd Bus			Grnd Bus	
6.	Ø6	Red	1	SP 6 R	14 / 15C - C - R	2	SP 6 R	14 / 05C - D - R
		Yellow		SP 6 Y	- O		SP 6 Y	- O
		Green		SP 6 G	- G		SP 6 G	- G
		Ground Wire		Grnd Bus	- W		Grnd Bus	- W
7.				SP 7 R			SP 7 R	
				SP 7 Y			SP 7 Y	
				SP 7 G			SP 7 G	
		Ground Wire		Grnd Bus			Grnd Bus	
8		Red		SP 8 R			SP 8 R	
		Yellow		SP 8 Y			SP 8 Y	
		Green		SP 8 G			SP 8 G	
		Ground Wire		Grnd Bus			Grnd Bus	
9				SP 9 R			SP 9 R	
				SP 9 Y			SP 9 Y	
				SP 9 G			SP 9 G	
		Ground Wire		Grnd Bus			Grnd Bus	
10				SP 10 R			SP 10 R	
				SP 10 Y			SP 10 Y	
				SP 10 G			SP 10 G	
		Ground Wire		Grnd Bus			Grnd Bus	
11.	OVL-1 Ø 1	- - - - -	6	SP 11 R	- - - - - - - - - -		SP 11 R	
		⟶		SP 11 Y	14 / 19C - A - O / R		SP 11 Y	
		→		SP 11 G	- BL / R		SP 11 G	
		Ground Wire		Grnd Bus	- W / R		Grnd Bus	
12.				SP 12 R			SP 12 R	
				SP 12 Y			SP 12 Y	
				SP 12 G			SP 12 G	
		Ground Wire		Grnd Bus			Grnd Bus	
13	OVL-3 Ø 3	- - - - -	4	SP 13 R	- - - - - - - - - -		SP 13 R	
		⟶		SP 13 Y	14 / 19C - A - O / B		SP 13 Y	
		→		SP 13 G	- G / B		SP 13 G	
		Ground Wire		Grnd Bus	- W / B		Grnd Bus	
14.				SP 14 R			SP 14 R	
				SP 14 Y			SP 14 Y	
				SP 14 G			SP 14 G	
		Ground Wire		Grnd Bus			Grnd Bus	
15				SP 15 R			SP 15 R	
				SP 15 Y			SP 15 Y	
				SP 15 G			SP 15 G	
		Ground Wire		Grnd Bus			Grnd Bus	
16				SP 16 R			SP 16 R	
				SP 16 Y			SP 16 Y	
				SP 16 G			SP 16 G	
		Ground Wire		Grnd Bus			Grnd Bus	

P-76
Signal #

MODEL 2070 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION

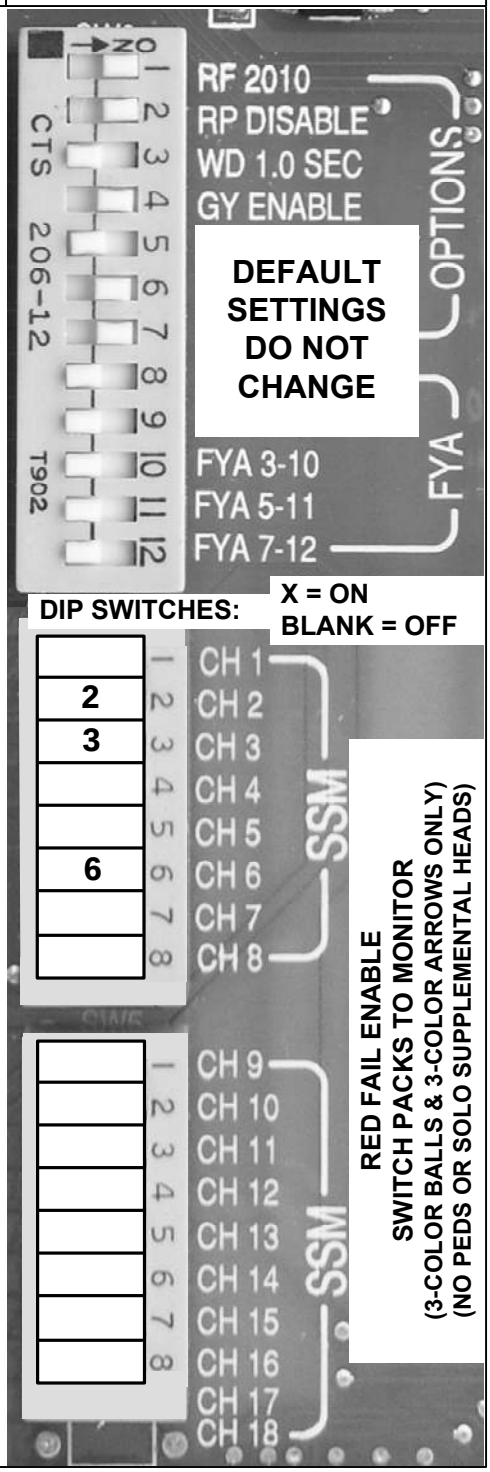
Signal: **P-76**
File: 37.09-312
D/HWP: D263786
PIN: 8058.12
Date: 3/4/2020

TRAFFIC SIGNAL MONITOR PROGRAMMING

CONFLICT MONITOR DIODES TO BE CUT (SWITCH PACKS TO RUN TOGETHER)		
1 - 6		
1 - 11		
2 - 6		
3 - 13		
6 - 11		

YELLOW DISABLE: WIRE JUMPERS TO BE INSTALLED FOR PEDS	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

210NYR MONITOR BOARD
(SWITCH PACKS TO MONITOR)



CURRENT MONITOR BOARD (IF USED)

CURRENT MONITOR DIODES TO BE CUT (SWITCH PACKS TO *NOT* MONITOR)
1, 4-5, 7-16

Notes:

_____

_____

_____

P-76
Signal #

MODEL 2070 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION

Signal: **P-76**
File: 37.09-312
D/HWP: D263786
PIN: 8058.12

Date: 3/4/2020

TABLE OF INPUT WIRING

TERM. NUMBER	FUNCTION	DET. NO.	DET. TYPE	DET. AN OVER	REMARKS
1A, 1B	**Ø 1**	1	QUADRAPOLE		PRESENCE LOOP
2A, 2B	**Ø 2**	2	QUADRAPOLE		PRESENCE LOOP
3A, 3B	**Ø 3**	3	QUADRAPOLE		PRESENCE LOOP
4A, 4B	**Ø 3**	4	QUADRAPOLE		PRESENCE LOOP
5A, 5B	**Ø 2**	5	QUADRAPOLE		PRESENCE LOOP
6A, 6B	**Ø 6**	6	QUADRAPOLE		PRESENCE LOOP
7A, 7B					
8A, 8B					
9A, 9B					
10A, 10B					
11A, 11B	**Ø 1**	11	NORMAL		PRESENCE LOOP
12A, 12B	**Ø 2**	12	NORMAL		PRESENCE LOOP
13A, 13B	**Ø 3**	13	NORMAL		PRESENCE LOOP
14A, 14B	**Ø 3**	14	NORMAL		PRESENCE LOOP
15A, 15B	**Ø 2**	15	NORMAL		PRESENCE LOOP
16A, 16B	**Ø 6**	16	NORMAL		PRESENCE LOOP
17A, 17B					
18A, 18B					
19A, 19B					
20A, 20B					
21A, 21B					
22A, 22B					
23A, 23B					
24A, 24B					
25A, 25B					
26A, 26B					
27A, 27B					
28A, 28B					

P-76

Phase Times [1.1.1]

Times [1.1.1]	1	2	3	4	5	6	7	8
Min Green	3	10	3			10		
Gap, Ext	2	2	2			2		
Max 1	10	20	25			20		
Max 2								
Yel Clearance	4.0	4.0	4.0			4.0		
Red Clearance	2.0	2.0	2.0			2.0		
Walk								
Ped Clearance								
Red Revert								
Add Initial								
Max Initial								
Time B4 Reduct								
Cars B4 Reduct								
Time To Reduce								
Reduce By								
Min Gap								
DyMaxLim								
Max Step								
Options [1.1.2]	1	2	3	4	5	6	7	8
Enable	X	X	X			X		
Min Recall		X				X		
Max Recall								
Ped Recall								
Soft Recall								
Lock Calls								
Auto Flash Entry								
Auto Flash Exit								
Dual Entry								
Enable Simul Gap		1		1		1		1
Gaurantee Passag	1	1	1	1	1	1	1	1
Rest In Walk								
Conditon Service								
Non-Actuated 1								
Non-Actuated 2								
Add Init Calc								
Options+ [1.1.3]	1	2	3	4	5	6	7	8
Reservice								
PedClr Thru Yel								
Skip Red No Call								
Red Rest								
Max II								
Conflicting Phase								
Red Rest On Gap								
Omit Yellow								
Ped Delay								
Grn/Ped Delay Adv								

Coordination Patterns [2.4] and Coordination Split Tables [2.7.1]

Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq
1	65		1	1	13					25					37				
2			2		14					26					38				
3			3		15					27					39				
4			4		16					28					40				
5			5		17					29					41				
6			6		18					30					42				
7			7		19					31					43				
8			8		20					32					44				
9			9		21					33					45				
10			10		22					34					46				
11			11		23					35					47				
12			12		24					36					48				

Split		1	2	3	4	5	6	7	8	Split		1	2	3	4	5	6	7	8
1	Coord 2	15	25 Max	25	0	15	25 Max	25	0	13	Coord								
2	Coord									14	Coord								
3	Coord									15	Coord								
4	Coord									16	Coord								
5	Coord									17	Coord								
6	Coord									18	Coord								
7	Coord									19	Coord								
8	Coord									20	Coord								
9	Coord									21	Coord								
10	Coord									22	Coord								
11	Coord									23	Coord								
12	Coord									24	Coord								

Page#	
1	8 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param
1A&1B	16 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param
2	Overlaps; Channel Settings; Coord Alt Table+ (values not associated with time-of-day)
3	Detection; Sample Time and Unit Parameters related to detection
4	Preemption and Alternate Phase Time and Phase Options
5	Annual Schedule
6	Day Plans; Action Tables; Coord Alt Table+ (values varied by time-of-day)
7	Communications; Secutiry; I/O Setup
8	Misc - Events/Alarms; Call/Inhibit/Redirect; P/OLAP Auto Flash; CIC; Misc Unit Param

Ring/Startup [1.1.4]

Phs	Ring	Start	Enable
1	1		
2	1	GREEN	
3	1		
4	1		
5	2		
6	2	GREEN	
7	2		
8	2		

Coord Modes [2.1]

Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX 1
Force-Off	FLOAT
Closed Loop	ON
Stop-in-Walk	OFF
Auto Reset	ON
Expand Splt	OFF
Ped Recycle	NO_RECYCLE
Before	TIMED
After	TIMED

Auto Flash [1.4.1]

Auto Flash	PH OVER
Flash Yel	4.5
Flash Red	2

Unit Params [1.2.1]

Phase Mode	STD8
IO Mode	USER
Loc Flsh Start	RED
Start Flash(s)	0
Start AllRed(s)	6
Yellow < 3"	OFF
Display Time	20
Red Revert	3
MCE Timeout	0
Feature Profile	0
Free Ring Seq	1
Auxswitch	STOPTM
SDLC Retry	0
TS2 Det Faults	ON
Auto Ped Clear	OFF
SDLC Retry	0

Overlap 1-16 Program Parms & Parm+ [1.5.2.1] [1.5.2.2]

Overlap Conflict Lock	OFF	Overlap Lock Inhibit	OFF	Parent Ph Clearance	ON	Extra Included Ph	ON

1	Included Ø	1								NORMAL		9	Included Ø									NORMAL	
	Modifier Ø									Grn			Modifier Ø									Grn	
	Conflict Ø									Yel	4.0		Conflict Ø									Yel	
A	Conflict Olap									Red	2.0	I	Conflict Olap									Red	
	Conflict Ped									LG			Conflict Ped									LG	
2	Included Ø									NORMAL		10	Included Ø									NORMAL	
	Modifier Ø									Grn			Modifier Ø									Grn	
	Conflict Ø									Yel			Conflict Ø									Yel	
B	Conflict Olap									Red		J	Conflict Olap									Red	
	Conflict Ped									LG			Conflict Ped									LG	
3	Included Ø	3								NORMAL		11	Included Ø									NORMAL	
	Modifier Ø									Grn			Modifier Ø									Grn	
	Conflict Ø									Yel	4.0		Conflict Ø									Yel	
C	Conflict Olap									Red	2.0	K	Conflict Olap									Red	
	Conflict Ped									LG			Conflict Ped									LG	
4	Included Ø									NORMAL		12	Included Ø									NORMAL	
	Modifier Ø									Grn			Modifier Ø									Grn	
	Conflict Ø									Yel			Conflict Ø									Yel	
D	Conflict Olap									Red		L	Conflict Olap									Red	
	Conflict Ped									LG			Conflict Ped									LG	
5	Included Ø									NORMAL		13	Included Ø									NORMAL	
	Modifier Ø									Grn			Modifier Ø									Grn	
	Conflict Ø									Yel			Conflict Ø									Yel	
E	Conflict Olap									Red		M	Conflict Olap									Red	
	Conflict Ped									LG			Conflict Ped									LG	
6	Included Ø									NORMAL		14	Included Ø									NORMAL	
	Modifier Ø									Grn			Modifier Ø									Grn	
	Conflict Ø									Yel			Conflict Ø									Yel	
F	Conflict Olap									Red		N	Conflict Olap									Red	
	Conflict Ped									LG			Conflict Ped									LG	
7	Included Ø									NORMAL		15	Included Ø									NORMAL	
	Modifier Ø									Grn			Modifier Ø									Grn	
	Conflict Ø									Yel			Conflict Ø									Yel	
G	Conflict Olap									Red		O	Conflict Olap									Red	
	Conflict Ped									LG			Conflict Ped									LG	
8	Included Ø									NORMAL		16	Included Ø									NORMAL	
	Modifier Ø									Grn			Modifier Ø									Grn	
	Conflict Ø									Yel			Conflict Ø									Yel	
H	Conflict Olap									Red		P	Conflict Olap									Red	
	Conflict Ped									LG			Conflict Ped									LG	

THERE IS NO OVL-2

Channel Settings [1.8.1]

.....Channel ->>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Phase / Olap #	1	2	3			6					1		3											
Channel Type	V	V	V			V					OVL		OVL											
Channel Flash	D	Y	R			Y					D		D											
Alt Hz																								

Channel+ Settings [1.8.4]

.....Channel ->>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Flash Red+																								
Flash Yellow+																								
Flash Green+																								
Flash Inh Red+																								

Channel Params[1.8.3]	C1 IO Mode	USER	Single BIU Map	SINGLE	Invert Rail Input	OFF	Olap Ovrd							

Coord Transition, CoorPhs [2.5]

Pat#	Short	Long	Dwell	No Shortway Ø	E-Yld	Offset	RetHld	Float	Min Veh Perm	Min Ped Perm
1	12	22				EndGRN				
2	12	22				EndGRN				
3	12	22				EndGRN				
4	12	22				EndGRN				
5	12	22				EndGRN				
6	12	22				EndGRN				
7	12	22				EndGRN				
8	12	22				EndGRN				
9	12	22				EndGRN				
10	12	22				EndGRN				
11	12	22				EndGRN				
12	12	22				EndGRN				
13	12	22				EndGRN				
14	12	22				EndGRN				
15	12	22				EndGRN				
16	12	22				EndGRN				
17	12	22				EndGRN				
18	12	22				EndGRN				
19	12	22				EndGRN				
20	12	22				EndGRN				
21	12	22				EndGRN				
22	12	22				EndGRN				
23	12	22				EndGRN				
24	12	22				EndGRN				
25	0	0				BegGRN				
26	0	0				BegGRN				
27	0	0				BegGRN				
28	0	0				BegGRN				
29	0	0				BegGRN				
30	0	0				BegGRN				
31	0	0				BegGRN				
32	0	0				BegGRN				
33	0	0				BegGRN				
34	0	0				BegGRN				
35	0	0				BegGRN				
36	0	0				BegGRN				
37	0	0				BegGRN				
38	0	0				BegGRN				
39	0	0				BegGRN				
40	0	0				BegGRN				
41	0	0				BegGRN				
42	0	0				BegGRN				
43	0	0				BegGRN				
44	0	0				BegGRN				
45	0	0				BegGRN				
46	0	0				BegGRN				
47	0	0				BegGRN				
48	0	0				BegGRN				

P-76

Printed 3/4/2020

Veh Par 1-64 [5.1]

Det #	Call Ø	Swi Ø	Dlay	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time
1	1		8						7
2	2								14
3	3								17
4	3		10						17
5	2		10						14
6	6								14
7									
8									
9									
10									
11	1								0
12	2								0
13	3								0
14	3								0
15	2								0
16	6								0
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									

Veh Par 1-64 [5.1]

Det #	Call Ø	Swi Ø	Dlay	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time
1									
2									
3									
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									
31									
32									

Vehicle Options 1-64 [5.2]

Det #	Call	Ext	Que	Add Init	Red Lock	Yell Lock	occ	vol
1								
2								
3								
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								
31								
32								

Vehicle Options 1-64 [5.2]

Det #	Call	Ext	Que	Add AddIni	Red Lock	Yell Lock	occ	vol
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								
54								
55								
56								
57								
58								
59								
60								
61								
62								
63								
64								

Parameters+ 1-64 [5.3]

Det #	oc G	oc Y	oc R	Dlay 1	Dlay 2	Type	Src
1							
2							
3							
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							
31							
32							

Parameters+ 1-64 [5.3]

Det #	occ Grn	occ Yell	occ Red	Dlay 1	Dlay 2	Type	Src
33						NORM	
34						NORM	
35						NORM	
36						NORM	
37						NORM	
38						NORM	
39						NORM	
40						NORM	
41						NORM	
42						NORM	
43						NORM	
44						NORM	
45						NORM	
46						NORM	
47						NORM	
48						NORM	
49						NORM	
50						NORM	
51						NORM	
52						NORM	
53						NORM	
54						NORM	
55						NORM	
56						NORM	
57						NORM	
58						NORM	
59						NORM	
60						NORM	
61						NORM	
62						NORM	
63						NORM	
64						NORM	

Ped Det Parms [5.4]

Det #	Call Ø	No Act	Max Pres	Err Cnt
1				
2				
3				
4				
5				
6				
7				
8				

Unit Paramters [1.2.1]

TS2 Det Faults	ON

Vol/Occ Report Parm [1.5.8]

Vol/Occ Period Minutes	0
Vol/Occ Period Minutes	15

P-76

Printed 3/4/2020

Preemption Times [3.1], Options+ [3.6]

Pre #	Enable	Type	Output	Delay	MinDura
1	ON	RAIL	DWELL		
2	ON	RAIL	DWELL		
3	ON	EMERG	DWELL		
4	ON	EMERG	DWELL		
5	ON	EMERG	DWELL		
6	ON	EMERG	DWELL		

Pre #	MaxPres	MinGrn	MinWlk	PedClr	Co+Pre
1					ON
2					ON
3					ON
4					ON
5					ON
6					ON

Pre #	Track Grn	Min Dwell	Ext Dwell	PedClr	Yel
1		2			
2		2			
3		2			
4		2			
5		2			
6		2			

Pre #	Red	Pattern	Skip	
1			OFF	
2			OFF	
3			OFF	
4			OFF	
5			OFF	
6			OFF	

Low Priority Preempts

Pre #	Type	Min	Max		
7	OFF	0	0		
8	OFF	0	0		
9	OFF	0	0		
10	OFF	0	0		

Unit Parameters [1.2.1]

Stop Timer Over Preempt	OFF
Preempt or Ext Output	PRE
Max Seek Track Time	0
Max Seek Dwell Time	0

Channel Parameters [1.8.3]

D Conn Mappings	NONE
Pre Invert Rail Input	

Adv Timers [3.8]

enterYellowChange			
enterRedClr		trackRedClr	
trackYellowClr		AllRedB4Dwell	

Track Clear Phases [3.2], Track Clear Overlaps+ [3.5]

Pre #	Track Phases	Track Overlaps
1		
2		
3		
4		
5		
6		

Dwell Phases [3.2] and Overlaps+ [3.5]

Pre #		
1	Phases	
	Overlaps	
	Peds	
2	Phases	
	Overlaps	
	Peds	
3	Phases	
	Overlaps	
	Peds	
4	Phases	
	Overlaps	
	Peds	
5	Phases	
	Overlaps	
	Peds	
6	Phases	
	Overlaps	
	Peds	

Exit Phases [3.2]

Pre #	Exit Phase
1	
2	
3	
4	
5	
6	

Preemption 1, Options+ [3.6]

Pre #	Lock	Override Auto Flsh	Override Higher	Flsh Dwell	Link
1	ON	ON	ON	OFF	
2	ON	ON	ON	ON	
3	ON	ON	ON	OFF	
4	ON	ON	ON	OFF	
5	ON	ON	ON	OFF	
6	ON	ON	ON	OFF	

Init'l Dwell [3.9]

Phases									
Peds									
Overlap									

Alt# 1 Times Table [1.1.6.1]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 2 Times Table [1.1.6.1]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 3 Times Table [1.1.6.1]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 1 Options Table [1.1.6.2]

Column # ->	1	2	3	4	5	6	7	8
Assign Ø								
Lock Calls	1	1	1	1	1	1	1	1
Soft Recall								
Dual Entry								
Enabl SimGap	1	1	1	1	1	1	1	1
Gaur Passage								
Rest In Walk								
Cond Service								
Reservice								
Non-Act 1								
Red Rest								
Max2								
Ped Delay								
Conflicting Ø1								

Annual Schedule [4.3]

	Month of Year												Day of Week							Date																							Day Plan	Link To
	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	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	31		
1	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1	
2	x	x	x	x	x	x	x	x	x	x	x	x	x						x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	
3																																																	1	
4																																																	1	
5																																																	1	
6																																																	1	
7																																																	1	
8																																																	1	
9																																																	1	
10																																																	1	
11																																																	1	
12																																																	1	
13																																																	1	
14																																																	1	
15																																																	1	
16																																																	1	
17																																																	1	
18																																																	1	
19																																																	1	
20																																																	1	
21																																																	1	
22																																																	1	
23																																																	1	
24																																																	1	

P-76

Printed 3/4/2020

Day Plans [4.4]

Day Plan 1

	Hour	Min	Act		Hour	Min	Act
1	6	30	1	9			
2	9	30	99	10			
3	16	0	1	11			
4	20	0	99	12			
5	0	0	99	13			
6				14			
7				15			
8				16			

Day Plan 2

	Hour	Min	Act		Hour	Min	Act
1	9	0	1	9			
2	20	0	99	10			
3	0	0	99	11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 3

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 4

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 5

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 6

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 7

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 8

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 9

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 10

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 11

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 12

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 13

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 14

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Day Plan 15

	Hour	Min	Act		Hour	Min	Act
1				9			
2				10			
3				11			
4				12			
5				13			
6				14			
7				15			
8				16			

Action Table [4.5]

Act#	Pat#	A1	A2	A3	S1	S2	S3	S4	S5	S6	S7	S8
1	1											
2	2											
3	3											
4	4											
5	5											
6	6											
7	7											
8	8											
9	9											
10	10											
11	11											
12	12											
13	13											
14	14											
15	15											
16	16											
17	17											
18	18											
19	19											
20	20											
21	21											
22	22											
23	23											
24	24											
25												
26												
27												
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												
48												
98												
99												
100	255											

Coord Alternate Tables - Pat+ [2.6]

Pat#	ØOpt	ØTime	DetG	CIR	CIC	CNA1	Overlap Off 1	2	3	4	5	6	7	8	Dia	Max2
1															DFT	
2															DFT	
3															DFT	
4															DFT	
5															DFT	
6															DFT	
7															DFT	
8															DFT	
9															DFT	
10															DFT	
11															DFT	
12															DFT	
13															DFT	
14															DFT	
15															DFT	
16															DFT	
17															DFT	
18															DFT	
19															DFT	
20															DFT	
21															DFT	
22															DFT	
23															DFT	
24															DFT	
25															DFT	
26															DFT	
27															DFT	
28															DFT	
29															DFT	
30															DFT	
31															DFT	
32															DFT	
33															DFT	
34															DFT	
35															DFT	
36															DFT	
37															DFT	
38															DFT	
39															DFT	
40															DFT	
41															DFT	
42															DFT	
43															DFT	
44															DFT	
45															DFT	
46															DFT	
47															DFT	
48															DFT	

P-76

Printed **3/4/2020**

C1-USER IO Map [1.8.9.1 In]

I1-1	1	veh 1
I1-2	2	veh 2
I1-3	3	veh 3
I1-4	4	veh 4
I1-5	5	veh 5
I1-6	6	veh 6
I1-7	7	
I1-8	8	
I2-1	9	
I2-2	10	
I2-3	11	veh 11
I2-4	12	veh 12
I2-5	13	veh 13
I2-6	14	veh 14
I2-7	15	veh 15
I2-8	16	veh 16
I3-1	17	
I3-2	18	
I3-3	19	
I3-4	20	
I3-5	21	
I3-6	22	
I3-7	23	
I3-8	24	
I4-1	C11S Connector	
I4-2		
I4-3		
I4-4		
I4-5		
I4-6		
I4-7		33xCMUStop
I4-8		33xFlashSns
I5-1	25	
I5-2	26	
I5-3	27	
I5-4	28	
I5-5		
I5-6		
I5-7		
I5-8		
I6-1		
I6-2		
I6-3		
I6-4		
I6-5		
I6-6		
I6-7		
I6-8		

C1-USER IO Map [1.8.9.2 Out]

O1-1	1	Ch1 Red
O1-2	49	Ch1 Green
O1-3	2	Ch2 Red
O1-4	26	Ch2 Yellow
O1-5	50	Ch2 Green
O1-6	3	Ch3 Red
O1-7	27	Ch3 Yellow
O1-8	51	Ch3 Green
O2-1	4	Ch4 Red
O2-2	52	Ch4 Green
O2-3	5	Ch5 Red
O2-4	29	Ch5 Yellow
O2-5	53	Ch5 Green
O2-6	6	Ch6 Red
O2-7	30	Ch6 Yellow
O2-8	54	Ch6 Green
O3-1	7	Ch7 Red
O3-2	55	Ch7 Green
O3-3	8	Ch8 Red
O3-4	32	Ch8 Yellow
O3-5	56	Ch8 Green
O3-6	9	Ch9 Red
O3-7	33	Ch9 Yellow
O3-8	57	Ch9 Green
O4-1	10	Ch10 Red
O4-2	58	Ch10 Green
O4-3	11	Ch11 Red
O4-4	35	Ch11 Yellow
O4-5	59	Ch11 Green
O4-6	12	Ch12 Red
O4-7	36	Ch12 Yellow
O4-8	60	Ch12 Green
O5-1	28	Ch4 Yellow
O5-2	34	Ch10 Yellow
O5-3	25	Ch1 Yellow
O5-4	31	Ch7 Yellow
O5-5	115	Not Used
O5-6	115	Not Used
O5-7	115	Not Used
O5-8	114	Watchdog
O6-1	115	Not Used
O6-2	115	Not Used
O6-3	13	Ch13 Red
O6-4	37	Ch13 Yellow
O6-5	61	Ch13 Green
O6-6	14	Ch14 Red
O6-7	38	Ch14 Yellow
O6-8	62	Ch14 Green

C1-USER IO Map [1.8.9.2 Out]

O7-1	115	Not Used
O7-2	115	Not Used
O7-3	115	Not Used
O7-4	115	Not Used
O7-5	115	Not Used
O7-6	115	Not Used
O7-7	115	Not Used
O7-8	115	Not Used

C11S-USER IO Map [1.8.9.1 In]

I4-1	189	Unused
I4-2	189	Unused
I4-3	189	Unused
I4-4	189	Unused
I7-1	189	Unused
I7-2	189	Unused
I7-3	189	Unused
I7-4	189	Unused
I7-5	189	Unused
I7-6	189	Unused
I7-7	189	Unused
I7-8	189	Unused
I8-1	189	Unused
I8-2	189	Unused
I8-3	189	Unused
I8-4	189	Unused
I8-5	189	Unused
I8-6	189	Unused
I8-7	189	Unused
I8-8	189	Unused

C11S-USER IO Map [1.8.9.2 Out]

O8-1	115	Not Used
O8-2	115	Not Used
O8-3	115	Not Used
O8-4	115	Not Used
O8-5	115	Not Used
O8-6	115	Not Used
O8-7	115	Not Used
O8-8	115	Not Used

IO Logic [1.8.7]

Result			Fcn	Oper		Fcn	Oper		Fcn Timer		
I	0	=	I	0	----	I	0	----	I	0	DLY 0
I	0	=	I	0	----	I	0	----	I	0	DLY 0
I	0	=	I	0	----	I	0	----	I	0	DLY 0
I	0	=	I	0	----	I	0	----	I	0	DLY 0
I	0	=	I	0	----	I	0	----	I	0	DLY 0
I	0	=	I	0	----	I	0	----	I	0	DLY 0
I	0	=	I	0	----	I	0	----	I	0	DLY 0
I	0	=	I	0	----	I	0	----	I	0	DLY 0
I	0	=	I	0	----	I	0	----	I	0	DLY 0
I	0	=	I	0	----	I	0	----	I	0	DLY 0

Security Access Levels [8.2]

1	SWLOAD
2	SECURE
3	NONE
4	NONE
5	NONE
6	NONE
7	NONE
8	NONE
9	NONE
10	NONE
11	NONE
12	NONE
13	NONE
14	NONE
15	NONE
16	NONE
17	NONE
18	NONE
19	NONE
20	NONE
21	NONE

22	NONE
23	NONE
24	NONE
25	NONE
26	NONE
27	NONE
28	NONE
29	NONE
30	NONE
31	NONE
32	NONE
33	NONE
34	NONE
35	NONE
36	NONE
37	NONE
38	NONE
39	NONE
40	NONE
41	NONE
42	NONE

43	NONE
44	NONE
45	NONE
46	NONE
47	NONE
48	NONE
49	NONE
50	NONE
51	NONE
52	NONE
53	NONE
54	NONE
55	NONE
56	NONE
57	NONE
58	NONE
59	NONE
60	NONE
61	NONE
62	NONE
63	NONE
64	NONE

Com Parameters [6.1]

Station ID	1
Group ID	
Master ID	0
Backup Time	900

SysUp Modem [6.1]

Enable Modem	OFF
Idle Time	15
Dial Time	5
Tel:	0,0-000-000-0000
Alt:	0,0-000-000-0000

2070 Port Parms [6.2]

Port	Baud Rate	FCM
SP1	9600	6
SP2	9600	6
SP3	19200	6
SP4	38400	6
SP5	1200	
SP6	1200	
SP7	1200	
SP8	1200	

2070 IP 1 Addressing [6.5]

	Addressing			
Addr				
Mask				
Brdcst				
GtWay				
Port				

2070 IP 2 Addressing [6.5]

	Addressing			
Addr				
Mask				
Brdcst				
GtWay				
Port				

2070 Port Binding Ports [6.6]

	Port	Echo	Mode
ASYNC1	SP1	NONE	
ASYNC2	SP2	NONE	
ASYNC3	SP3	NONE	
ASYNC4	SP4	NONE	
SYNC1	SP5S		
SYNC2	OFF		

2070 Port Binding Functions [6.6]

Function	Channel	Function	Channel
TS2/CVM	NONE	SYSUp	ASYNC2
CMU/MMU	NONE	SYSDown	ASYNC1
Opticom	NONE	Shell	NONE
Loop Det.	NONE		
GPS	NONE		

#	Event / Alarm	Ev	Alr
1	Power Up Alarm.	1	
2	Stop Timing	1	1
3	TS1 Cabinet Door		
4	Coordination Failure	1	1
5	External Alarm # 1	1	1
6	External Alarm # 2	1	1
7	External Alarm # 3		
8	External Alarm # 4		
9	Closed Loop Disabled	1	
10	External Alarm # 5		
11	External Alarm # 6		
12	Manual Control Enable	1	1
13	Coord Free Input		
14	Local Flash Input	1	1
15	MMU Flash		
16	CMU Flash		
17	Cycle Fault	1	
18	Cycle Failure	1	
19	Coordination Fault	1	
20	Controller Fault	1	1
21	Detector SDLC Failure		
22	MMU SDLC Failure		
23	Critical SDLC Failure		
24	Reserved		
25	EEPROM CRC Fault	1	
26	Detector Diagnostic Failure		1
27	BIU Detector Failure	1	
28	Queue detector alarm	1	
29	Ped Detector Fault	1	1
30	Coord Diagnostic Fault		1
41	TempAlert Probe Ch. A		
42	TempAlert Probe Ch. B		
47	Coord Active		
48	Preempt Active	1	
49	Preempt 1 Input	1	
50	Preempt 2 Input	1	
51	Preempt 3 Input	1	
52	Preempt 4 Input	1	
53	Preempt 5 Input	1	
54	Preempt 6 Input	1	
55	Preempt 7 Input	1	
56	Preempt 8 Input	1	
57	Preempt 9 Input	1	
58	Preempt 10 Input	1	
61	In Transition	1	
81	FIO Status Alarm		

Call Phases[1.1.5]

Ø	Phases Called By Ø
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

Redirect Phases[1.1.5]

	From	To	From	To	From	To	From	To
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

Inhibit Phases[1.1.5]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																

Alt Call & Redirect # 1 [1.1.6.3]

Col	Ø	Phases Called By Ø
1		
2		
3		
4		
5		
6		
7		
8		

	From	To	From	To	From	To	From	To
1								
2								
3								
4								
5								
6								
7								
8								

Alt Inhibit Phases # 1 [1.1.6.3]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
6																
7																
8																

Alt Call & Redirect # 2 [1.1.6.3]

Col	Ø	Phases Called By Ø
1		
2		
3		
4		
5		
6		
7		
8		

	From	To	From	To	From	To	From	To
1								
2								
3								
4								
5								
6								
7								
8								

Alt Inhibit Phases # 2 [1.1.6.3]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
6																
7																
8																

Coord, CIC Plans [2.3]

CIC	CoØ	Grow	1	2	3	4	5	6	7	8
1	OFF									
2	OFF									
3	OFF									
4	OFF									

Auto Flash Phase/Olap Settings [1.4.2]

Yel Ø								
Yel (olaps)								

Unit Parameters [1.2.1]

Allow Skip Yellow	OFF	Max Cycle Time	0
TOD Dim Enable	OFF	Cycle Fault Action	ALARM
Tone Disable	OFF		
Diamond Mode	4Ph		
Backup Time (s)	900		
Disable Init Ped	OFF		
Cycle Fault Action	ALARM		
Enable Run Timer	ON		

Advanced Warning [1,1,9]

	Phase	Time
Aux Out 1	0	0
Aux Out 2	0	0

ATTACHMENT C

Queuing Analysis

DTS • PROVIDENT
Intelligent Land Use

TABLE NO. C-6

PEAK HOUR 95TH-PERCENTILE QUEUE SUMMARY TABLE

INTERSECTION	STORAGE LENGTH (FEET)	PEAK AM HOUR (7:30 - 8:30 AM)				PEAK PM HOUR (5:15 - 6:15 PM)				PEAK SAT HOUR (1:30 - 2:30 PM)			
		2021 EXISTING QUEUE (ft)	2023 NO-BUILD QUEUE (ft)	2023 BUILD QUEUE (ft)	2023 BUILD W/ QUEUE (ft)	2021 EXISTING QUEUE (ft)	2023 NO-BUILD QUEUE (ft)	2023 BUILD QUEUE (ft)	2023 BUILD W/ QUEUE (ft)	2021 EXISTING QUEUE (ft)	2023 NO-BUILD QUEUE (ft)	2023 BUILD QUEUE (ft)	2023 BUILD W/ QUEUE (ft)
US ROUTE 6 & NYS ROUTE 312													
NB-L	130	10	10	10	N/A	0	0	0	0	16	16	16	19
NB-T	975	207	234	234		252	266	266	309	219	226	230	306
NB-R	270	55	56	56		57	59	60	64	57	58	60	70
SB-L	390	583	692	716		670	853	965	780	746	900	1,052	1,077
SB-TR	735	125	133	133		99	103	103	72	125	125	130	118
EB-LTR	100	47	49	49		37	37	38	34	73	75	74	82
WB-LT	200	263	281	281		170	182	185	197	215	225	238	254
WB-R	1,880	146	241	244		527	877	898	814	297	438	568	643
NYS ROUTE 312 & PUGSLEY ROAD (ALTERNATIVE A)													
SB-LR/L	4,100	8	39	42	N/A	5	52	63	69	8	15	73	70
SB-R	100	0	19	21		0	22	28	28	0	8	37	33
EB-L	115	0	8	12		0	6	93	49	0	3	113	90
EB-LT/T	1,250	0	88	90		0	133	133	98	0	104	120	94
WB-TR/R	850	0	480	490		0	621	621	447	0	386	446	376
WB-R	850	0	0	0		0	0	0	0	0	0	0	0
NYS ROUTE 312 & PUGSLEY ROAD (ALTERNATIVE B)													
SB-LR	4,100	8	10	26	N/A	5	53	64	N/A	8	13	69	N/A
EB-L	115	0	6	8		0	5	25		0	3	21	
EB-LT/T	1,250	0	72	72		0	146	156		0	106	124	
WB-TR	850	0	211	218		0	251	319		0	195	262	
NYS ROUTE 312 & INTERSTATE 84 EASTBOUND RAMPS/INDEPENDENT WAY													
NB-L	310	136	143	143	N/A	205	247	247	N/A	325	347	347	347
NB-T	310	118	125	125		159	182	182		289	926	312	312
NB-R	310	30	34	35		136	138	139		44	809	94	83
SB-L	250	277	290	290		154	160	160		116	471	129	129
SB-T	1,250	243	248	248		150	152	152		313	523	323	323
SB-R	250	215	312	325		85	126	175		78	652	184	174
EB-L	260	145	163	164		137	178	187		275	313	402	345
EB-T	320	541	645	649		911	1,116	1,148		410	460	646	705
EB-R	260	37	38	38		51	72	76		286	310	310	344
WB-L	350	164	145	141		202	184	162		500	518	518	460
WB-TR	1,280	340	472	485		339	385	470		381	435	576	635
NYS ROUTE 312 & INTERSTATE 84 WESTBOUND RAMPS													
SB-L	115	88	91	91	N/A	80	84	84	120	43	49	49	77
SB-R	1,190	173	230	242		226	274	393	444	303	343	425	555
EB-L	310	60	71	72		469	524	568	507	152	178	224	242
EB-T	1,280	225	245	245		276	272	272	219	127	144	159	129
WB-T	400	410	458	467		391	433	473	552	413	448	486	625
WB-R	250	6	7	7		16	21	22	22	14	18	22	20
FAIR STREET & FIELDS CORNER ROAD													
NB-LTR	590	3	3	3	N/A	3	5	5	N/A	0	0	3	N/A
EB-LTR	275	0	0	0		0	0	0		0	0	0	
WB-LTR	200	0	0	0		0	0	0		0	0	0	

ATTACHMENT D

Adjacent Development Trip Generation/Traffic Volume Figures

TABLE III.B-3A

OTHER DEVELOPMENT VOLUMES

DESCRIPTION	PEAK WEEKDAY AM HOUR			PEAK WEEKDAY PM HOUR			PEAK SATURDAY HOUR		
	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
A. Barrett Hill (Mount Ebo Lot 6) 168 Dwelling Unit Apartments (ITE Code 220)[1]	17	69	86	72	38	110	44	44	88
B. Prospect Hill Office Park 20,000 Square Feet Office (ITE Code 710)[2]	47	6	53	17	84	101	5	4	9
C. Crossroads 312 Multi-Use Development[4]	124	80	204	399	432	831	617	572	1,189

Notes:

(1) Barrett Hill (Mount Ebo Lot 6) dwelling units are based on a "Limited Traffic Access & Impact Study", dated May 2016, prepared by Frederick P. Clark Associates, Inc. Trip Generation for Barrett Hill is based on ITE (Institute of Transportation Engineers) Trip Generation Manual, 9th Edition. Apartments (ITE Code 220) is defined by ITE as rental dwelling units located within the same building with at least three other dewelling units. Development volumes for Apartments are based on the trip generation equations provided by ITE.
AM: *T = 0.49(X) + 3.73* **PM**: *T = 0.55(X) + 17.65* **Saturday**: *T = 0.41(X) + 19.23*

(2) Prospect Hill Office Park square footage is based on a letter dated 02/08/2005, prepared by John Collins Engineers, P.C. Trip generation for Prospect Hill Office Park is based on ITE Trip Generation Manual, 9th Edition. General Office Building (ITE Code 710) is defined by ITE as an office building or buildings containing a mixture of tenants where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. Development volumes for General Office Building is based on the trip generation equations provided by ITE for the Peak Weekday AM & PM hours and is based on the trip generation average rate provided for the Peak Saturday Hour.
AM: *Ln(T) = 0.80Ln(X) + 1.57* **PM**: *T = 1.12(X) + 78.45* **Saturday**: *0.43/1,000 SF*

(3) Crossroads 312 development volumes are based on "Traffic Exhibits" within a "Final Environmental Impact Study", dated 12/01/2014, prepared by Frederick P. Clark Associates, Inc.

Terravest Senior Housing
Trip Generation Table

Trip Generation Calculations (10th Edition)

ITE Land Use	252	Senior Adult Housing - Attached
Setting/Location	General Urban/Suburban	
Size of Development	60	Dwelling Units
		Occupied Dwelling Units

Time Period	Average Rate	No. of Studies	Directional Distribution Enter	Exit	R^2	Average Trips Total	Enter	Exit	Equation	Equation Trips Total	Enter	Exit	
Weekday	3.70	6	50%	50%	0.99	222	111	111	T = 4.02 (X) + -25.37	216	108	108	
Weekday Peak Hour between 7-9AM	0.20	11	34%	65%	0.98	12	4	8	T = 0.20 (X) + -0.18	12	4	8	
Weekday Peak Hour between 4-6PM	0.26	11	55%	45%	0.96	16	9	7	T = 0.24 (X) + 2.26	17	9	8	
Weekday Peak AM Hour of Generator	0.33	11	47%	53%	0.59	20	9	11	T = 0.29 (X) + 4.09	21	10	11	
Weekday Peak PM Hour of Generator	0.31	10	53%	47%	0.78	19	10	9	T = 0.36 (X) + -4.50	17	9	8	Per Dwelling Unit
Saturday	3.23	6	50%	50%	0.99	194	97	97	T = 3.97 (X) + -60.09	178	89	89	
Saturday Peak Hour of Generator	0.33	7	62%	38%	0.99	20	12	8	T = 0.35 (X) + -1.67	19	12	7	
Sunday	3.14	6	50%	50%	0.99	188	94	94	T = 3.50 (X) + -29.08	181	91	90	
Sunday Peak Hour of Generator	0.36	6	64%	36%	0.95	22	14	8	T = 0.30 (X) + 5.02	23	15	8	

Time Period	Average Rate	No. of Studies	Directional Distribution Enter	Exit	R^2	Average Trips Total	Enter	Exit	Equation	Equation Trips Total	Enter	Exit	
Weekday	3.44	5	50%	50%	0.81	0	0	0	T = 2.98 (X) + 21.05	21	11	10	
Weekday Peak Hour between 7-9AM	0.19	9	35%	65%	0.98	0	0	0	T = 0.20 (X) + -1.66	-2	-1	-1	
Weekday Peak Hour between 4-6PM	0.23	9	60%	40%	0.98	0	0	0	T = 0.24 (X) + -2.11	-2	-1	-1	
Weekday Peak AM Hour of Generator	0.39	5	Not Given (Used 50/50)		0.62	0	0	0	T = 0.27 (X) + 5.61	6	3	3	
Weekday Peak PM Hour of Generator	0.31	5	Not Given (Used 50/50)		0.65	0	0	0	T = 0.21 (X) + 4.58	5	3	2	Per Occupied Dwelling Unit
Saturday	2.61	5	50%	50%	0.67	0	0	0	T = 2.12 (X) + 22.30	22	11	11	
Saturday Peak Hour of Generator	0.31	5	Not Given (Used 50/50)		0.77	0	0	0	T = 0.26 (X) + 2.45	2	1	1	
Sunday	2.84	5	50%	50%	0.75	0	0	0	T = 2.29 (X) + 25.07	25	13	12	
Sunday Peak Hour of Generator	0.41	5	Not Given (Used 50/50)		0.63	0	0	0	T = 0.48 (X) + -2.76	-3	-2	-1	

Commercial Campus at Fields Corner
Trip Generation Table

TABLE 4-1S

PROJECTED PROJECT GENERATED HOURLY VOLUMES COMPARISON

Data Source[1]	Land Use[1]	DEIS					FEIS					Reduction [Volume / Percentage]				
		1,124,575 S.F.					933,100 S.F.					(191,475 S.F.) / (17.0%)				
		Project Generation During Peak Hour of NY 312		Peak Hour of Project Generation			Project Generation During Peak Hour of NY 312		Peak Hour of Project Generation			Project Generation During Peak Hour of NY 312		Peak Hour of Project Generation		
		Peak Weekday AM Hour[5] (7:30-8:30 AM)	Peak Weekday PM Hour[6] (5:00-6:00 PM)	Sensitivity Analysis Peak Weekday AM Hour[7][9]	Sensitivity Analysis Peak Weekday PM Hour[8][9]	Peak Saturday Midday Hour[10]	Peak Weekday AM Hour[5] (7:30-8:30 AM)	Peak Weekday PM Hour[6] (5:00-6:00 PM)	Sensitivity Analysis Peak Weekday AM Hour[7][9]	Sensitivity Analysis Peak Weekday PM Hour[8][9]	Peak Saturday Midday Hour[10]	Peak Weekday AM Hour[5] (7:30-8:30 AM)	Peak Weekday PM Hour[6] (5:00-6:00 PM)	Sensitivity Analysis Peak Weekday AM Hour[7][9]	Sensitivity Analysis Peak Weekday PM Hour[8][9]	Peak Saturday Midday Hour[10]
ITE 9th Edition (2012)	Warehouses[2] (ITE Code 150)	337	360	472	506	146	280	299	364	426	121	(57) / (16.9)	(61) / (16.9)	(108) / (22.9)	(80) / (15.8)	(25) / (17.1)
ITE 10th Edition (2017)	Warehouses[2] (ITE Code 150)	-	-	-	-	-	159	177	205	224	47	(178) / (52.8)	(183) / (50.8)	(267) / (56.6)	(282) / (55.7)	(99) / (67.8)
ITE 10th Edition (2017)	High-Cube Warehouse[3] (ITE Code 154)	-	-	-	-	-	75	93	112	149	112	(262) / (77.7)	(267) / (74.2)	(360) / (76.3)	(357) / (70.6)	(34) / (23.3)
Gap/Matrix Facilities Composite[4]	-	-	-	-	-	-	52	24	117	237	-	(285) / (84.6)	(336) / (93.3)	(355) / (75.2)	(269) / (53.2)	-
Average		**-**	**-**	**-**	**-**	**-**	**142**	**148**	**200**	**259**	**93**	**(195) / (57.9)**	**(212) / (58.9)**	**(272) / (57.6)**	**(247) / (48.8)**	**(53) / (36.3)**

Notes:
(1) Institute of Transportation Engineers has been abbreviated to ITE.
(2) Warehouses (ITE Code 150) is defined by ITE as facilities primarily devoted to the storage of materials, but may also include office and maintenance area.
(3) High-Cube Warehouse (ITE Code 154) is defined by ITE as a building that typically has at least 200,000 gross square feet of floor area, has ceiling height of 24 feet or more, and is used primarily for the storage and/or consolidation of manufactured goods prior to their distribution.
(4) The Gap/Matrix Facilities Composite is based upon the factored volumes of Gap Distribution Center and Matrix at Business Park that were averaged to provide a typical facility representation.
(5) The number of vehicle trips during this peak hour was calculated utilizing ITE data for a weekday during the peak hour of adjacent street traffic (one hour between 7:00 and 9:00 AM). This study analyzes the peak weekday AM hour of 7:30 - 8:30 AM.
(6) The number of vehicle trips during this peak hour was calculated utilizing ITE data for a weekday during the peak hour of adjacent street traffic (one hour between 4:00 and 6:00 PM). This study analyzes the peak weekday PM hour of 5:00 - 6:00 PM.
(7) The number of vehicle trips during the Sensitivity Analysis AM peak hour was calculated utilizing ITE data for a weekday during the AM peak hour of the generator.
(8) The number of vehicle trips during the Sensitivity Analysis PM peak hour was calculated utilizing ITE data for a weekday during the PM peak hour of the generator.
(9) The Sensitivity Analysis condition has been shown and analyzed to represent if the shift changes (peak hour of the generator) occur during the peak hour of adjacent street traffic, which is extremely conservative.
(10) The number of vehicle trips during this peak hour was calculated utilizing ITE data for a Saturday during the peak hour of the generator. This study analyzes the peak Saturday Midday hour of 12:15 - 1:15 PM, which is likely conservative.

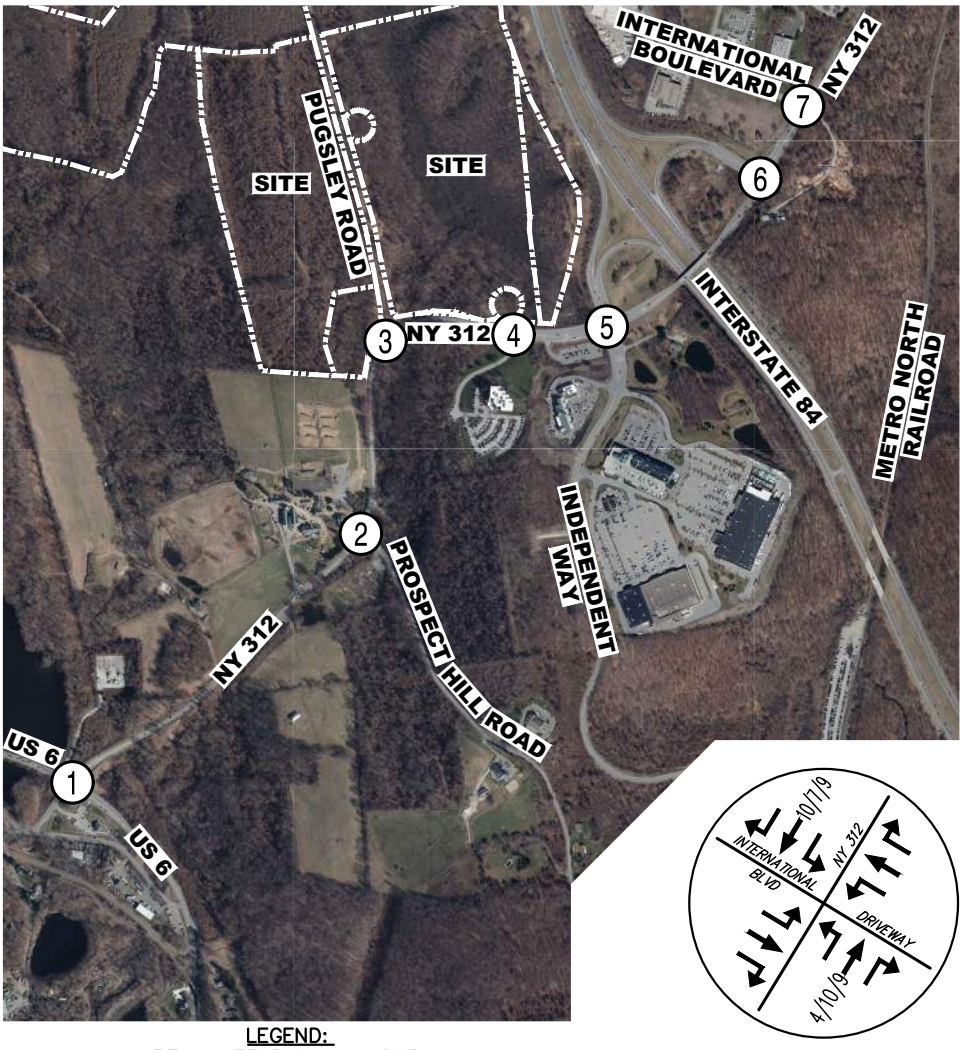
Table 1
SITE TRAFFIC GENERATION – PEAK HOURS OF THE ADJACENT ROADS
Proposed Expansion Ace Endico
80 International Boulevard
Southeast, New York

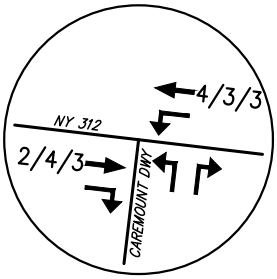
LAND USE	SIZE	TRAFFIC DIRECTION	VEHICLE TRIP ENDS					
			Weekday Morning			Weekday Afternoon		
			Auto	Truck	Total	Auto	Truck	Total
Existing Site Traffic[1]	175,775 S.F.	Enter	56	7	63	31	27	58
		Exit	15	5	20	103	14	117
		Total	71	12	83	134	41	175
Proposed Expansion Site Traffic[2]	176,600 S.F.	Enter	17	4	21	10	14	24
		Exit	5	3	8	31	7	38
		Total	22	7	29	41	21	62
Total Site Traffic (1+2)	352,375 S.F.	Enter	73	11	84	41	41	82
		Exit	20	8	28	134	21	155
		Total	93	19	112	175	62	237

Sources: Manual turning movement counts conducted by Frederick P. Clark Associates/Hardesty & Hanover, LLC on Tuesday, September 22, 2020.

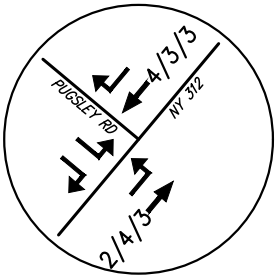
Notes: Proposed site generation traffic is based on a proposed 30 percent increase in office personnel and a proposed 50 percent increase, from 100 to 150, to the truck fleet, as provided by the client.

Frederick P. Clark Associates/Hardesty & Hanover, LLC
Y:\Shared\Projects\04969-Office Expansion 80 Int Blvd\500-Technical\50X-Template\Word\aew20-001.njr.docx
10/21/2020

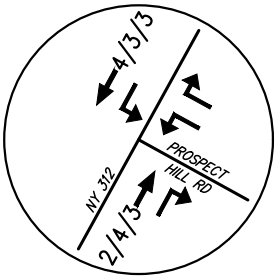




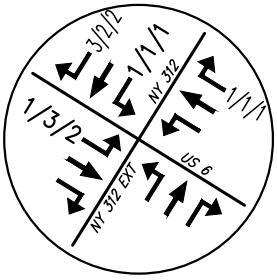
4 **NY 312 & CAREMOUNT DRIVEWAY**



3 **NY 312 & PUGSLEY ROAD**



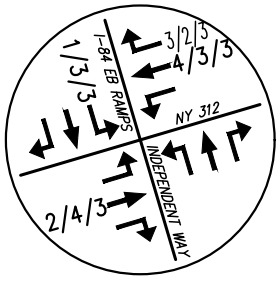
2 **NY 312 & PROSPECT HILL ROAD**



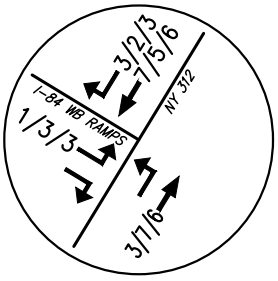
1 **US 6 & NY 312 /NY 312 EXTENSION**

LEGEND:
PEAK WEEKDAY AM HOUR
/PEAK WEEKDAY PM HOUR
/PEAK SATURDAY MIDDAY HOUR

7 **NY 312 & INTERNATIONAL BOULEVARD /DRIVEWAY**



5 **NY 312 & INTERSTATE 84 EASTBOUND RAMPS /INDEPENDENT WAY**



6 **NY 312 & INTERSTATE 84 WESTBOUND RAMPS**

COMMERCIAL CAMPUS AT FIELDS CORNER

NY 312 & PUGSLEY ROAD — TOWN OF SOUTHEAST, NEW YORK

OTHER DEVELOPMENT VOLUMES

BARRETT HILL (MOUNT EBO LOT 6)

REVISED: 04/2018
DATE: 11/06/2017 REVISED: 03/2019 — JMC PROJECT: 14012

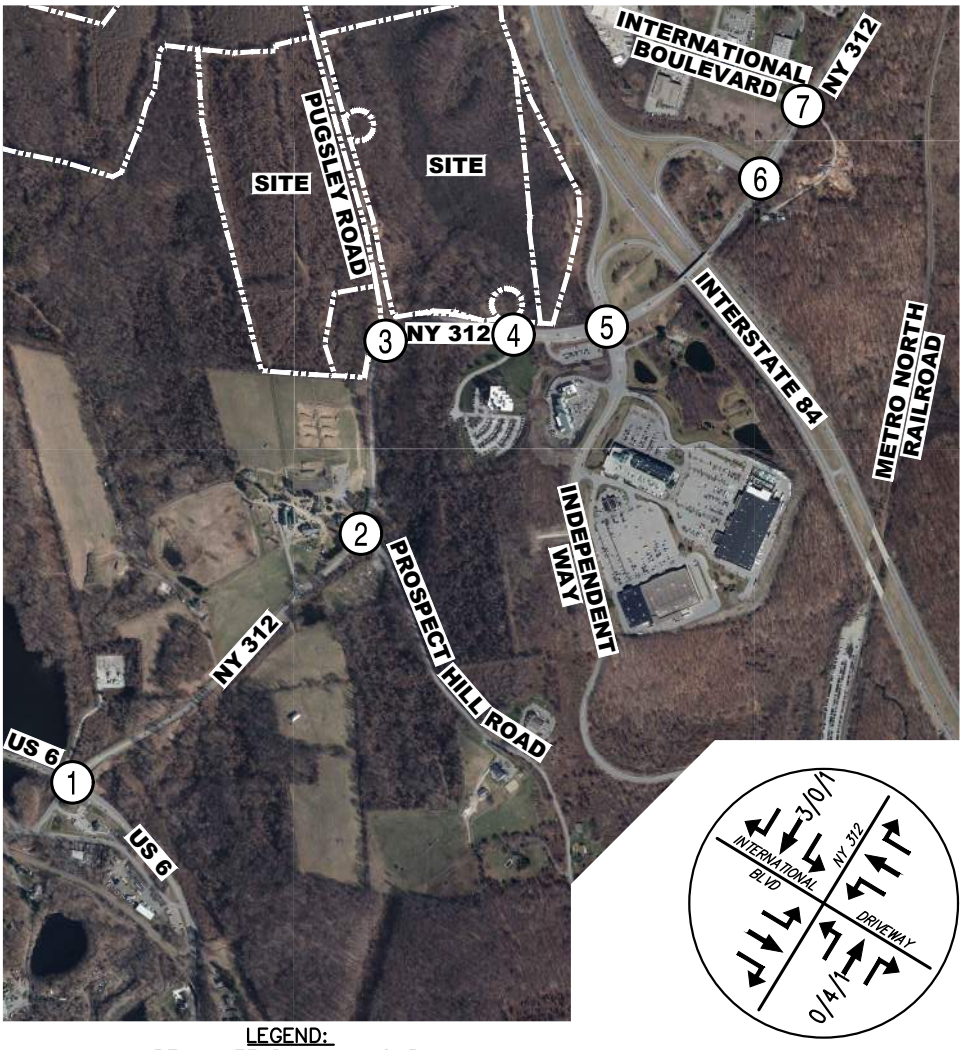
FIGURE: 07 — SCALE: 1" = 1,250'

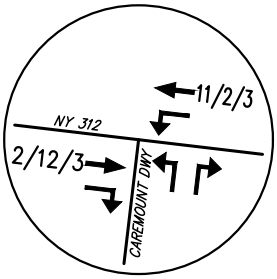
120 BEDFORD RD
ARMONK
NY 10504

(914) 273-5225
fax 273-2102

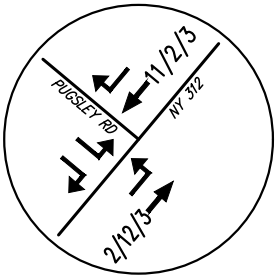
JMCPLLC.COM

COPYRIGHT © 2019 by JMC All Rights Reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of JMC PLANNING, ENGINEERING, LANDSCAPE ARCHITECTURE & LAND SURVEYING, PLLC | JMC SITE DEVELOPMENT CONSULTANTS, LLC | JOHN MEYER CONSULTING, INC. (JMC). Any modifications or alterations to this document without the written permission of JMC shall render them invalid and unusable.

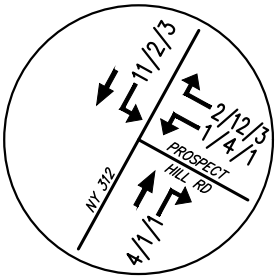




4 NY 312 & CAREMOUNT DRIVEWAY



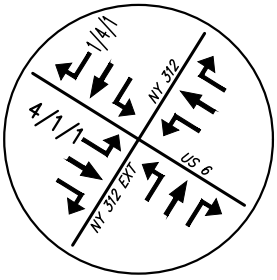
3 NY 312 & PUGSLEY ROAD



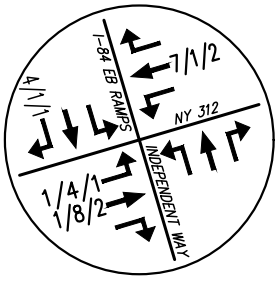
2 NY 312 & PROSPECT HILL ROAD

LEGEND:
PEAK WEEKDAY AM HOUR
/PEAK WEEKDAY PM HOUR
/PEAK SATURDAY MIDDAY HOUR

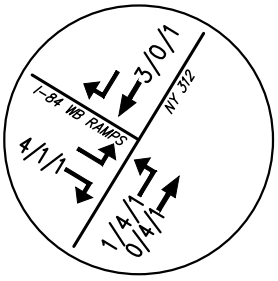
7 NY 312 & INTERNATIONAL BOULEVARD /DRIVEWAY



1 US 6 & NY 312 /NY 312 EXTENSION



5 NY 312 & INTERSTATE 84 EASTBOUND RAMPS /INDEPENDENT WAY



6 NY 312 & INTERSTATE 84 WESTBOUND RAMPS

COMMERCIAL CAMPUS AT FIELDS CORNER

NY 312 & PUGSLEY ROAD — TOWN OF SOUTHEAST, NEW YORK

OTHER DEVELOPMENT VOLUMES

PROSPECT HILL OFFICE PARK

REVISED: 04/2018
DATE: 11/06/2017 REVISED: 03/2019 — JMC PROJECT: 14012

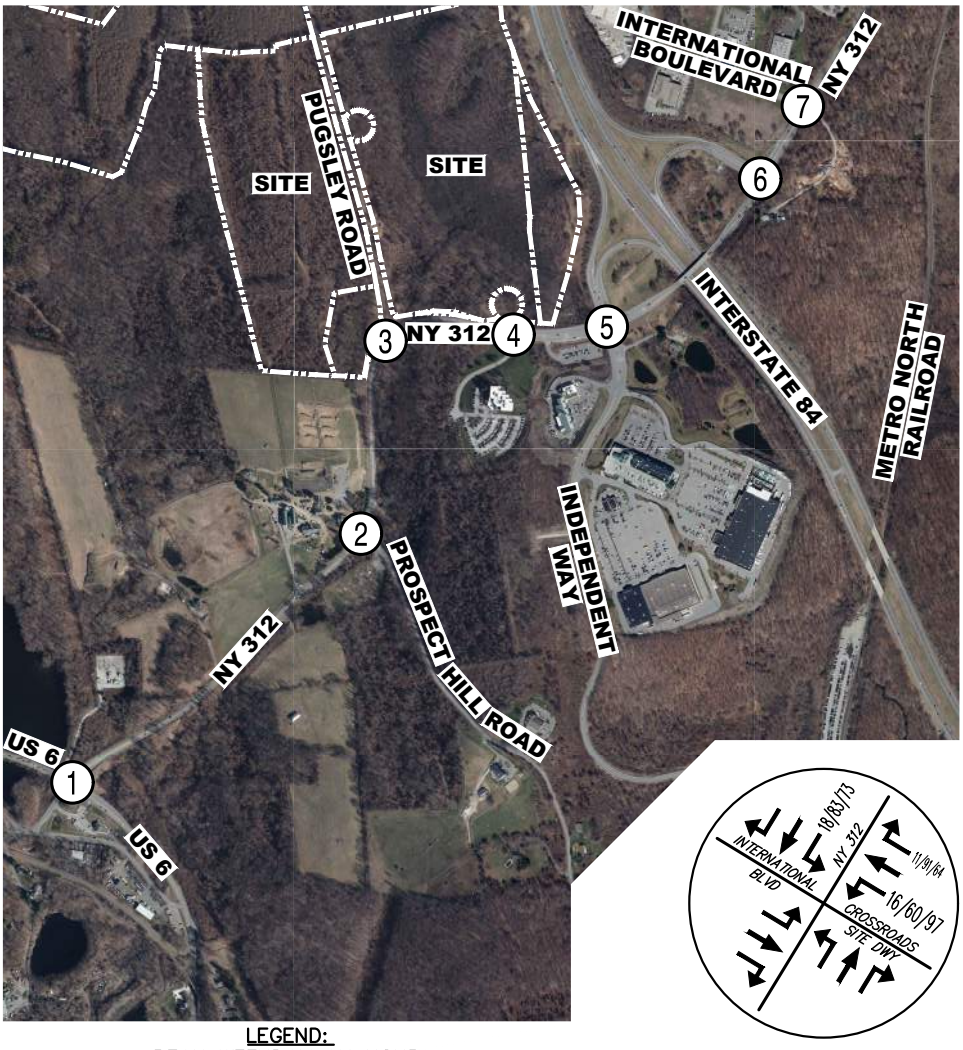
FIGURE: 08 — SCALE: 1" = 1,250'

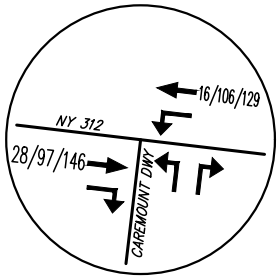
120 BEDFORD RD
ARMONK
NY 10504

(914) 273-5225
fax 273-2102

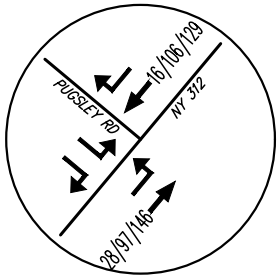
JMCPLLC.COM

COPYRIGHT © 2019 by JMC All Rights Reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of JMC PLANNING, ENGINEERING, LANDSCAPE ARCHITECTURE & LAND SURVEYING, PLLC | JMC SITE DEVELOPMENT CONSULTANTS, LLC | JOHN MEYER CONSULTING, INC. (JMC). Any modifications or alterations to this document without the written permission of JMC shall render them invalid and unusable.

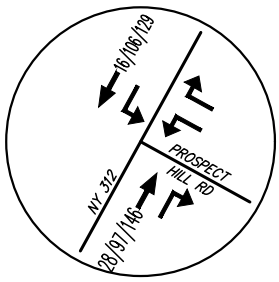




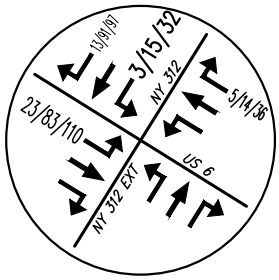
4 NY 312 & CAREMOUNT DRIVEWAY



3 NY 312 & PUGSLEY ROAD



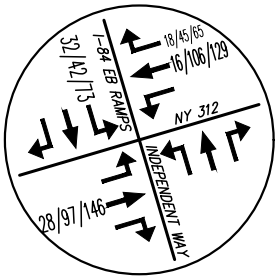
2 NY 312 & PROSPECT HILL ROAD



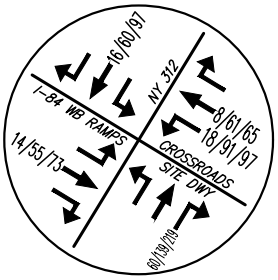
1 US 6 & NY 312 /NY 312 EXTENSION

LEGEND:
PEAK WEEKDAY AM HOUR
/PEAK WEEKDAY PM HOUR
/PEAK SATURDAY MIDDAY HOUR

7 NY 312 & INTERNATIONAL BOULEVARD /CROSSROADS 312 DRIVEWAY



5 NY 312 & INTERSTATE 84 EASTBOUND RAMPS /INDEPENDENT WAY



6 NY 312 & INTERSTATE 84 WESTBOUND RAMPS /CROSSROADS 312 DRIVEWAY

COMMERCIAL CAMPUS AT FIELDS CORNER

NY 312 & PUGSLEY ROAD — TOWN OF SOUTHEAST, NEW YORK

OTHER DEVELOPMENT VOLUMES

CROSSROADS 312 PRIMARY VOLUMES

REVISED: 04/2018
DATE: 11/06/2017 REVISED: 03/2019 — JMC PROJECT: 14012

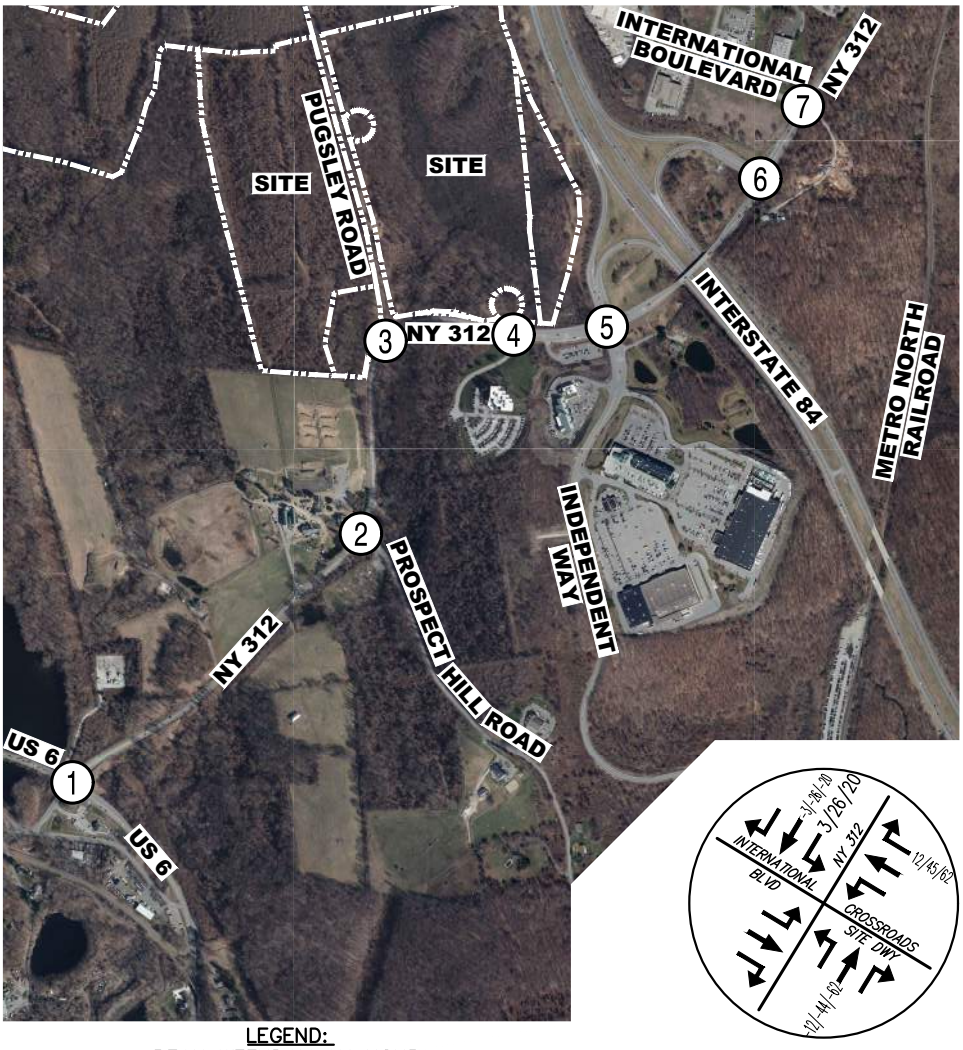
FIGURE: 09 — SCALE: 1" = 1,250'

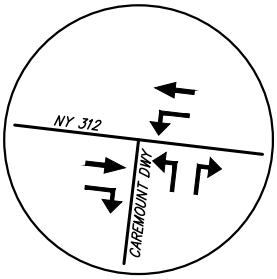
120 BEDFORD RD
ARMONK
NY 10504

(914) 273-5225
fax 273-2102

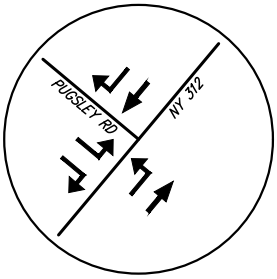
JMCPLLC.COM

COPYRIGHT © 2019 by JMC All Rights Reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of JMC PLANNING, ENGINEERING, LANDSCAPE ARCHITECTURE & LAND SURVEYING, PLLC | JMC SITE DEVELOPMENT CONSULTANTS, LLC | JOHN MEYER CONSULTING, INC. (JMC). Any modifications or alterations to this document without the written permission of JMC shall render them invalid and unusable.

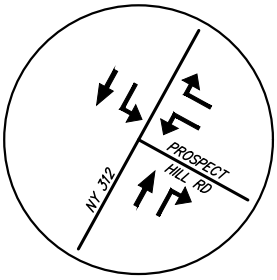




4 NY 312 & CAREMOUNT DRIVEWAY



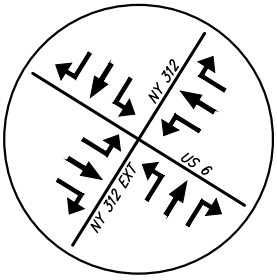
3 NY 312 & PUGSLEY ROAD



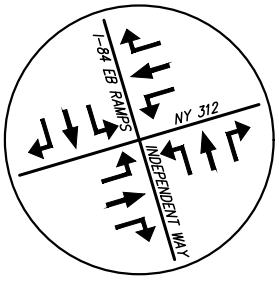
2 NY 312 & PROSPECT HILL ROAD

LEGEND:
PEAK WEEKDAY AM HOUR
/PEAK WEEKDAY PM HOUR
/PEAK SATURDAY MIDDAY HOUR

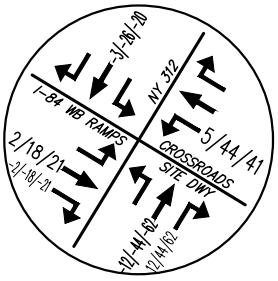
7 NY 312 & INTERNATIONAL BOULEVARD /CROSSROADS 312 DRIVEWAY



1 US 6 & NY 312 /NY 312 EXTENSION



5 NY 312 & INTERSTATE 84 EASTBOUND RAMPS /INDEPENDENT WAY



6 NY 312 & INTERSTATE 84 WESTBOUND RAMPS /CROSSROADS 312 DRIVEWAY

COMMERCIAL CAMPUS AT FIELDS CORNER

NY 312 & PUGSLEY ROAD — TOWN OF SOUTHEAST, NEW YORK

OTHER DEVELOPMENT VOLUMES

CROSSROADS 312 PASS-BY VOLUMES

REVISED: 04/2018
DATE: 11/06/2017 REVISED: 03/2019 — JMC PROJECT: 14012

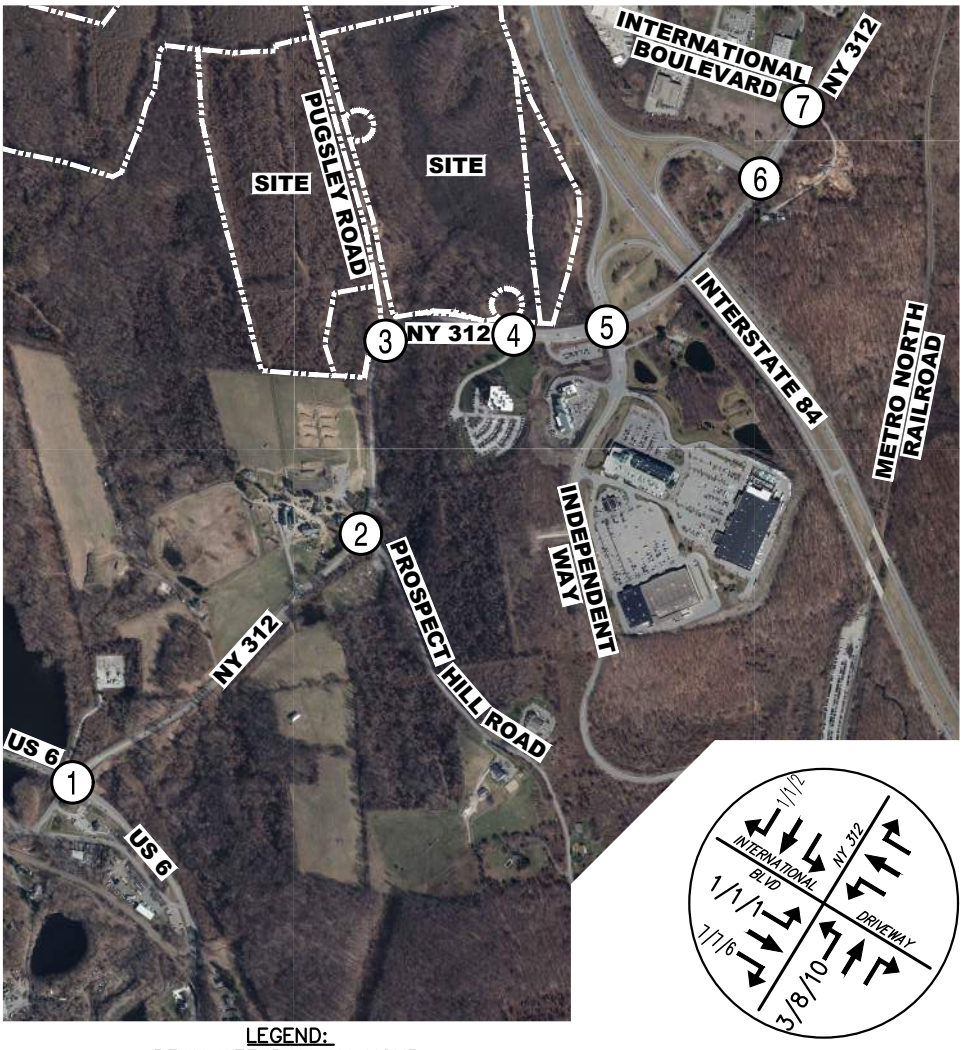
FIGURE: 10 — SCALE: 1" = 1,250'

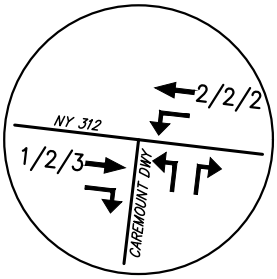
120 BEDFORD RD
ARMONK
NY 10504

(914) 273-5225
fax 273-2102

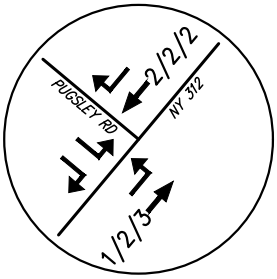
JMCPLLC.COM

COPYRIGHT © 2019 by JMC All Rights Reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of JMC PLANNING, ENGINEERING, LANDSCAPE ARCHITECTURE & LAND SURVEYING, PLLC | JMC SITE DEVELOPMENT CONSULTANTS, LLC | JOHN MEYER CONSULTING, INC. (JMC). Any modifications or alterations to this document without the written permission of JMC shall render them invalid and unusable.

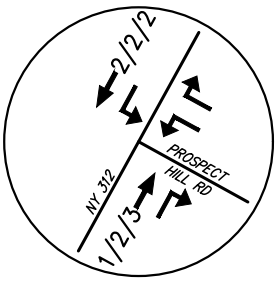




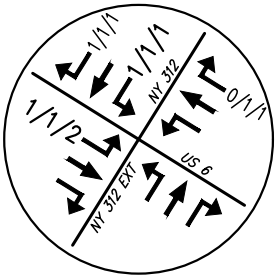
4 NY 312 & CAREMOUNT DRIVEWAY



3 NY 312 & PUGSLEY ROAD



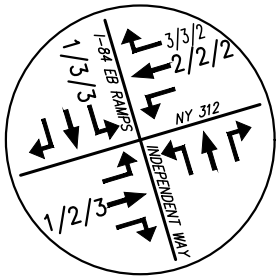
2 NY 312 & PROSPECT HILL ROAD



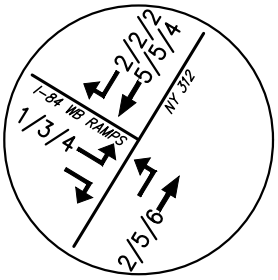
1 US 6 & NY 312 /NY 312 EXTENSION

LEGEND:
PEAK WEEKDAY AM HOUR
/PEAK WEEKDAY PM HOUR
/PEAK SATURDAY MIDDAY HOUR

7 NY 312 & INTERNATIONAL BOULEVARD /DRIVEWAY



5 NY 312 & INTERSTATE 84 EASTBOUND RAMPS /INDEPENDENT WAY



6 NY 312 & INTERSTATE 84 WESTBOUND RAMPS

COMMERCIAL CAMPUS AT FIELDS CORNER

NY 312 & PUGSLEY ROAD — TOWN OF SOUTHEAST, NEW YORK

OTHER DEVELOPMENT VOLUMES

TERRAVEST SENIOR HOUSING

REVISED: 04/2018
DATE: 11/06/2017 REVISED: 03/2019 — JMC PROJECT: 14012

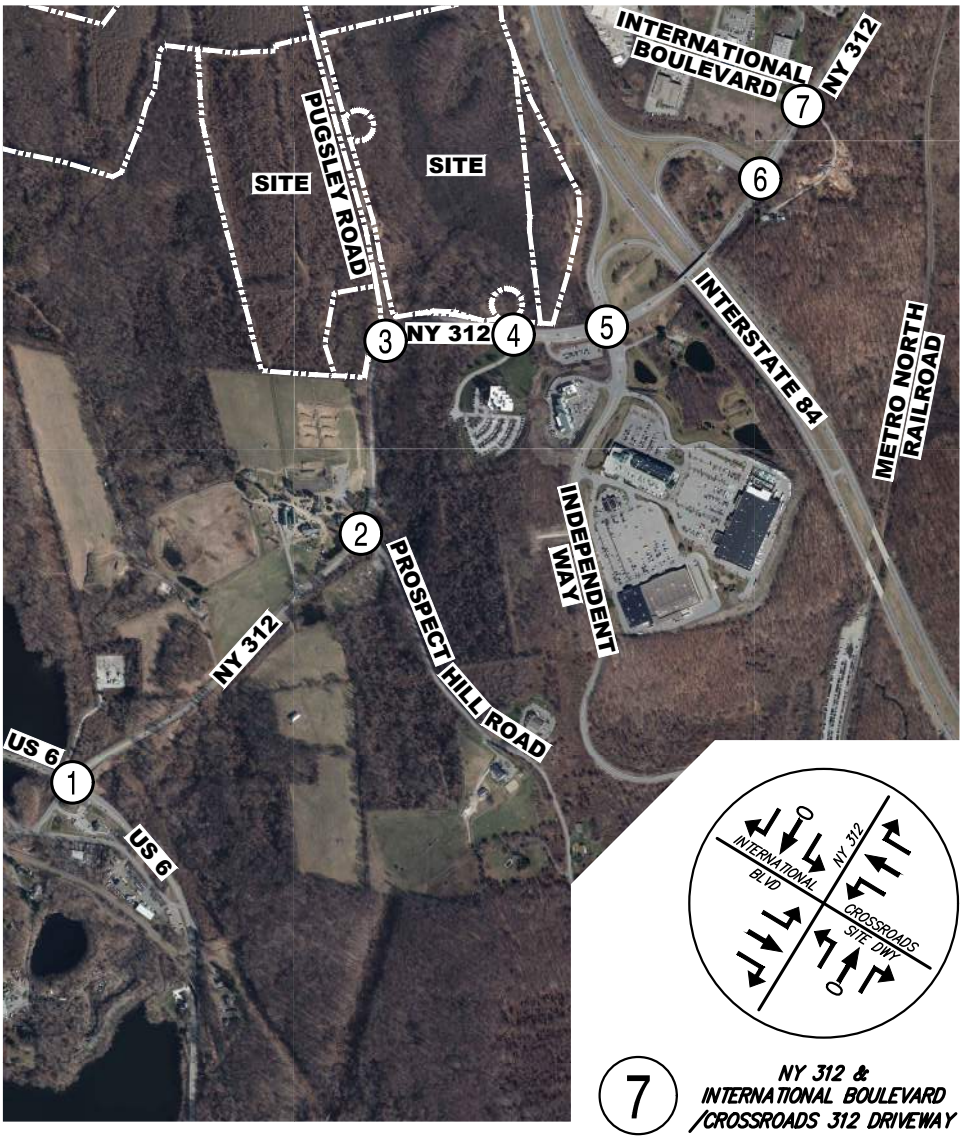
FIGURE: 12 — SCALE: 1" = 1,250'

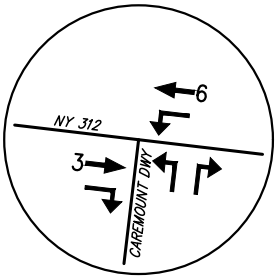
120 BEDFORD RD
ARMONK
NY 10504

(914) 273-5225
fax 273-2102

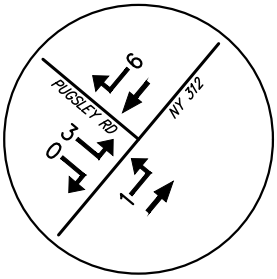
JMCPLLC.COM

COPYRIGHT © 2019 by JMC All Rights Reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of JMC PLANNING, ENGINEERING, LANDSCAPE ARCHITECTURE & LAND SURVEYING, PLLC | JMC SITE DEVELOPMENT CONSULTANTS, LLC | JOHN MEYER CONSULTING, INC. (JMC). Any modifications or alterations to this document without the written permission of JMC shall render them invalid and unusable.

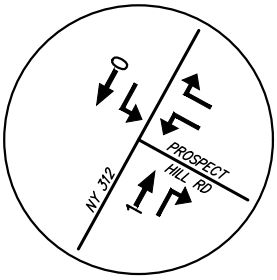




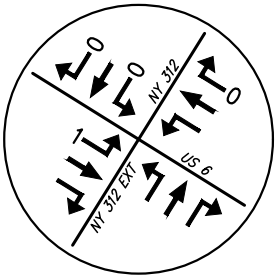
4 NY 312 & CAREMOUNT DRIVEWAY



3 NY 312 & PUGSLEY ROAD

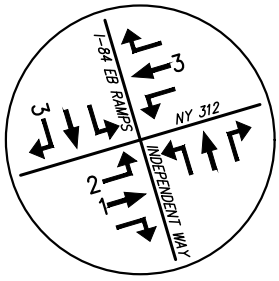


2 NY 312 & PROSPECT HILL ROAD

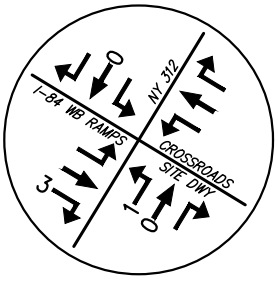


1 US 6 & NY 312 /NY 312 EXTENSION

7 NY 312 & INTERNATIONAL BOULEVARD /CROSSROADS 312 DRIVEWAY



5 NY 312 & INTERSTATE 84 EASTBOUND RAMPS /INDEPENDENT WAY



6 NY 312 & INTERSTATE 84 WESTBOUND RAMPS /CROSSROADS 312 DRIVEWAY

COMMERCIAL CAMPUS AT FIELDS CORNER

NY 312 & PUGSLEY ROAD — TOWN OF SOUTHEAST, NEW YORK

ANTICIPATED TRUCK PRIMARY VOLUMES

PEAK WEEKDAY AM HOUR

DATE: 03/2019 — JMC PROJECT: 14012

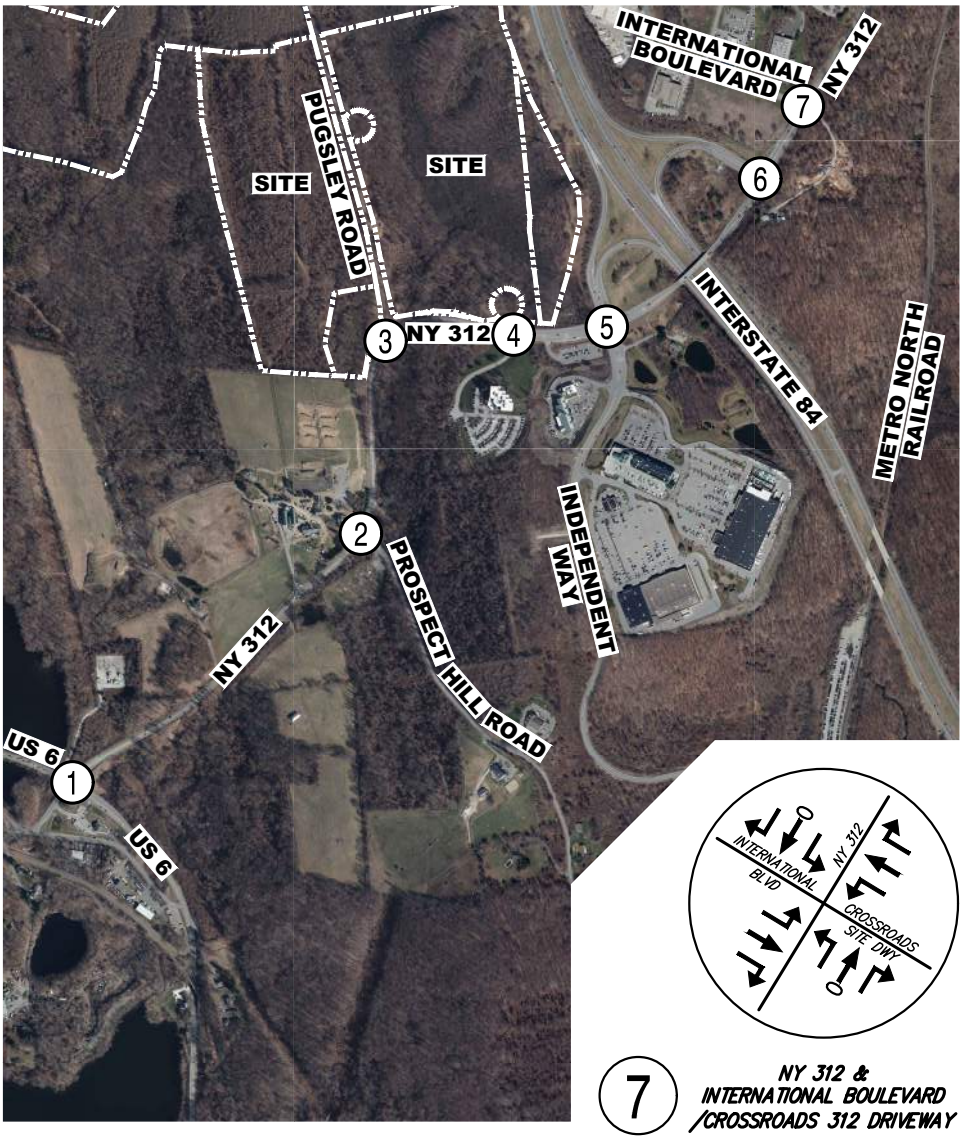
FIGURE: 43 — SCALE: 1" = 1,250'

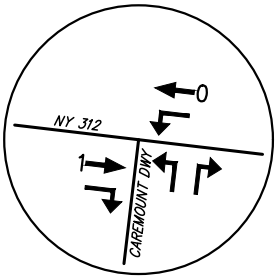
120 BEDFORD RD
ARMONK
NY 10504

(914) 273-5225
fax 273-2102

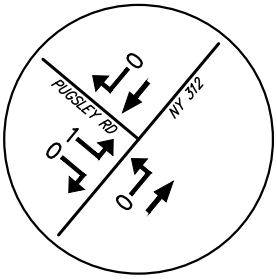
JMCPLLC.COM

COPYRIGHT © 2019 by JMC All Rights Reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of JMC PLANNING, ENGINEERING, LANDSCAPE ARCHITECTURE & LAND SURVEYING, PLLC | JMC SITE DEVELOPMENT CONSULTANTS, LLC | JOHN MEYER CONSULTING, INC. (JMC). Any modifications or alterations to this document without the written permission of JMC shall render them invalid and unusable.

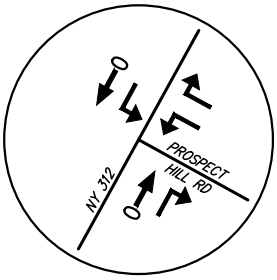




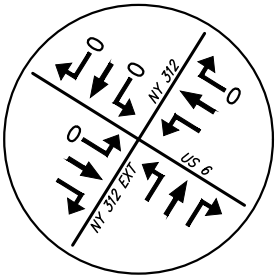
4 NY 312 & CAREMOUNT DRIVEWAY



3 NY 312 & PUGSLEY ROAD

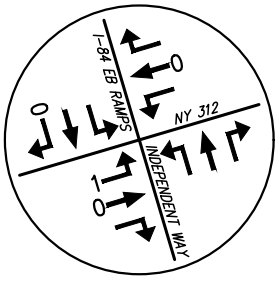


2 NY 312 & PROSPECT HILL ROAD

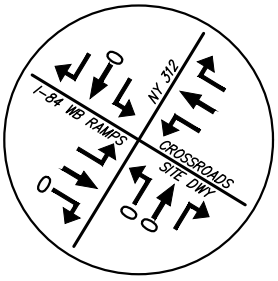


1 US 6 & NY 312 /NY 312 EXTENSION

7 NY 312 & INTERNATIONAL BOULEVARD /CROSSROADS 312 DRIVEWAY



5 NY 312 & INTERSTATE 84 EASTBOUND RAMPS /INDEPENDENT WAY



6 NY 312 & INTERSTATE 84 WESTBOUND RAMPS /CROSSROADS 312 DRIVEWAY

COMMERCIAL CAMPUS AT FIELDS CORNER

NY 312 & PUGSLEY ROAD — TOWN OF SOUTHEAST, NEW YORK

ANTICIPATED TRUCK PRIMARY VOLUMES

PEAK WEEKDAY PM HOUR

DATE: 03/2019 — JMC PROJECT: 14012

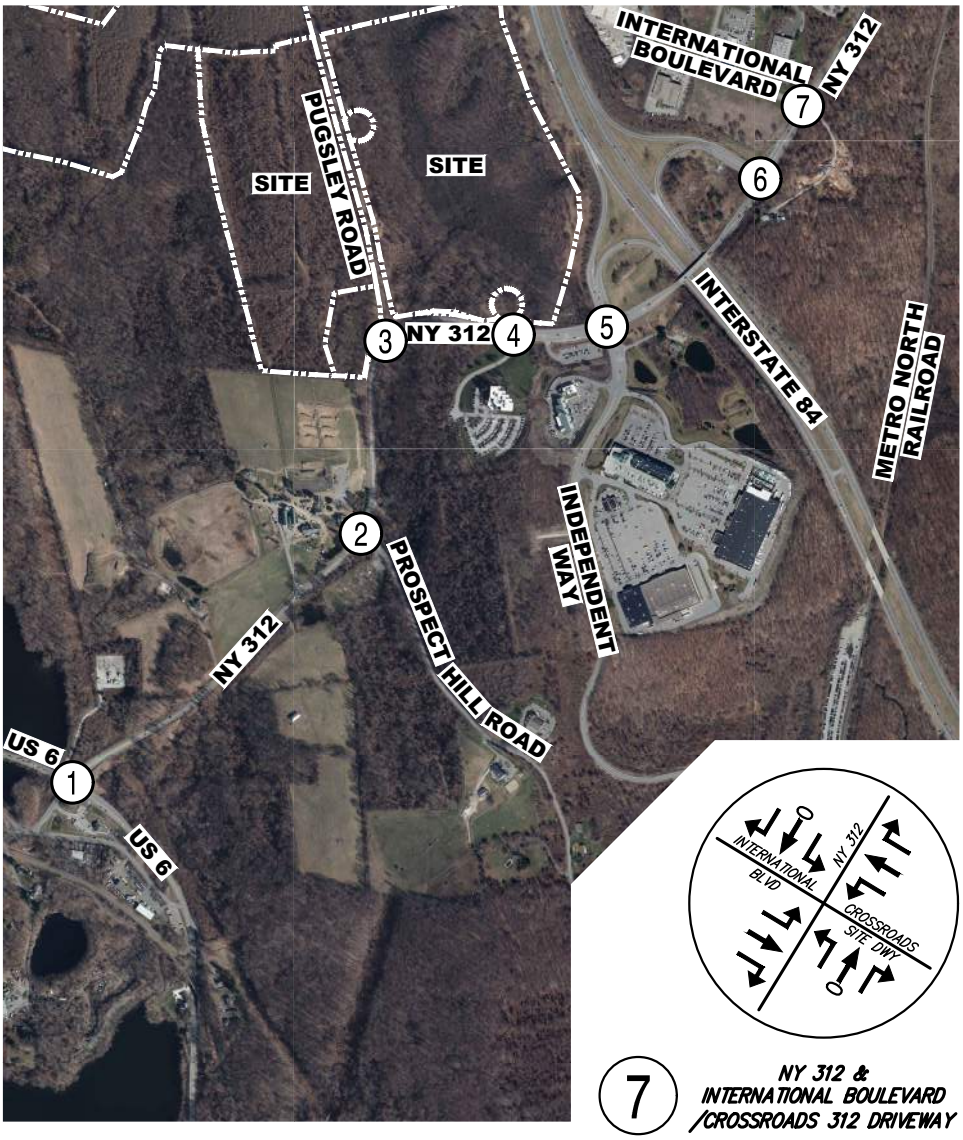
FIGURE: 44 — SCALE: 1" = 1,250'

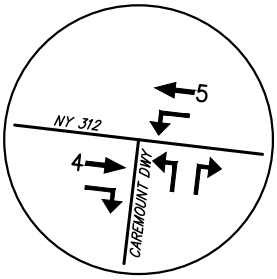
120 BEDFORD RD
ARMONK
NY 10504

(914) 273-5225
fax 273-2102

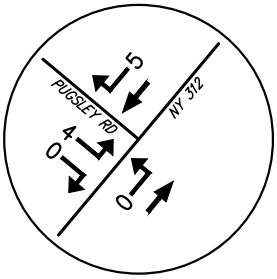
JMCPLLC.COM

COPYRIGHT © 2019 by JMC All Rights Reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of JMC PLANNING, ENGINEERING, LANDSCAPE ARCHITECTURE & LAND SURVEYING, PLLC | JMC SITE DEVELOPMENT CONSULTANTS, LLC | JOHN MEYER CONSULTING, INC. (JMC). Any modifications or alterations to this document without the written permission of JMC shall render them invalid and unusable.

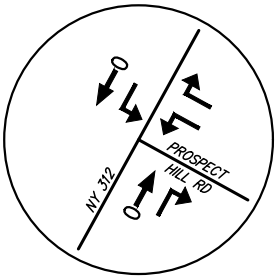




4 NY 312 & CAREMOUNT DRIVEWAY

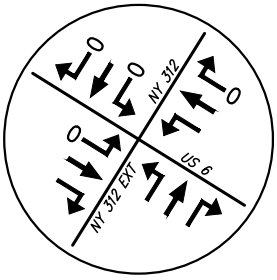


3 NY 312 & PUGSLEY ROAD

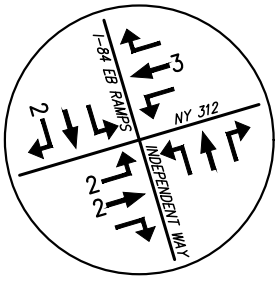


2 NY 312 & PROSPECT HILL ROAD

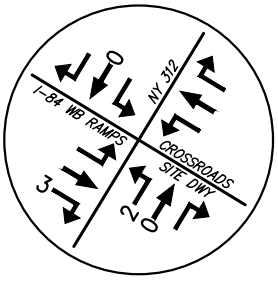
7 NY 312 & INTERNATIONAL BOULEVARD /CROSSROADS 312 DRIVEWAY



1 US 6 & NY 312 /NY 312 EXTENSION



5 NY 312 & INTERSTATE 84 EASTBOUND RAMPS /INDEPENDENT WAY



6 NY 312 & INTERSTATE 84 WESTBOUND RAMPS /CROSSROADS 312 DRIVEWAY

COMMERCIAL CAMPUS AT FIELDS CORNER

NY 312 & PUGSLEY ROAD — TOWN OF SOUTHEAST, NEW YORK

ANTICIPATED TRUCK PRIMARY VOLUMES

PEAK SATURDAY MIDDAY HOUR

DATE: 03/2019 — JMC PROJECT: 14012

FIGURE: 45 — SCALE: 1" = 1,250'

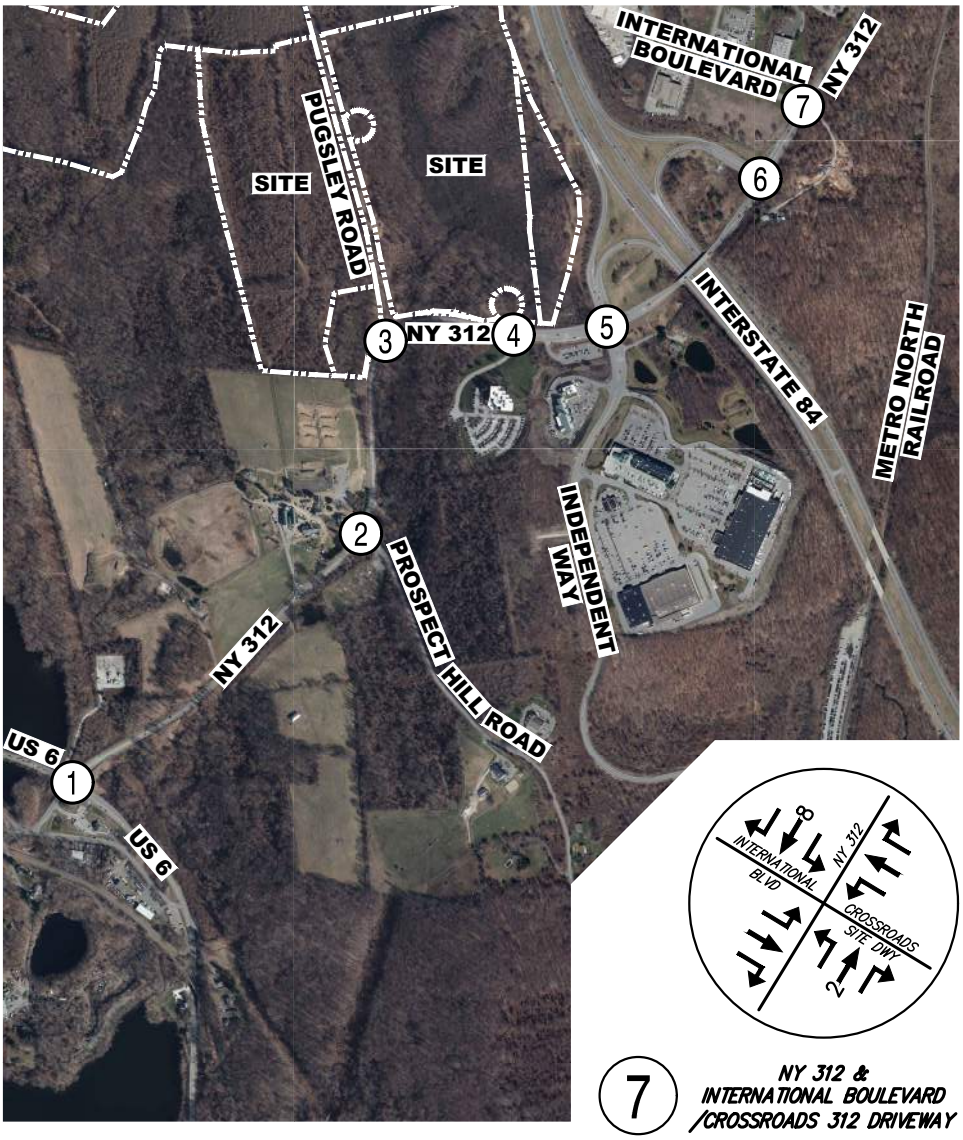
120 BEDFORD RD
ARMONK
NY 10504

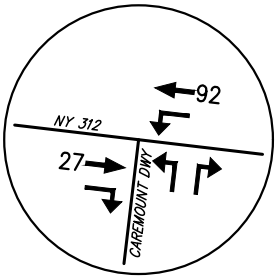
(914) 273-5225
fax 273-2102

JMCPLLC.COM

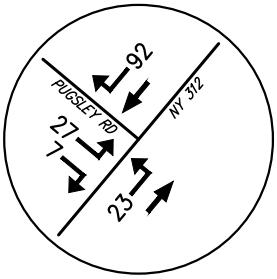
JMC

COPYRIGHT © 2019 by JMC All Rights Reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of JMC PLANNING, ENGINEERING, LANDSCAPE ARCHITECTURE & LAND SURVEYING, PLLC | JMC SITE DEVELOPMENT CONSULTANTS, LLC | JOHN MEYER CONSULTING, INC. (JMC). Any modifications or alterations to this document without the written permission of JMC shall render them invalid and unusable.

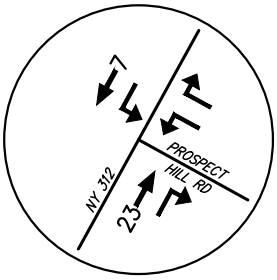




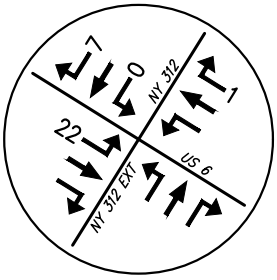
4 NY 312 & CAREMOUNT DRIVEWAY



3 NY 312 & PUGSLEY ROAD

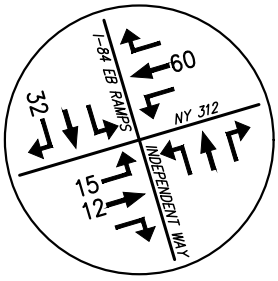


2 NY 312 & PROSPECT HILL ROAD

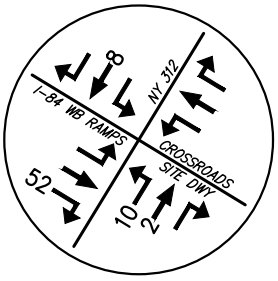


1 US 6 & NY 312 /NY 312 EXTENSION

7 NY 312 & INTERNATIONAL BOULEVARD /CROSSROADS 312 DRIVEWAY



5 NY 312 & INTERSTATE 84 EASTBOUND RAMPS /INDEPENDENT WAY



6 NY 312 & INTERSTATE 84 WESTBOUND RAMPS /CROSSROADS 312 DRIVEWAY

COMMERCIAL CAMPUS AT FIELDS CORNER

NY 312 & PUGSLEY ROAD — TOWN OF SOUTHEAST, NEW YORK

ANTICIPATED EMPLOYEE/RETAIL PRIMARY VOLUMES

PEAK WEEKDAY AM HOUR

DATE: 03/2019 — JMC PROJECT: 14012

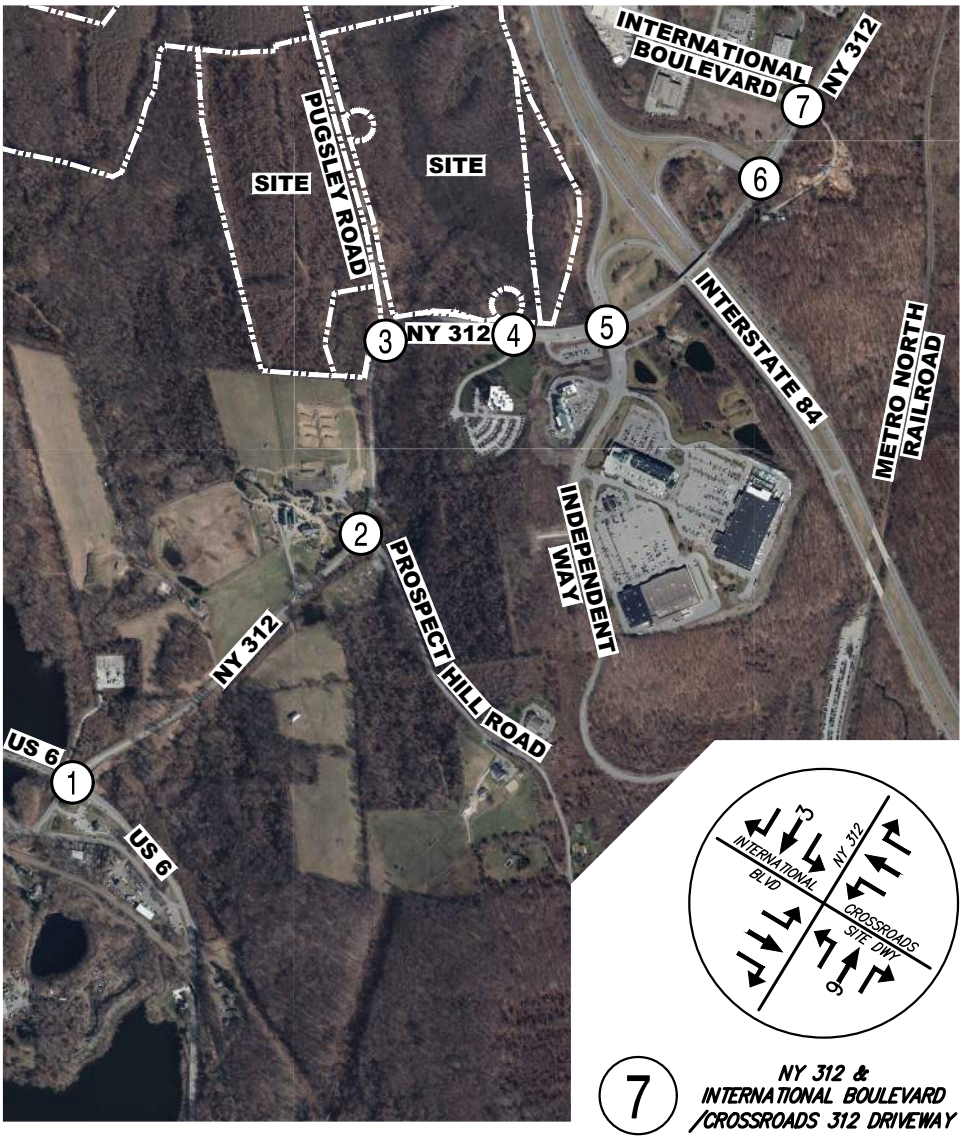
FIGURE: 46 — SCALE: 1" = 1,250'

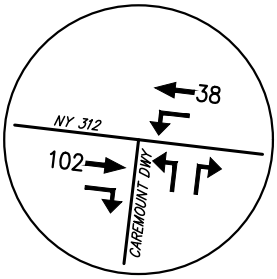
120 BEDFORD RD
ARMONK
NY 10504

(914) 273-5225
fax 273-2102

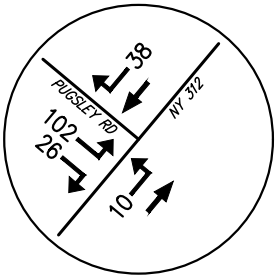
JMCPLLC.COM

COPYRIGHT © 2019 by JMC All Rights Reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of JMC PLANNING, ENGINEERING, LANDSCAPE ARCHITECTURE & LAND SURVEYING, PLLC | JMC SITE DEVELOPMENT CONSULTANTS, LLC | JOHN MEYER CONSULTING, INC. (JMC). Any modifications or alterations to this document without the written permission of JMC shall render them invalid and unusable.

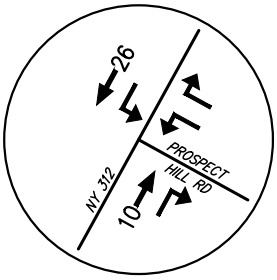




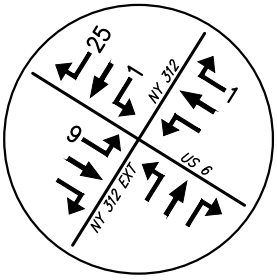
4 NY 312 & CAREMOUNT DRIVEWAY



3 NY 312 & PUGSLEY ROAD

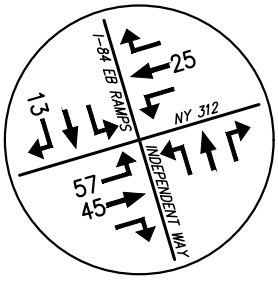


2 NY 312 & PROSPECT HILL ROAD

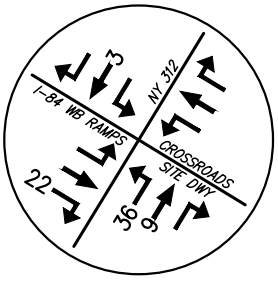


1 US 6 & NY 312 /NY 312 EXTENSION

7 NY 312 & INTERNATIONAL BOULEVARD /CROSSROADS 312 DRIVEWAY



5 NY 312 & INTERSTATE 84 EASTBOUND RAMPS /INDEPENDENT WAY



6 NY 312 & INTERSTATE 84 WESTBOUND RAMPS /CROSSROADS 312 DRIVEWAY

COMMERCIAL CAMPUS AT FIELDS CORNER

NY 312 & PUGSLEY ROAD — TOWN OF SOUTHEAST, NEW YORK

ANTICIPATED EMPLOYEE/RETAIL PRIMARY VOLUMES

PEAK WEEKDAY PM HOUR

DATE: 03/2019 — JMC PROJECT: 14012

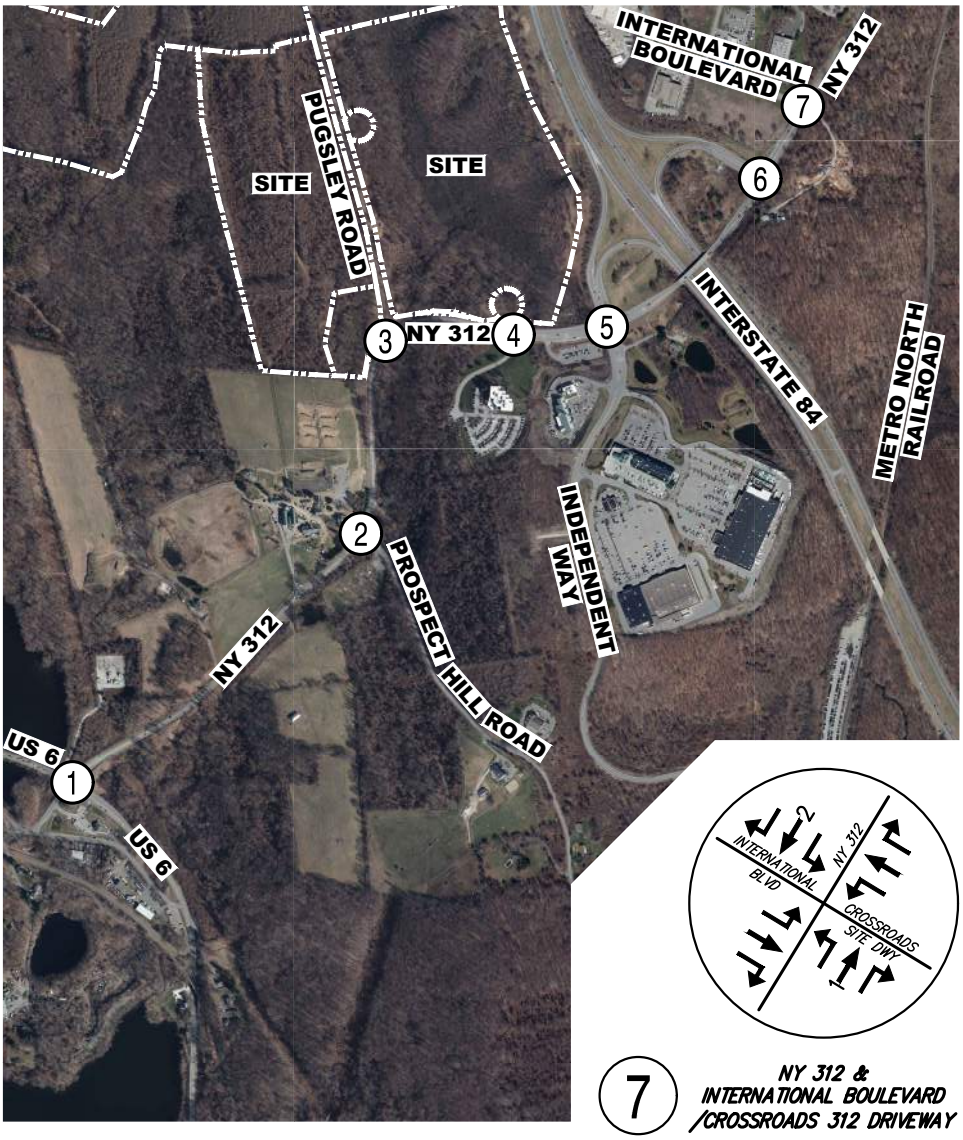
FIGURE: 47 — SCALE: 1" = 1,250'

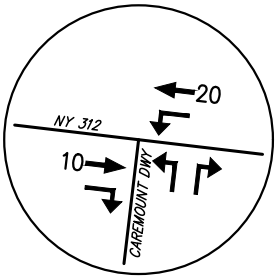
120 BEDFORD RD
ARMONK
NY 10504

(914) 273-5225
fax 273-2102

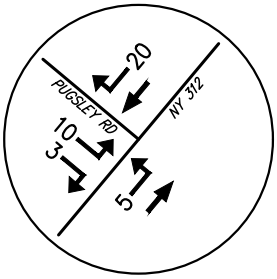
JMCPLLC.COM

COPYRIGHT © 2019 by JMC All Rights Reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of JMC PLANNING, ENGINEERING, LANDSCAPE ARCHITECTURE & LAND SURVEYING, PLLC | JMC SITE DEVELOPMENT CONSULTANTS, LLC | JOHN MEYER CONSULTING, INC. (JMC). Any modifications or alterations to this document without the written permission of JMC shall render them invalid and unusable.

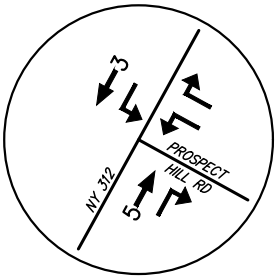




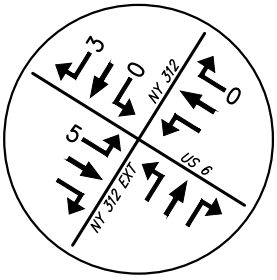
4 NY 312 & CAREMOUNT DRIVEWAY



3 NY 312 & PUGSLEY ROAD

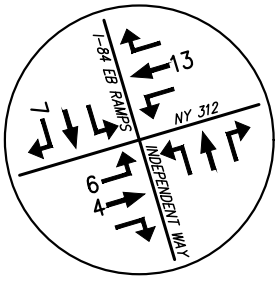


2 NY 312 & PROSPECT HILL ROAD

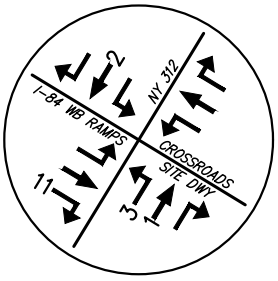


1 US 6 & NY 312 /NY 312 EXTENSION

7 NY 312 & INTERNATIONAL BOULEVARD /CROSSROADS 312 DRIVEWAY



5 NY 312 & INTERSTATE 84 EASTBOUND RAMPS /INDEPENDENT WAY



6 NY 312 & INTERSTATE 84 WESTBOUND RAMPS /CROSSROADS 312 DRIVEWAY

COMMERCIAL CAMPUS AT FIELDS CORNER

NY 312 & PUGSLEY ROAD — TOWN OF SOUTHEAST, NEW YORK

ANTICIPATED EMPLOYEE/RETAIL PRIMARY VOLUMES

PEAK SATURDAY MIDDAY HOUR

DATE: 03/2019 — JMC PROJECT: 14012

FIGURE: 48 — SCALE: 1" = 1,250'

120 BEDFORD RD
ARMONK
NY 10504

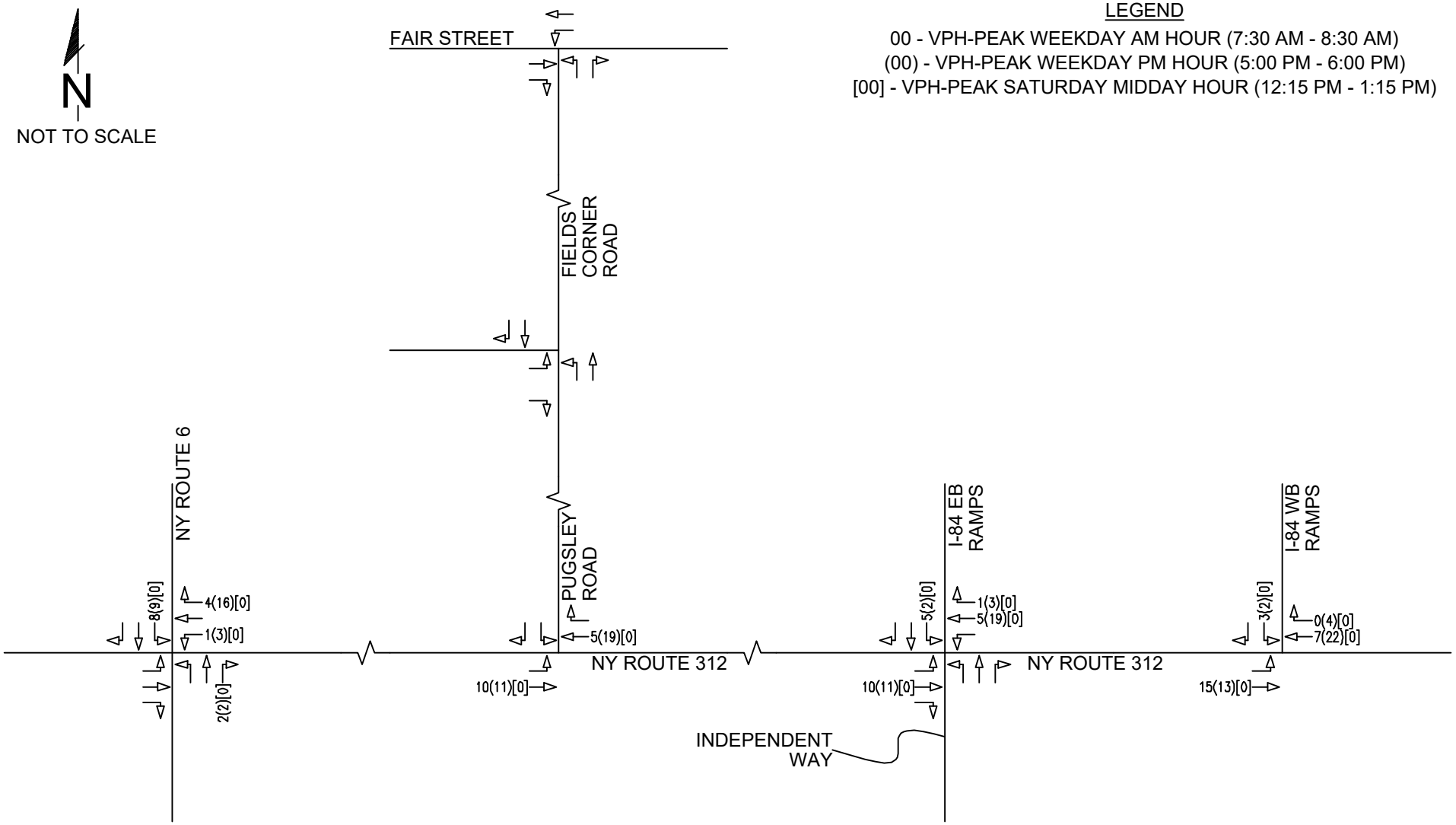
(914) 273-5225
fax 273-2102

JMCPLLC.COM

JMC

COPYRIGHT © 2019 by JMC All Rights Reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of JMC PLANNING, ENGINEERING, LANDSCAPE ARCHITECTURE & LAND SURVEYING, PLLC | JMC SITE DEVELOPMENT CONSULTANTS, LLC | JOHN MEYER CONSULTING, INC. (JMC). Any modifications or alterations to this document without the written permission of JMC shall render them invalid and unusable.

Q:\PROJECTS-21\21-076 Proswing Traffic Study - Brewster\AutoCAD\Traffic\TrafficFigures_8.5x11 Landscape.dwg



DTS • PROVIDENT
Intelligent Land Use

DTS Provident Design Engineering, LLP
One North Broadway
White Plains, NY 10601
P: 914.428.0010
F: 914.428.0017

Adjacent Development Traffic Volumes
Ace Endico Expansion
Brewster Yards
Town of Southeast, Putnam County, New York

Project No. 21-076
Not To Scale
May 2022

Figure No. 08

DTS • PROVIDENT
Intelligent Land Use

Appendix K
ARCHAEOLOGICAL PHASE 1A & PHASE 1B SURVEY

PHASE 1A LITERATURE SEARCH AND SENSITIVITY ASSESSMENT & PHASE 1B ARCHAEOLOGICAL FIELD RECONNAISSANCE SURVEY

BREWSTER YARDS PROJECT

PUGSLY AND ZIMMER ROADS,
SOUTHEAST, PUTNAM, COUNTY, NEW YORK

PREPARED FOR:

KG+D ARCHITECTS
285 MAIN STREET,
MT. KISCO, NY 10549

HUDSON VALLEY
CULTURAL RESOURCE CONSULTANTS, LTD.

PO BOX 264, SALT POINT, NY

JANUARY 2022

MANAGEMENT SUMMARY

SHPO Project Review Number (if available):

Involved State and Federal Agencies: **SEQR, DEC**

Phase of Survey: **Phase 1A Literature Search & Sensitivity Assessment & Phase 1B Archaeological Field Reconnaissance Survey**

Location Information:

Location: **Pugsley and Zimmer Road**

Minor Civil Division: **Town of Southeast**

County: **Putnam County**

Survey Area (Metric & English)

Length: **2795'/852.1 m**

Width: **1528'/465.8 m**

Depth (when appropriate):

Acres in Project Parcel: **±154.4 acres (62.5 h)**

Number of Acres Surveyed (Project APE): **±43.1 acres (17.4 h)**

Number of Square Meters & Feet Excavated (Phase II, Phase III only): **N/A**

Percentage of the Site Excavated (Phase II, Phase III only): **N/A**

USGS 7.5 Minute Quadrangle Map: **Peach Lake & Croton Falls, NY 2019**

Archaeological Survey Overview

Number & Interval of Shovel Tests: **488 @ 50' Intervals**

Number & Size of Units: N/A

Width of Plowed Strips: N/A

Surface Survey Transect Interval: N/A

Results of Archaeological Survey

Number & name of precontact sites identified: **No archaeological sites identified**

Number & name of historic sites identified: **0**

Number & name of sites recommended for Phase II/Avoidance: N/A

Report Author (s): **Sarah Gilleland, MA, RPA, Franco Zani Jr., Beth Selig, MA, RPA.**

Date of Report: **January 28, 2022**

Table of Contents

List of Figures

List of Tables

List of Photographs

I. Phase 1A Literature Search and Sensitivity Assessment 1

A. Brewster Yards Project Description 1

B. Environmental Conditions 4

- Ecology 4
- Geology 4
- Drainage 4
- Soils 4

C. Recorded Archaeological Sites and Surveys 9

- Previously Recorded Archaeological Sites 9
- Previously Completed Archaeological Surveys 9

D. Native American Context 9

E. Post-Contact Context 10

- Cartographic Research 11
- Aerial Review 16

F. National Register Eligible/Listed Sites 18

G. Assessment of Sensitivity for Cultural Resources 19

- Precontact Sensitivity 19
- Historic Sensitivity 19

H. Summary and Recommendations 19

II. Phase 1B Archaeological Field Reconnaissance Survey 20

I. Archaeological Survey Methodology 20

J. Archaeological Survey Results 20

K. Summary 25

L. Conclusions and Recommendations 25

M. Bibliography 32

Appendix A: Soil Classifications (Table 1)

Appendix B: Shovel Test Records

Appendix C: Catalog of Cultural Material

LIST OF FIGURES

Figure 1: 2019 USGS Topographical Map. Peach Lake and Croton Falls Quadrangles. 7.5 Minute Series. (Source: USGS.gov.) Scale: 1" = 1200'.

Figure 2: 2021 Aerial image showing the location of the Project APE. (Source: Google.com.) Scale: 1" =440'.

Figure 3: Aerial Image showing soil units within the Project APE. (Source: Natural Resources Conservation Service.) Scale: 1" =440'.

Figure 4: 1854 R.F. O'Connor. *Map of Putnam County, New York.* (Source: Library of Congress) Scale: 1" =1240'.

Figure 5: 1868 F.W. Beers *Town of Southeast, Putnam County, NY.* (Source: David Rumsey Cartographic Associates) Scale: 1" =970'.

Figure 6: 1894 Carmel NY USGS Topographical Quadrangle. (Source: USGS.gov) Scale: 1" =1240'.

Figure 7: 1960/1980 Lake Carmel and 1958/1980 Brewster USGS Topographical Quadrangles. 7.5 Minute Series. (Source: USGS.gov) Scale: 1" =940'.

Figure 8: 1981 aerial image of the Project APE. (Source: Earth Explorer). Scale: 1" =900'.

Figure 9 (A-C): Brewster Yards Project. Phase 1B Archaeological Field Reconnaissance Survey. Scale 1" = 150'.

LIST OF TABLES

Table 1: Soil Unit Descriptions (Natural Resources Conservation Service) (Appendix A)

Table 2: Previously Recorded Archaeological Sites within a one mile radius of the Project APE.

LIST OF PHOTOGRAPHS

Photo 1: The landscape in the southern portion of the Project APE is densely overgrown goldenrod, briars and mile-a-minute weed which has overtaken many of the trees and scrub. View to the southwest.

Photo 2: The dense vegetation is impenetrable, due to the extensive briars and mile-a-minute weed. View to the west.

Photo 3: Portions of the landscape near Barrett, Zimmer and Fields Corners Road are also covered with this dense vegetation. View to the northwest.

Photo 4: On the northern side of Zimmer Road are areas of open woodland. View to the north.

Photo 5: The dense brush prevents access to most of the central and western portions of the APE. View to the north.

Photo 6: View to the east from the southern side of Zimmer Road.

Photo 7: The northern portion of the APE, north of Zimmer Road is mostly open woodland. View to the north.

Photo 8: The northern portion of the APE is a mixture of open woodland and dense briar and scrub brush. View to the east.

Photo 9: Former pasture and crop fields in the northern portion of the APE are overgrown with dense vegetation. View to the north.

Photo 10: The remains of a foundation is located along the eastern boundary of the Project APE south of Zimmer Road. This is shown on the 1980 topo map (Figure 7). View to the southeast.

Photo 11: Paths were cleared through the dense vegetation, prior to field investigations. View to the north.

Photo 12: In the southern portion of the Project APE, two stones identify a property boundary. These stones are held upright on a bedrock outcrop by smaller stones. View to the southeast.

Photo 13: There is no evidence of inscription or other markings on the stone. View to the southeast.

Photo 14: The two upright stones are located on a bedrock outcrop and elevated above the surrounding land surface. View to the southwest.

Photo 15: Despite the onset of winter and snow cover, soils remained soft under the leaf cover. View north of ST 633.

Photo 16: Zimmer Road bisects the Project APE. View to the west.

Photo 17: A small pond is located on the northern side of Zimmer Road. View to the northwest.

Photo 18: The extensive amount of rock prohibited shovel testing portions of the APE. View to the northeast.

Photo 19: View to the north on TR 6 in the southern portion of the Project APE.

Photo 20: View to the west of TR 24, and the surrounding bedrock and boulders.

I. PHASE 1A LITERATURE SEARCH AND SENSITIVITY ASSESSMENT

A. BREWSTER YARDS PROJECT DESCRIPTION

In September of 2021 Hudson Valley Cultural Resource Consultants (HVCRC) was retained by KG+D Architects to complete a Phase 1A Literature Search and Sensitivity Assessment and Phase 1B Archaeological Field Reconnaissance Survey for the proposed Brewster Yards Project in the Town of Southeast, Putnam County, New York.

The purpose of the Phase 1 Cultural Resources Survey is to determine whether previously identified cultural resources (historic and archeological sites) are located within the boundaries of the proposed project, and to evaluate the potential for previously unidentified cultural resources to be located within the boundaries of the Project Area of Potential Effect (APE). All work was completed in accordance with the *Standards for Cultural Resource Investigations and the Curation of Archeological Collections published by the New York Archeological Council* (NYAC) and recommended for use by New York State Office of Parks, Recreation and Historic Preservation (OPRHP). The report has been prepared according to New York State OPRHP's *Phase 1 Archaeological Report Format Requirements*, established in 2005.

The background research as well as the cultural and environmental overviews were completed by Sarah K. Gilleland, MA, RPA, and Beth Selig, MA, RPA, President and Principal Investigator with HVCRC. A project site visit was conducted by Franco Zani Jr. on September 29, 2021 to observe and photograph existing conditions within the Project APE. The information gathered during the walkover reconnaissance is included in the relevant sections of this report.

The proposed Brewster Yards Project (hereafter "the Project APE") consists of developing a portion of a ±154.4 acres (62.5 h) parcel and constructing a recreational facility consisting of multiple sports fields and concession stands. The sports fields will be bordered by parking areas, with associated sewer and electrical infrastructure within a ±43.1 acres (17.4 h) Project APE. Stormwater basins will be placed in the northern and southern portions of the Project APE.

The Project Parcel is located on the eastern side of Fields Corner Road and Pugsley Road in town of Southeast. The Project Parcel is ±154.4 acres (62.5 h) bordered by I-84 on the east, and residential properties to the north. The proposed undertaking will impact ±43.1 acres (17.4 h) of the larger project parcel. The landscape is primarily wooded, with steep slopes and exposed bedrock in the northeastern portion of the property. Fields Corner Road and Pugsley Road define the western boundary of the property, and the northern border is the border between the Town of Southeast and the Town of Patterson. A Putnam County property, that appears to be utilized as dump for vegetative debris is located to the east. The parcel is bordered to the south by a large wetland. A small road, identified as Zimmer Road bisects the Project Parcel and leads to the Putnam County owned parcel. For the purposes of this report, the southern portion is south of this road, and northern is on the north side.

In September the field assessment was hindered due to dense vegetation. The southern and central portions of the Parcel are comprised of overgrown agricultural fields and wetlands. These area outside the wetlands were partially cleared prior to the completion of the walkover and Phase 1B field investigations. Clearing was completed by cutting linear paths spaced at 50' intervals throughout the southern and northern portions of the Project APE. Additional walkovers were completed on December 17, and 23 2021, after site clearing had begun.

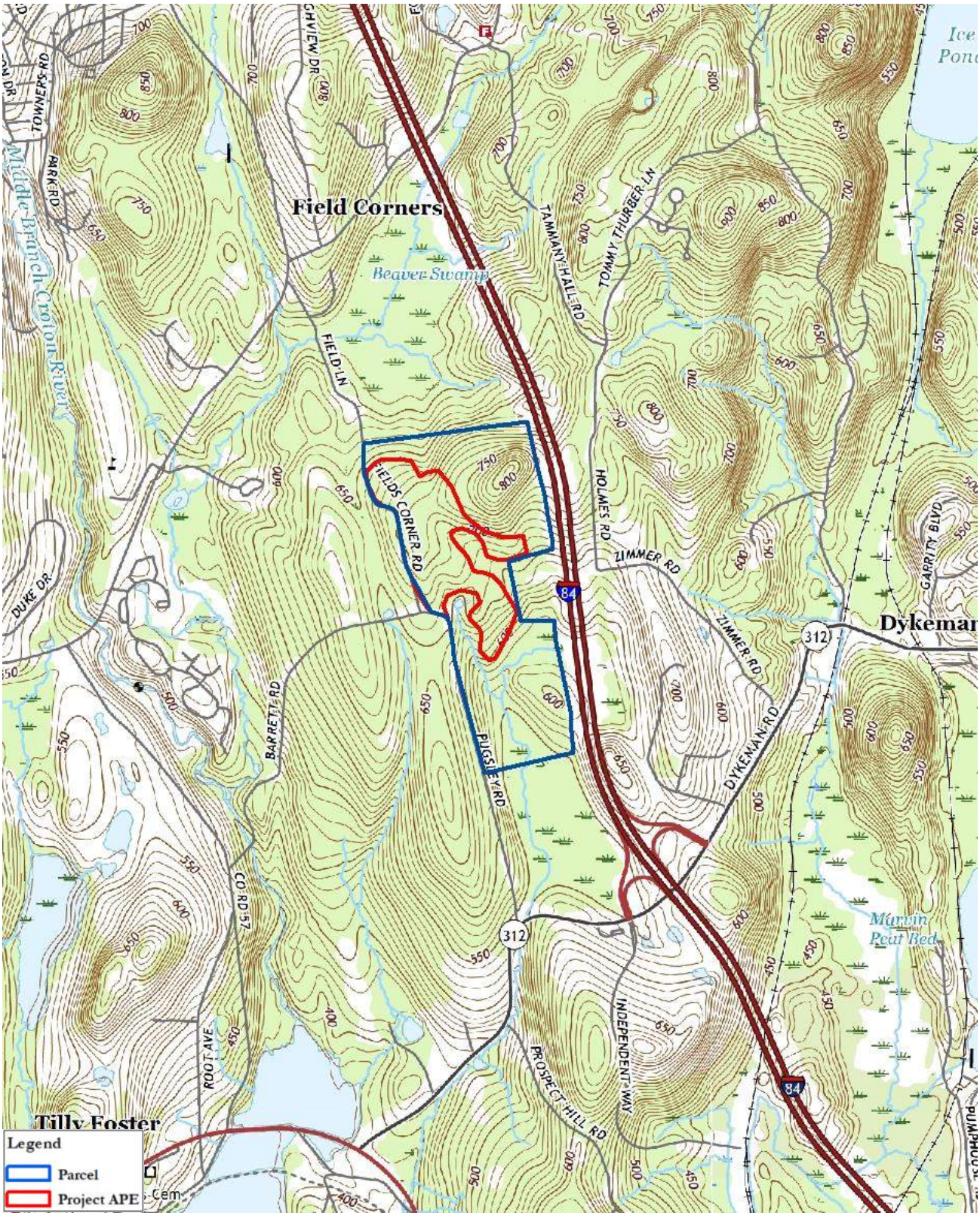


Figure 1: 2019 USGS Topographical Map. Peach Lake and Croton Falls Quadrangles. 7.5 Minute Series. (Source: USGS.gov.) Scale: 1" = 1200'.

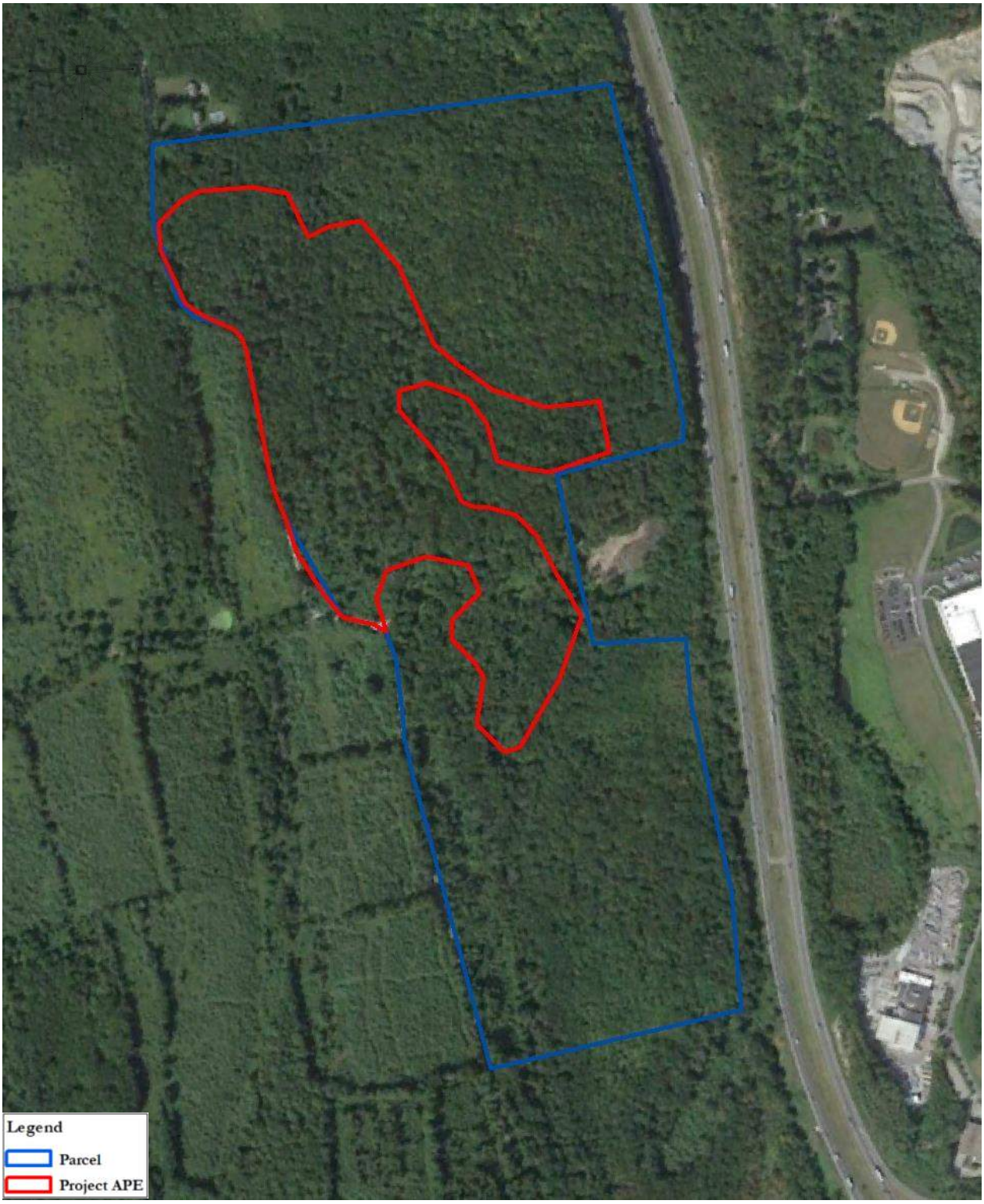


Figure 2: 2021 Aerial image showing the location of the Project APE. (Source: Google.com.) Scale: 1" =440'.

B. Environmental Conditions

The Project APE is primarily wooded, with dense brush and vegetation. The highest elevation within the Project Parcel is on the top of a knoll in the northeast portion with a height of 811' (247.2 m) Above Mean Sea Level (AMSL). This knoll is located outside the boundaries of the APE. The elevation descends to the south, with a height of 594' (181.2 m) in the southern corner of the APE, and 541' (164.8 m) within the wetland in the southern portion of the Project. The ground surface is littered with boulders, exfoliated bedrock and bedrock exposures.

Ecology

The Project APE lies within the Eastern Broadleaf Forest. This province is dominated by broadleaf deciduous trees featuring the drought-resistant oak-hickory varieties. The Northern reaches of the oak-hickory forest contain increasing numbers of maple, beech, and basswood (Bailey 1995).

Geology

The Hudson Highlands area is a northeast-southwest trending band of igneous and metamorphic rocks which extend from New England through New York, crossing the Hudson River in the vicinity of Cold Spring and West Point. Because of their structural origin and their durability, the Hudson Highlands are higher in elevation than the physiographic provinces that border them, such as the Hudson-Mohawk Lowlands to the north and the Piedmont Triassic Lowlands to the south. The Hudson Highlands are almost entirely blanketed by a thin layer of glacial till, with frequent bedrock outcrops. Outwash sand and gravel occupy some of the river and stream valleys that border and run through the Highlands (Spectra 2004: Appendix C).

Putnam County has a long history of mining centered on a major fault line known as the Reading Prong that extends from eastern Pennsylvania through New Jersey. The area is a rugged, hilly to mountainous terrain, bearing the characteristic scars of Pleistocene glaciation. The rocky outcrops visible on hillsides, and along stream banks and roadside exposures, consist mostly of gneiss, schist, and marble.

The landscape within the Project APE contains rises of bedrock jutting out from the surrounding landscape, large areas of surface boulders, caused by the underlying bedrock exfoliating and glacial erratics(Bryce et al 2010).

Drainage

Drainage on the property is into the wetlands located to the south, which further drains to the Middle Branch Reservoir.

Soils

Soil surveys provide a general characterization of the types and depths of soils that are found in an area. The characteristics of the soils within the Project APE have an important impact on the potential for the presence of cultural material, since the types of soils present affect the ability of an area to support human populations. The Soil Survey's mapped boundaries are considered approximate, as they generally correspond poorly to the actual boundaries of landforms and soils types within an area. The Natural Resources Conservation Service indicates that the soils within the Project APE are mostly well drained sandy loams, with some poorly drained sandy loam near the wetland to the south (Appendix A).

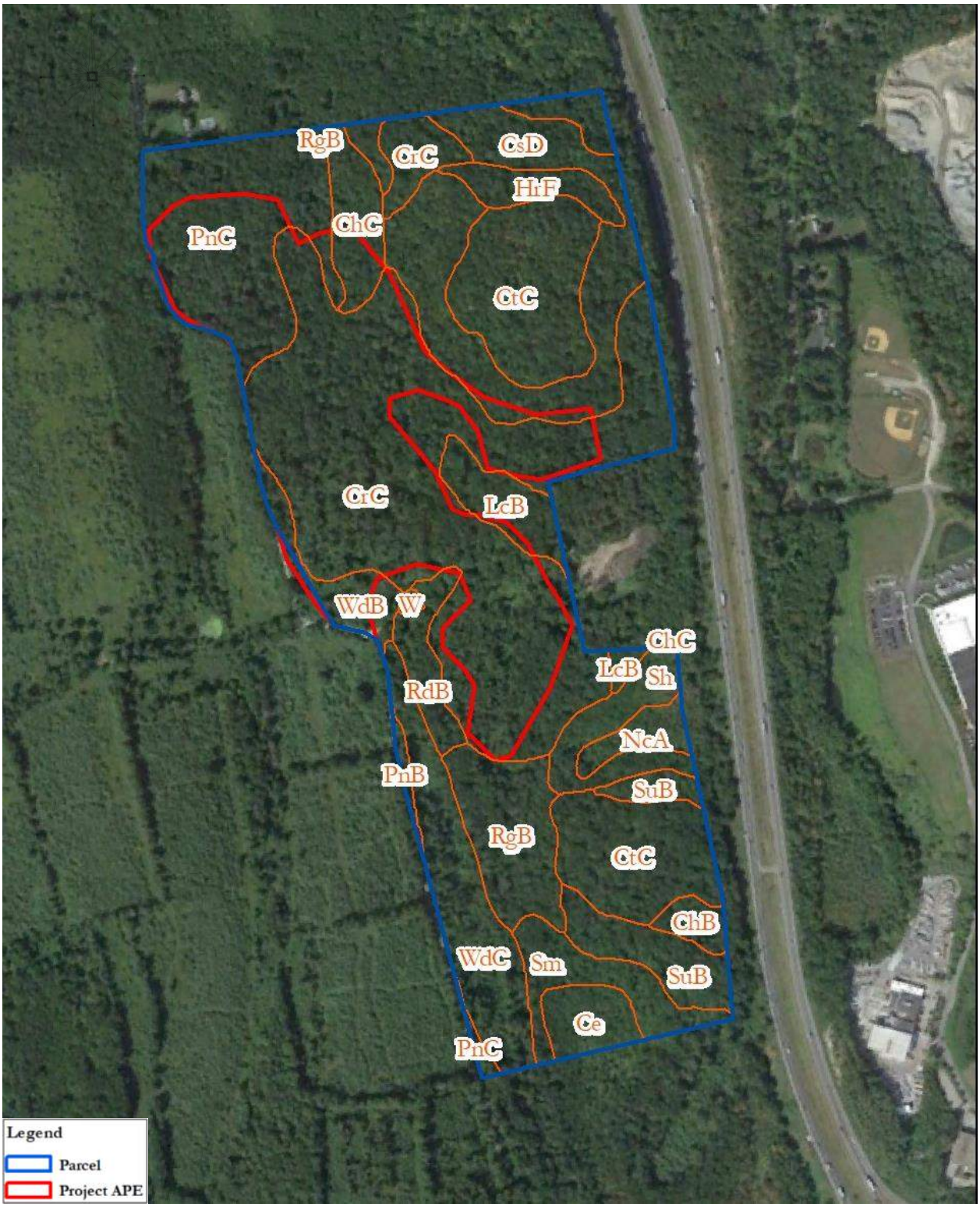


Figure 3: Aerial Image showing soil units within the Project APE. (Source: Natural Resources Conservation Service.) Scale: 1" =440'.

Photo 1: The landscape in the southern portion of the Project APE is densely overgrown goldenrod, briars and mile-a-minute weed which has overtaken many of the trees and scrub. View to the southwest.

Photo 2: The dense vegetation is impenetrable, due to the extensive briars and mile-a-minute weed. View to the west.

Photo 3: Portions of the landscape near Barrett, Zimmer and Fields Corners Road are also covered with this dense vegetation. View to the northwest.

Photo 4: On the northern side of Zimmer Road are areas of open woodland. View to the north.

Photo 5: The dense brush prevents access to most of the central and western portions of the APE. View to the north.

Photo 6: View to the east from the southern side of Zimmer Road.

C. Recorded Archaeological Sites and Surveys

On October 5, 2021 HVCRC reviewed the combined site files of the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) and the New York State Museum (NYSM) for information regarding previously recorded archeological sites within one mile (1.6 km) of the Project APE. HVCRC also consulted regional Native American sources (e.g. Beauchamp 1900; Parker 1920; Ritchie 1980; Ritchie and Funk 1973) for descriptions of regional archeological sites. In addition, a review of the site files was completed to identify National Register Properties within a one-half mile radius of the Project APE.

Previously Recorded Archaeological Sites

Six archaeological sites have been previously identified within a one mile radius of the Project APE. The sites are summarized in the Table below and will not be impacted by the proposed undertaking.

Table 2: Previously Recorded Archaeological Sites within a one mile radius of the Project APE.

Site Number	Site Name	Distance from Project APE	Time Period	Materials Recovered
7901.000062	Cellar Hole, Former Tenant Farmer House	4343' / 1.3 k	Historic	Glass jelly jar base and whiteware
7906.000044	Rockshelter Archeological Site	1449' / 0.4 k	Precontact	Lithic debitage
7906.000045	Eighteenth Century Historic Archaeological Site	718' / 218 m	Historic	Coin, bayonet
7906.000055	Sherwood House/Highland Prehistoric Site	2420' / 0.7 k	Precontact and Historic	Lithic debitage, historic ceramic, pipe fragment.
7906.000068	Terravest Precontact Quarry Site	1476' / 0.5 k	Precontact	Quarry debitage, lithic flakes
7906.000069	Terravest Precontact Site	2441' / 0.7 k	Precontact	Lithic flakes

Previously Completed Archaeological Surveys

As part of the research for this report, surveys completed for projects in the general area were consulted. More than ten surveys have been completed within a one mile radius of the Project APE. These surveys are located to the west, east, and southeast of the Project APE boundaries. These surveys were completed for both municipal undertakings as well as residential developments and identified precontact archaeological sites within the vicinity of the Project APE.

D. Native American Context

During the Paleoindian period, bands of hunter-gatherers occupied what is now New York State. The inhabitants of east-central New York interior during the Paleoindian period lived in an unstable and rapidly

changing environment. The fertile lowland flood and delta plains of the Hudson-Mohawk Lowland region provided these communities with abundant subsistence resources including food, water and chert for stone tools. Within eastern New York, several Paleoindian period sites have been identified in the Hudson Valley region. In addition, a nearby Connecticut site provides information on the time period. The Templeton Site (6-LF-2) in Washington, Connecticut along the Housatonic drainage has been studied in detail and dated using the radiocarbon method. The Templeton site was occupied between 10,490 and 9,890 years ago. In addition to a single large axe and two small fluted points, the Templeton Site produced a stone tool assemblage complete with gravers, drills, core fragments, scrapers and channel flakes which indicate that the full range of stone tool production and maintenance took place at the site (Moeller 1980). In addition, the use of both local and nonlocal raw materials was documented in the tool assemblage. The fertile lowland flood and delta plains of the Hudson-Mohawk Lowland region provided these mobile communities with abundant subsistence resources including food, water and chert for stone tools.

With the lowering of the water table during the Archaic period, subsistence methods and technologies changed in response to climatic warming. This was accompanied by an increase in vegetation density and diversity, changing faunal migrations and changes in sea level (Sirkin 1977). Throughout the Archaic Period and into the Early Woodland Period, people created large base camps in the major river valleys and lake basins. Sites associated with the Archaic period reflect a change in settlement and subsistence patterns which reflect an increased focus on coastal and riverine resources. Ground stone food processing tools are more common, reflecting an increase in processed plant resources in the diet (Sirkin 1977). Projectile points commonly found at Late Archaic sites include narrow stemmed, broad stemmed and side notched types (Snow 1980). The Laurentian Tradition of the Late Archaic is the most represented throughout New York State, and is subdivided into a series of phases: Vergennes, Vosburg, Sylvan Lake, River and Snook Kill. Ground stone tools appear, and steatite bowls are associated with the later part of this time period (Pretola and Freedman 2007).

The Woodland Period is defined by the widespread shift toward agriculture, along with the associated sedentism necessary for agricultural pursuits. With the increased sedentism, permanent villages were established along the major waterways (Funk 1976). Woodland period sites are heavily represented within central New York State. The soil and moisture requirements for the cultivation of maize, beans, and squash created a marked change in the pattern of land use and the selection of locations for villages (Hart and Brumbach 2005).

Many of the sites in the broader region date to the latter part of the Late Archaic period and the Woodland Period. The artifact assemblages from these sites show a shift from the narrow stemmed traditions to the broad spear typologies. The region around the Project Parcel is known to have had a long term Native American occupation. The "Great Swamp," located in the southeastern part of Dutchess County, and in eastern Putnam County, is known to have been a valued natural resource to the Indigenous Communities of the region. The high concentration of wetlands in the area supports varied animal life and plant species favorable to human habitation. Occupation of the area during the Woodland period has been confirmed by the presence of archaeological sites.

Indigenous Communities in the region were mainly Algonkian. During the first half of the seventeenth century, the Algonkian tribes sold approximately twenty-five tracts of land to the Dutch, including lands within Westchester County. These land transactions between the early colonists and the Nations were often ambiguous, causing disputes to arise. A peace treaty was established in 1645 to settle the land disputes (Cochran-Swanson and Green-Fuller 1982).

E. Post Contact Context

The Project Parcel is located in the Town of Southeast in the Putnam County, New York. Dutch and English settlers flocked to the county beginning in 1639, drawn by the region's agricultural potential. During the Revolutionary War loyalties were split in the county, and numerous battles were fought throughout the region (Eisenstaedt 2005). In May of 1781, a battle took place on the New Croton River where an American outpost was attacked by the British.

Putnam County was split from Dutchess County in 1812, functioning as a separate county largely due to the ease of transportation provided by the Hudson River. Transportation was made even easier with the advent of the Harlem Line railroad, which was built in the 1840s, connecting Putnam by rail to New York City. There were originally four stations on the Harlem line in Putnam County: Brewster, Dykemans, Towners and Patterson (Pelletreau 1886).

The majority of the land in Putnam County was not conducive to farming due to the rocky and hilly landscape. As a result, settlement was slow and animal husbandry made up the majority of the agricultural economy. Mining contributed to the local economy in the late eighteenth and nineteenth centuries. Open-pit iron mines were opened along the Reading Prong in Orange and Putnam Counties. These mines fed the furnaces at Foundry Cove (West Point Foundry) south of Cold Spring, supplying the metal for building the Cast Iron District in Manhattan and the "Monitor" gunboat of the Civil War (Oxford Publishing Co. 1912). The largest of these abandoned pit mines is now Canopus Lake in Fahnstock State Park. The Tilly Foster Mine, in Carmel and Brewster, was one of the largest mines in the region based on the quality of its magnetite ore. In 1889 the Tilly Foster Mine was the largest open pit mine in the country. After a traumatic collapse in 1895, the mine was closed and flooded (Oxford 1912). Dozens of water-filled pits and deep caverns that were mined in the nineteenth century are located in Putnam County, from Ludingtonville to Constitution Island in the Hudson River.

In the nineteenth century, foundries and iron ore mines were prevalent throughout Putnam County. Ultimately, these foundries and mines which had prospered during the Civil War could not compete with the higher grade materials being mined in Montana and Pennsylvania (Pelletreau 1886). During the nineteenth century, Putnam County was known for its production of iron ore as well as being a scenic destination for tourists and visitors from New York City. As the century progressed, newly constructed railroads made the area much more accessible to tourism. As the need for water in New York City grew, reservoirs were constructed in Putnam County, which resulted in the displacement of farmers, to provide open land for the impounded water.

CARTOGRAPHIC RESEARCH

HVCRC consulted historical documents and maps available at the Library of Congress, David Rumsey Cartography Associates and the New York Public Library. HVCRC examined historical maps of Putnam County to identify possible structures, previous road alignments and other landscape features or alterations that could affect the likelihood that archeological and/or historic resources could be located within the Project APE. These maps are included in this report, with the boundaries of the Project APE superimposed. Nineteenth century maps frequently lack the accuracy of location and scale present in modern surveys. As a result of this common level of inaccuracy on the historic maps, the location of the Project APE is drafted relative to the roads, structures, and other features as they are drawn, and should be regarded as approximate.

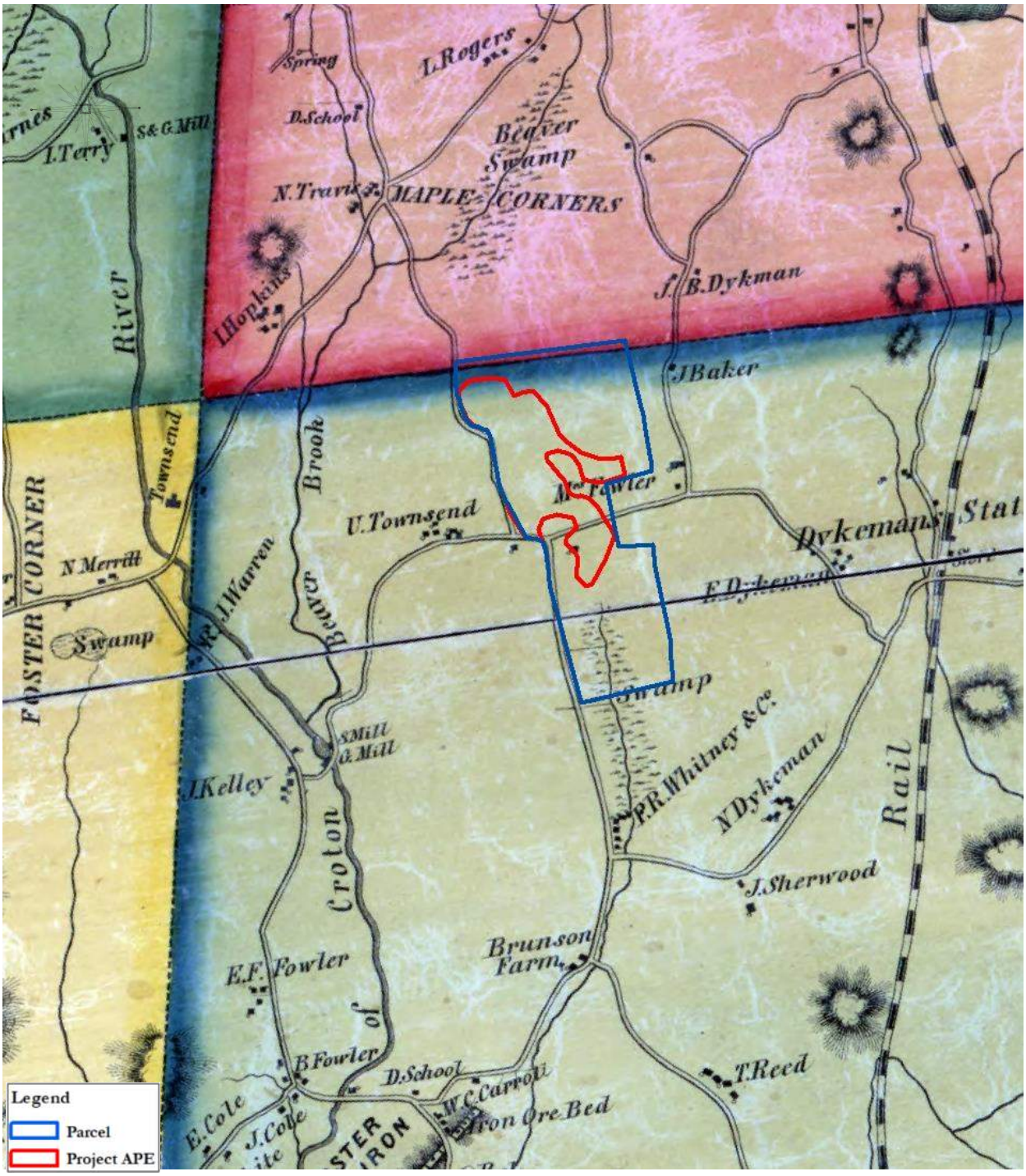


Figure 4: 1854 R.F. O'Connor. *Map of Putnam County, New York.* (Source: Library of Congress) Scale: 1" =1240'.

The 1854 O'Connor map shows that a road runs through the Project APE. This map shows a structure owned by Mrs. Fowler east of the Project APE, a barn or outbuilding in the Project APE, and several buildings owned by U. Townsend to the west. Several mills are located along Beaver Brook to the west. The Project Parcel is located less than a mile northeast of the Fowler & Tilley Foster Harvey Steel & Iron Company. Other structures owned by the Fowler family are located to the southwest of the Project Parcel. The New York and Harlem Railroad runs east of the Project APE, with a stop at Dykeman's Station.

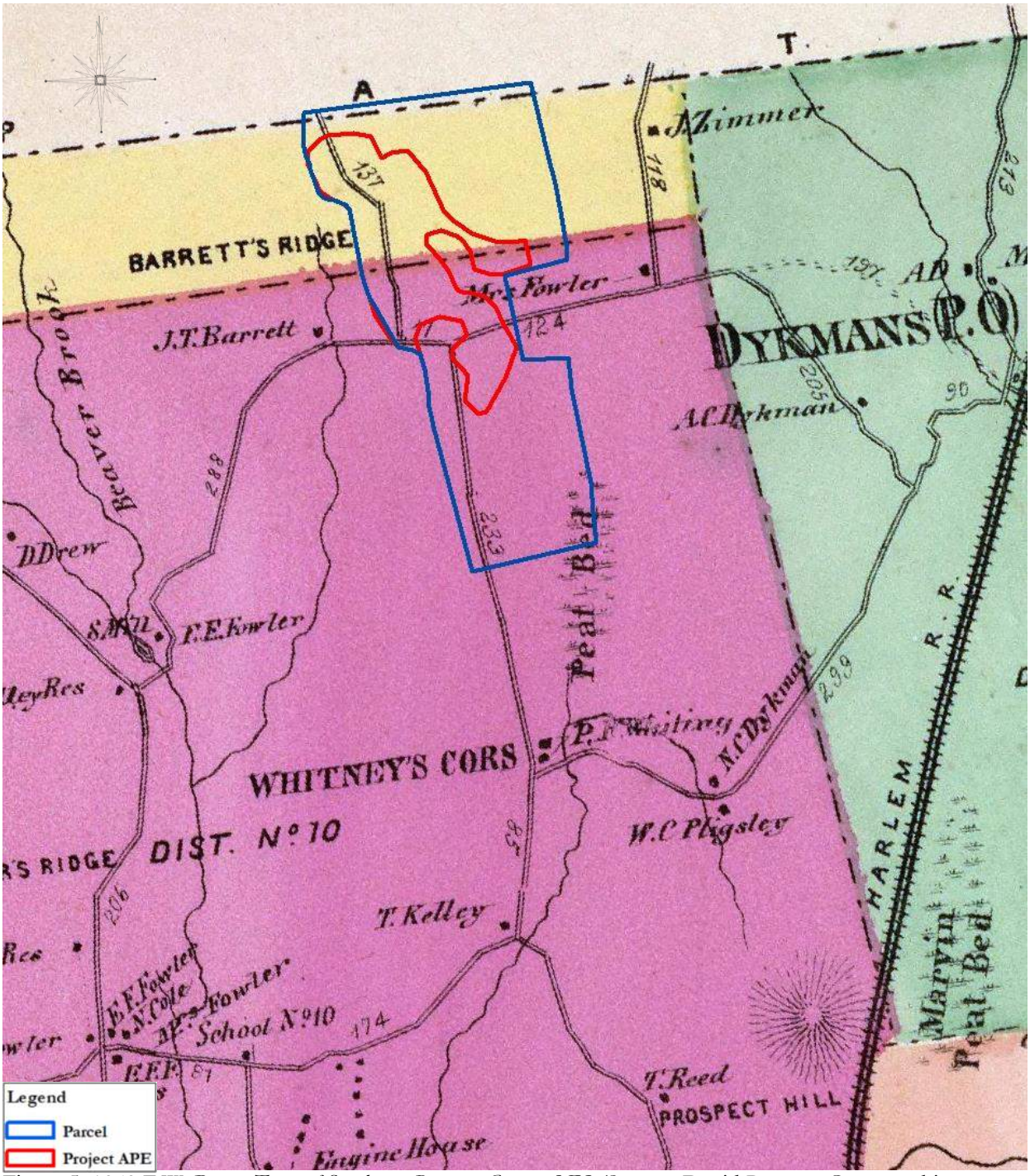


Figure 5: 1868 F.W. Beers *Town of Southeast, Putnam County, NY.* (Source: David Rumsey Cartographic Associates) Scale: 1" =970'.

The 1868 Beers map shows little change near the Project APE. The Iron works at the Tilly Foster Mine are no longer shown, although a number of structures remain. This map shows that route of Pugsley Road is shifted slightly to the east. To the south of the Project Parcel, the wetland is shown as a peat bed and may have been a material source for the Marvin Peat Bed operation to the southeast. Peat was mined as a raw material for charcoal briquets. This map does not show any structures within the boundaries of the Project APE.

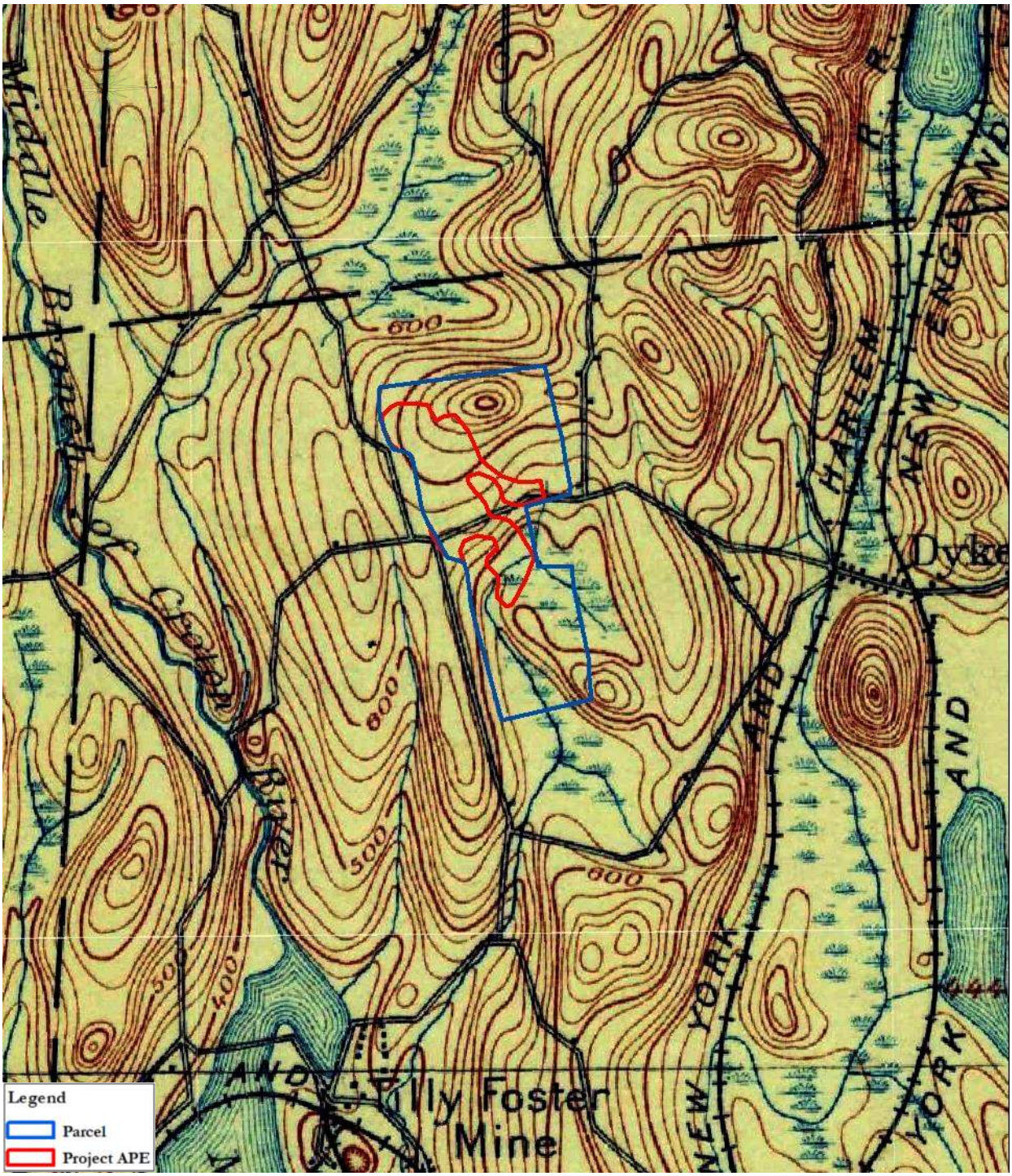


Figure 6: 1894 Carmel NY USGS Topographical Quadrangle. (Source: USGS.gov) Scale: 1" =1240'.

The USGS topographical maps depict the locations of roads, structures and landscape features; however they do not indicate property landowners. This map indicates that there are no structures within the boundaries of the Project APE, though the two structures to the west and east remain. This map shows large wetlands located to the north and southeast of the Project APE, with small streams located to the east and south as well. The New York and Harlem Railroad is operational to the east, and to the south west, the Tilly Foster Mine is shown near the Middle Branch Reservoir.

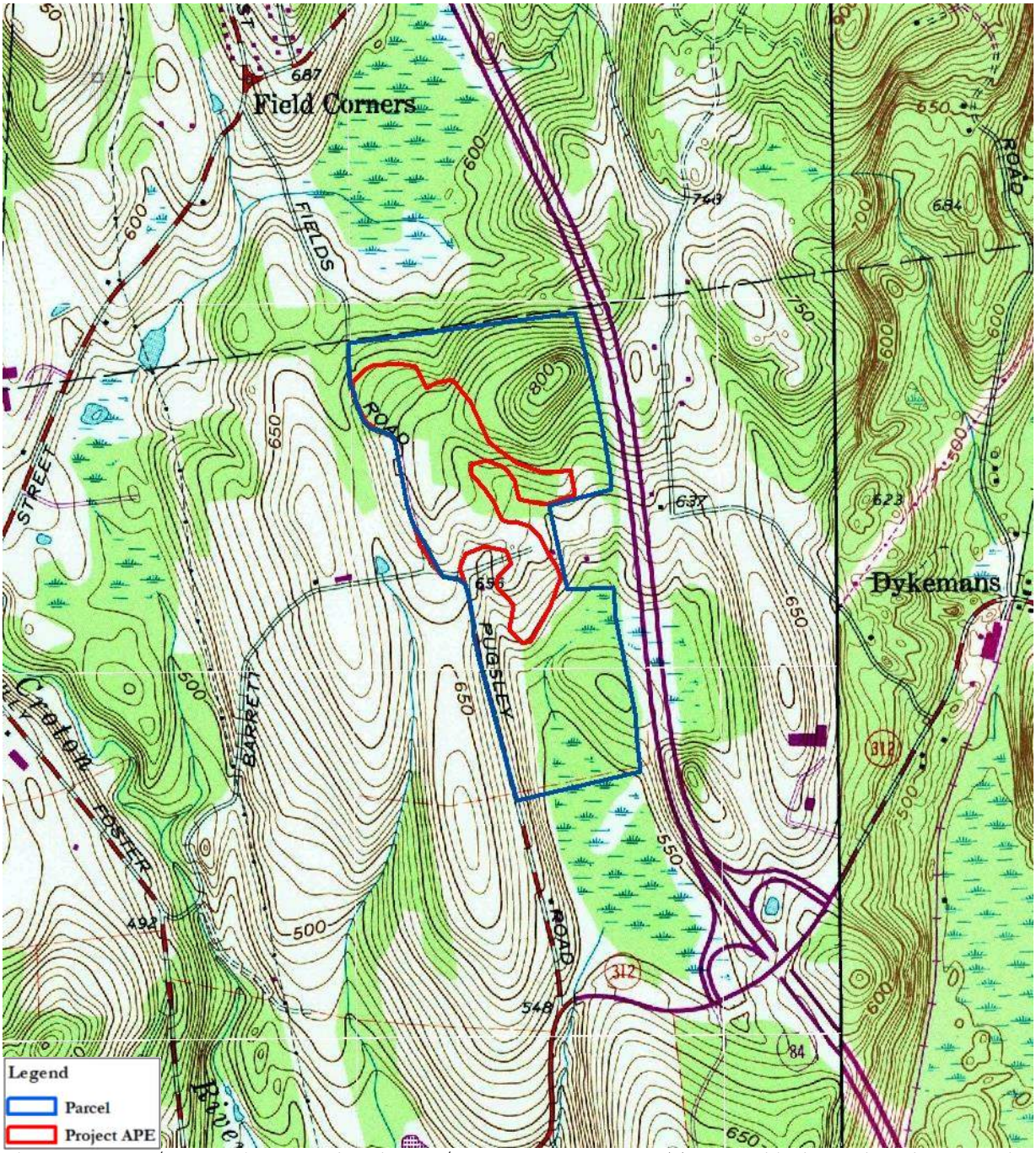


Figure 7: 1960/1980 Lake Carmel and 1958/1980 Brewster USGS Topographical Quadrangles. 7.5 Minute Series. (Source: USGS.gov) Scale: 1" =940'.

The mid twentieth century USGS topographical maps shows that the structures previously identified east of the Project Parcel, are now located on the eastern side of Interstate 84. A structure is shown adjacent to the eastern boundary of the Project Parcel and another along the boundary of the APE. These are shown in purple, which according to the map key indicates revisions completed in 1980.

AERIAL REVIEW

To track the evolution of the natural features within the Project APE, aerial images have been examined and are included in this report.

Figure 8: 1981 aerial image of the Project APE. (Source: Earth Explorer). Scale: 1" =900'.

The 1981 aerial image shows the Project Parcel divided into farm fields, surrounded by forested land. The wetland areas in the southern portion of the parcel are overgrown. Interstate 84 lies to the west of the Project APE. To the west are additional agricultural fields.

Photo 7: The northern portion of the APE north of Zimmer Road is mostly open woodland. View to the north.

Photo 8: The northern portion of the APE is a mixture of open woodland and dense briar and scrub brush. View to the east.

Photo 9: Former pasture and crop fields in the northern portion of the APE are overgrown with dense vegetation. View to the north.

Photo 10: The remains of a foundation is located along the eastern boundary of the Project APE south of Zimmer Road. This is shown on the 1980 topo map (Figure 7). View to the southeast.

F. National Register Eligible/Listed Sites

The National Register Database and OPRHP files were reviewed to identify structures on or in the vicinity of the Project APE that have been listed on the National Register of Historic Places or identified as National Register Eligible. No historic properties are located within a one half mile radius of the Project APE.

G. Assessment of Potential Cultural Resources

Precontact Period Sensitivity

Precontact period archaeological sensitivity of an area is based primarily on proximity to previously documented Precontact archeological sites, known Precontact period resources, and physiographic characteristics, such as topography and proximity to freshwater. In addition to the precontact period sites identified in the area, the project's location, a short distance from wetland areas and the Croton River, combined with the fact that undisturbed, and level terrain exists within the Project APE, makes this landscape moderately sensitive for precontact cultural resources.

Historic Sensitivity

Careful examination of the historic and topographical maps available indicate that the Project APE has been agricultural land for a significant portion of the nineteenth and early twentieth centuries. The topographical maps and aerial images indicate that in the mid nineteenth century outbuilding, located in the southern portion of the site was removed before the onset of the twentieth century. A second outbuilding was constructed on the southern side of Zimmer Road in the late twentieth century, which currently consists of foundation remains. The Project APE is considered to have a low historic sensitivity.

H. Summary and Recommendations

The environmental conditions present within the Brewster Yards Project Parcel indicate that the Project APE is sensitive for precontact and cultural resources. The Project APE includes undisturbed land, within close proximity to freshwater sources.

It is therefore recommended that a Phase 1B Archaeological Field Reconnaissance Survey be undertaken within the location of the proposed development, in areas that have been assessed to have the potential to yield cultural resources.

II. PHASE 1B ARCHAEOLOGICAL FIELD RECONNAISSANCE SURVEY

I. ARCHAEOLOGICAL SURVEY METHODOLOGY

The results of the Phase 1A confirmed that the Project APE is located in an area of precontact period activity. In addition, the landscape closely conforms to an ecological model that indicates that the level, undisturbed portions of the Project APE are moderate to highly sensitive for precontact cultural materials. Phase 1B field investigations took place on from January 3 through January 14, 2022 under the supervision of Franco Zani Jr, and Beth Selig, MA, RPA.

Areas selected for subsurface testing were identified during an intensive walkover inspection which evaluated the landscape to determine areas of prior disturbance, slopes in excess of 12% grade, saturated or wet soils and document evidence of former land usage. Shovel tests were excavated at intervals of 50' (15m) along transects conforming to the land surface and the boundaries of the Project APE. The locations of the tests and disturbed areas were recorded on a scaled map that shows surveyed borders and has the locations of the various structures or features identified (Field Reconnaissance Map).

Shovel tests (STs) approximately 45 cm in diameter, were spaced 50 feet apart and excavated at least 10 cm into sterile subsoil, unless impeded by rocks or other obstructions. This subsurface testing strategy was applied in areas of undisturbed soils and that were well drained and did not contain surface water. All soils excavated from shovel tests were screened through 0.25-inch hardware cloth. Shovel test profiles were recorded on standard field forms which included stratigraphic depths, Munsell soil color, texture and inclusions, disturbances and artifacts (Appendix B). The presence of clearly modern materials, such as plastic fragments, modern bottle glass fragments, or twentieth-century architectural materials were noted on field forms, but HVCRC does not generally collect these materials for analysis or inclusion in the artifact assemblage. If any cultural material had been recovered from shovel tests, then these finds would have been bagged, labeled with standard project provenience information. Following completion of the archaeological fieldwork, all recovered materials were washed, identified, inventoried and re-bagged in labeled clean 4-mil archival quality plastic bags. All cultural materials collected is identified and described based on material type and standard descriptive characteristics and included in an artifact inventory (Appendix C).

J. ARCHAEOLOGICAL SURVEY RESULTS

Due to the dense nature of the vegetation that existed within the Project APE, a full walkover was completed after sit clearing. The clearing took place with a contract carefully cutting linear paths within the Project APE. The alignment of these paths was based on topography, proximity to wetlands and bedrock outcrops. Clearing was not completed within 200' (60 m) of the wetland boundaries.

Clearing began in mid-December, and was completed in January 2022. The field investigations were completed after an area had been cleared. The mowing down of the dense vegetation allowed the field team to establish spatial control across the site, as well as easily traverse the Project APE. In addition, the site clearing provided increased visibility of the overall landscape.

Photo 11: Paths were cleared through the dense vegetation, prior to field investigations. View to the north.

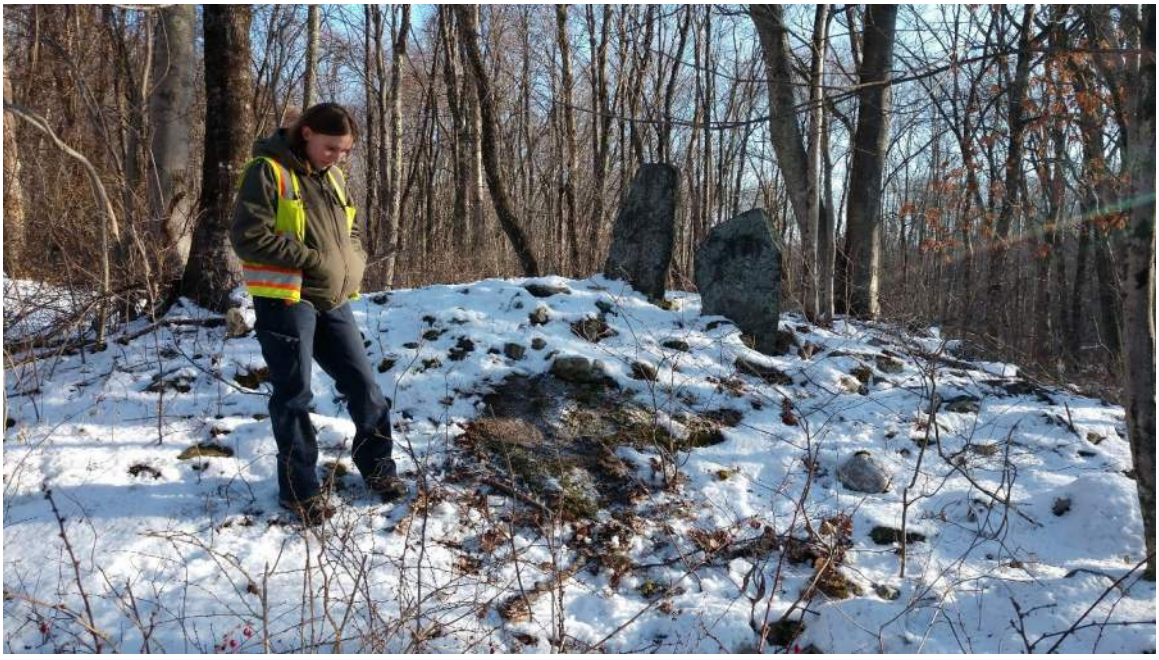


Photo 12: In the southern portion of the Project APE, two stones identify a historic property boundary. These stones are held upright on a bedrock outcrop by smaller stones. View to the southeast.

Photo 13: There is no evidence of inscription or other markings on the stone. View to the southeast.

Photo 14: The two upright stones are located on a bedrock outcrop and elevated above the surrounding land surface. View to the southwest.

Photo 15: Despite the onset of winter and snow cover, soils remained soft under the leaf cover. View north of ST 633.

Photo 16: Zimmer Road bisects the Project APE. View to the west.

The testing pattern utilized across the Project APE primarily followed the cleared paths. Paths were cut, where needed, through the combination of mile-a-minute weed and cat briar, spaced 50' (15m) apart using GPS. Transects were then aligned along these pathways, creating seemingly random transect orientations. Despite the unusual layout of transects, the standard 50' (15.24 m) testing interval was utilized across the Project APE.

Transects began in the southern portion of the Project APE, on the southern side of the access road (Zimmer Road). Transects 1 through 19 were aligned and plotted along paths that were cut in this area. A horizon soils were primarily a dark yellowish brown silty loam or gravelly loam with a B horizon of brown loam or clay loam. A total of one hundred (100) shovel tests were laid out in the southern portion of the APE. Thirty-nine (39) shovel tests were not completed due to slope or surface bedrock. A small fragment of debitage was identified in shovel test 16. A pattern of confirmation tests did not yield any additional cultural material. No other cultural material was found in the southern portion of the Project APE.

In the southern extent of the Project APE two stone markers were identified. These are consistent with other stone property markers identified in the Town of Southeast (City/Scape 2014). These two stones are held upright with loose cobbles piled around the base and do not exhibit any markings or carvings. They are placed on top of a bedrock exposure that rises above the surrounding elevation. The extent of which can be noted in photo 12, as the archaeologist on the left stands over 6', while the archaeologist on the right is only 5' in height. Given the underlying bedrock, there are no buried features associated with these two upright stones.

Testing continued to the north of Zimmer Road where transects oriented according to the clearing pattern, or the topography of the landform. Areas of exposed bedrock, surficial boulders and other rock littered the ground surface along Zimmer Road, and in the eastern portion of the Project APE. The soils in the northern portion of the Project APE contained a thick (1") layer of leaf litter which insulated the soils and prevented a frost layer from forming despite the presence of snow and colder temperatures.

A small pond is located on the northern side of Zimmer Road. Transects 21 through 53 tested the landscape in proximity to this pond, excepting a 100' (30 m) buffer. Two hundred and five (205) shovel tests were planned in this portion (central) of the Project APE. Forty-three (43) were not completed due to slope, exposed bedrock and / or other disturbances. The soil profile is primarily of a dark brown and brownish yellow loam and gravelly loam overlying yellowish brown gravelly loam and fine sandy loam with gravel. None of the completed shovel tests yielded cultural material.

Testing progressed northward across the Project APE, with TR 54 though 101 in the north portion of the Project APE. Transects primarily utilized existing stone walls as baselines. The transects were oriented along the cleared paths that covered the landform, or according to the topography. In the northern portion a total of three hundred and ninety-two (392) shovel tests were planned in this portion of the Project APE. Due to slope, exposed bedrock, large tree falls and other disturbances (i.e. percolation tests, or test well etc.) one hundred and twenty-seven (127) were not completed. The soils consisted primarily of dark brown and brown gravel loam or loam with cobbles and dark yellowish brown silty loam overlying yellowish brown silty clay loam and yellowish brown loam with gravel and/or cobbles. None of the completed shovel tests yielded significant cultural material.

A small flake was located in shovel test 538. A pattern of confirmation tests did not yield any additional cultural material. With the exception of a metal washer, no other cultural material was found in the northern portion of the Project APE.

In total, six hundred ninety-eight shovel tests were planned within the Project APE. Due to the extensive bedrock exposures, boulder covered surfaces and steep slope only four hundred and eighty-eight (488) were completed. The precontact cultural material identified in two isolated shovel tests do not constitute significant finds, nor are they indicative of an archaeological site.

K. SUMMARY

In September and December of 2021 and January of 2022, Hudson Valley Cultural Resource Consultants (HVCRC) completed a Phase 1A Literature Search and Sensitivity Assessment and Phase 1B Archaeological Field Reconnaissance Survey of the Brewster Yards Project in the town of Southeast, Putnam County, New York. The survey was undertaken in area of proposed recreational field development. The Phase 1B Survey tested the locations of proposed development. The Project Area of Potential Effect (APE) includes ±43.1 acres (17.4 h) within a larger parcel (±154.4 acres (62.5 h)). Wetlands are located outside the boundaries of the Project APE.

The property consists of a mix of overgrown fields and wooded areas. The field investigations were completed after clearing of the dense vegetation was completed. The landscape is a mix of level areas interspersed with steep slopes and bedrock exposures. The mid-nineteenth century maps show the location of an outbuilding in on the southern side of Zimmer Road. No evidence of this structures was identified during the field investigations. A modern foundation is located along the eastern boundary of the Project APE. This building was added in the late twentieth century. In addition an opportunistic recreation area, marked by old tables and a small fire ring, is located on the northern side of Zimmer Road. No significant built features were identified in the Project APE.

A single piece of debitage was recovered from, ST 16, in the southern portion of the Project APE. A pattern of confirmation shovel tests was excavated around the positive test, but no additional precontact period cultural material was identified. Shovel test 538 also yielded a single piece of debitage, but the confirmation tests did not identify any additional cultural materials. These locations are considered to be isolated finds, and do not represent intact archaeological sites.

A total of four hundred and eighty-eight (488) were completed within the boundaries of the Project APE. Based on the results of the completed survey, and the sparse recovery of cultural material within the boundaries of the Project APE, the proposed undertaking is not considered to have an adverse effect on archaeologically significant sites. The results of the archaeological survey indicate that there are no significant cultural deposits located within the boundaries of the Project APE.

L. CONCLUSIONS AND RECOMMENDATIONS

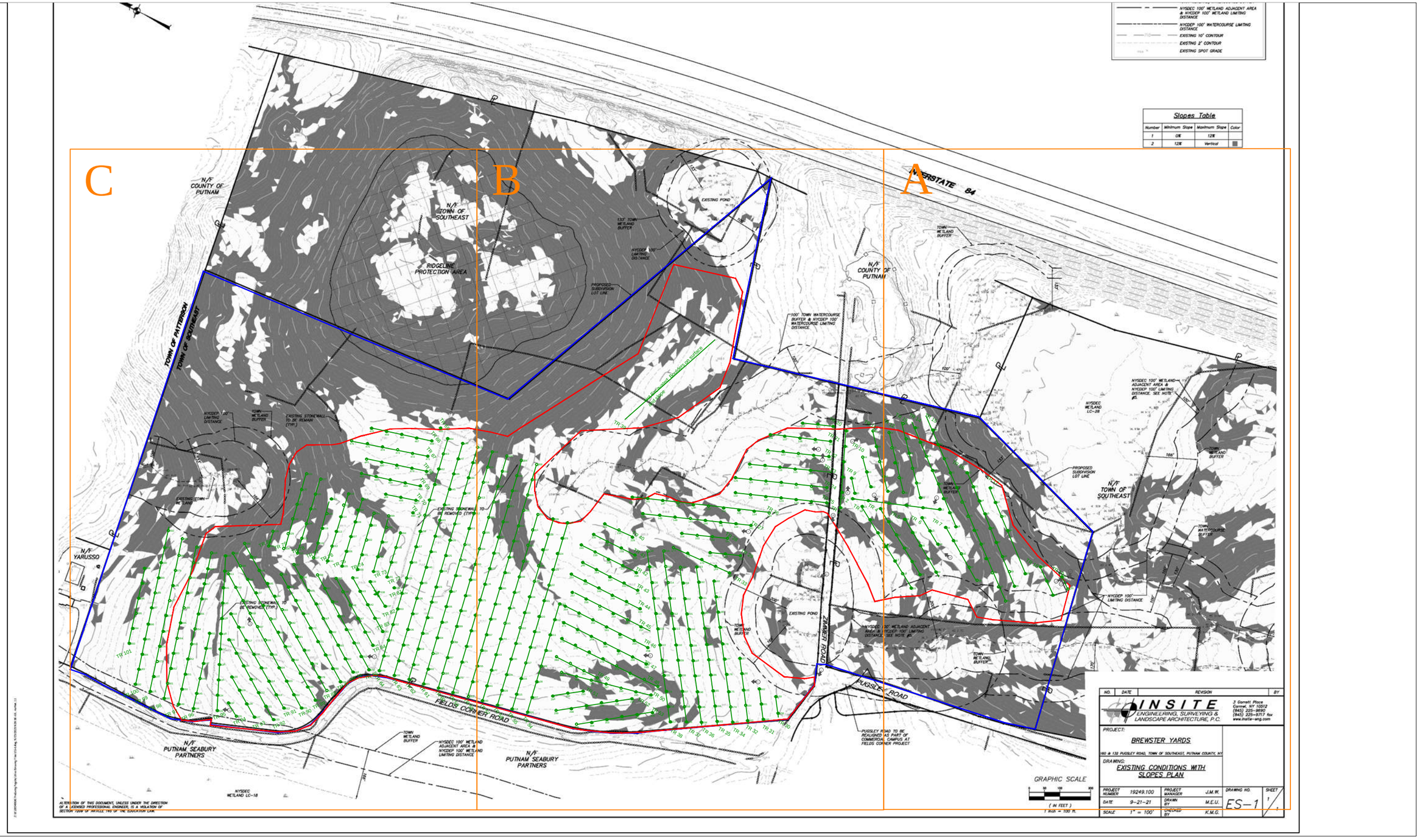
In January of 2021 Hudson Valley Cultural Resource Consultants completed a walkover and Phase 1B reconnaissance survey of the Brewster Yards Project in the Town of Southeast, Putnam County New York. Based on the results of the survey, no archaeological sites or historic structures are located within the Area of Potential Effect (APE). Therefore, the proposed undertaking will not affect any potentially significant cultural resources. In the opinion of HVCRC that no additional cultural resources investigations are warranted for the proposed Project. These recommendations are subject to concurrence by the New York State Office of Parks, Recreation and Historic Preservation.

Photo 17: A small pond is located on the northern side of Zimmer Road. View to the northwest.

Photo 18: The extensive amount of rock prohibited shovel testing portions of the APE. View to the northeast.

Photo 19: View to the north on TR 6 in the southern portion of the Project APE.

Photo 20: View to the west of TR 24, and the surrounding bedrock and boulders.



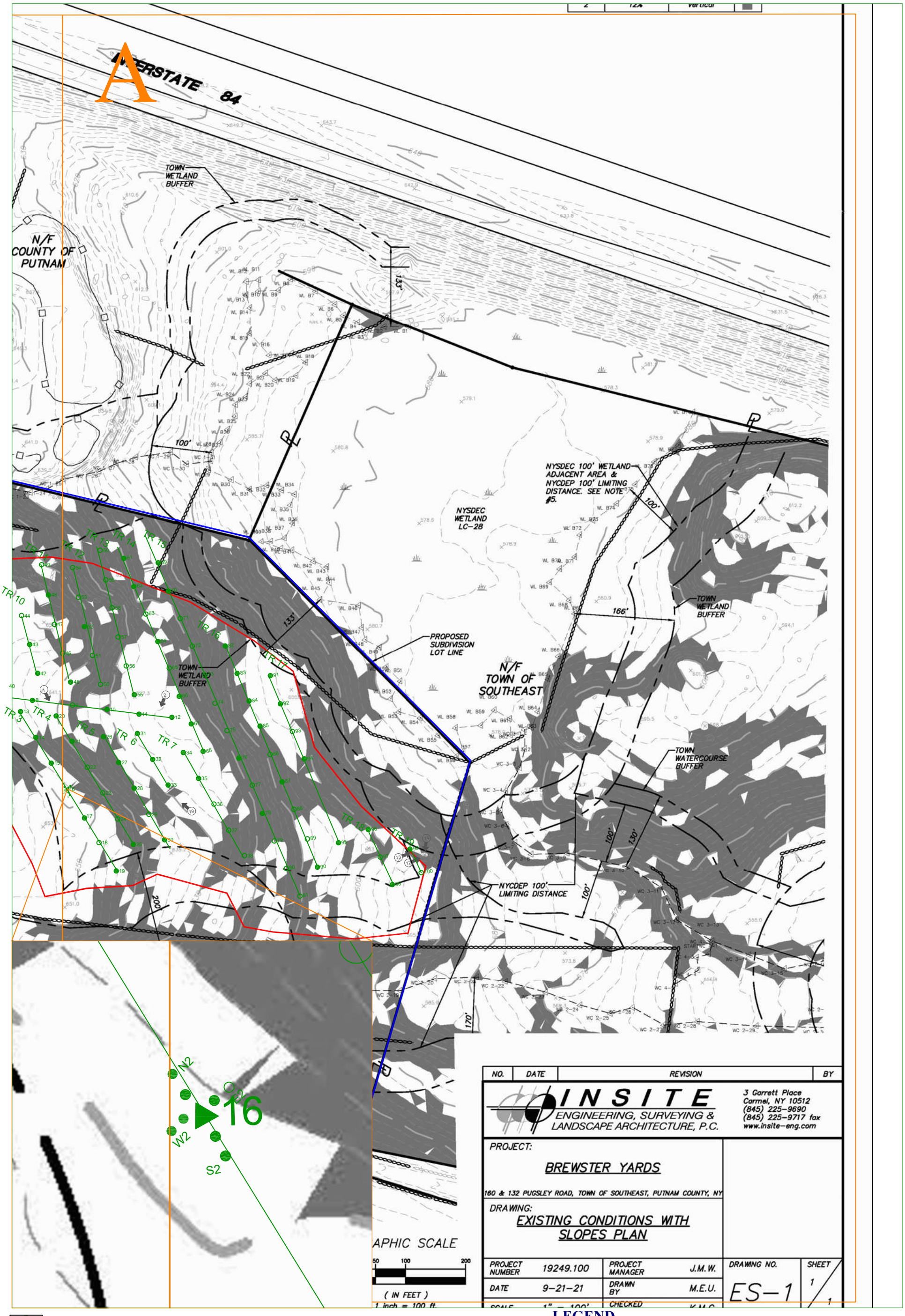
HUDSON VALLEY
Cultural Resource Consultants, Ltd.

Figure 9: Brewster Yards Project
Phase 1B Field Reconnaissance Map
Scale 1" = 300'

0 150 300
(IN FEET)
1 inch = 300 ft.

LEGEND

- ST — Sterile Shovel Test Location
- ST — Planned Shovel Test: Not Excavated
- Project Parcel
- Area of Potential Effect
- 1 — Photographic View



HUDSON VALLEY
Cultural Resource Consultants, Ltd.

Figure 9A: Brewster Yards Project
Phase 1B Field Reconnaissance Map
Scale 1" = 150'

0 75 150
(IN FEET)
1 inch = 150 ft.

LEGEND

- ST — Sterile Shovel Test Location
- ST — Planned Shovel Test: Not Excavated
- Project Parcel
- Area of Potential Effect
- 1 — Photographic View

B

N/F TOWN OF SOUTHEAST

SELINE TION AREA

133' TOWN WETLAND BUFFER

NYCDEP 100' LIMITING DISTANCE

PROPOSED SUBDIVISION LOT LINE

EXISTING POND

133'

100'

N/F COUNTY OF PUTNAM

100' TOWN WATERCOURSE BUFFER & NYCDEP 100' WATERCOURSE LIMITING DISTANCE

100'

Not Excavated: Boulders on surface and slope

TR 65

TR 66

TR 39

TR 20

TR 21

TR 10

TR 22

TR 9

TR 23

TR 24

TR 25

TR 2

TR 3

TR 4

TR 26

TR 27

TR 28

TR 29

TR 40

TR 41

TR 42

TR 43

TR 44

TR 45

TR 46

TR 47

TR 48

TR 49

TR 50

TR 51

TR 52

TR 53

TR 33

TR 30

TR 31

TR 32

TR 34

TR 35

TR 36

TR 37

TR 38

TR 60

TR 59

TR 58

TR 57

TR 56

TR 55

TR 54

STARTING 1-1

EXISTING STONEWALL TO BE REMOVED (TYP.)

FIELDS CORNER ROAD

200'

EXISTING POND

TOWN WETLAND BUFFER

166'

ZIMMER ROAD

PUGSLEY RO

PUGSLEY ROAD TO REALIGNED AS PA COMMERCIAL CAMP FIELDS CORNER PR

NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE

N/F PUTNAM SEABURY PARTNERS

HUDSON VALLEY
Cultural Resource Consultants, Ltd.

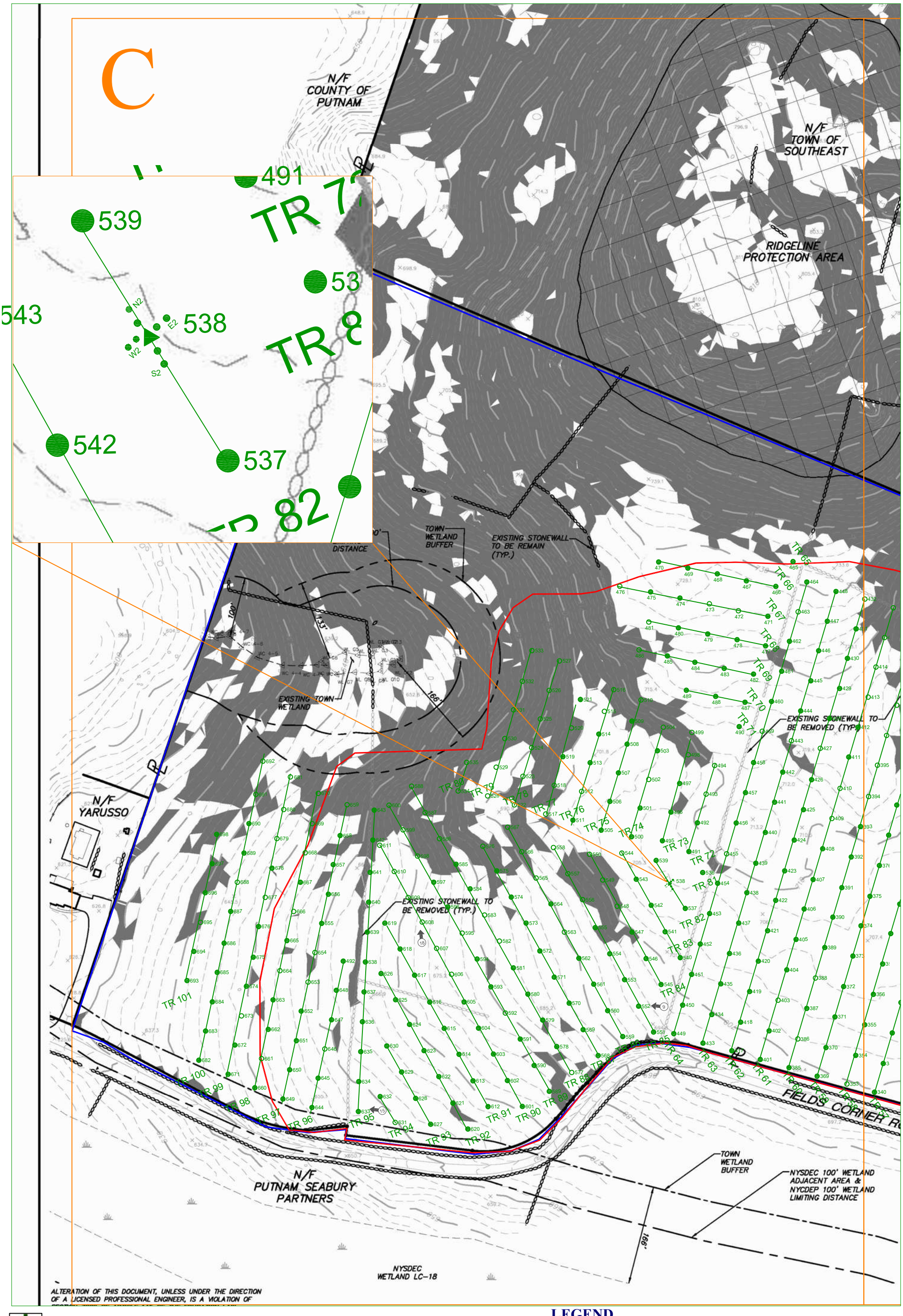
Figure 9B: Brewster Yards Project
Phase 1B Field Reconnaissance Map
Scale 1" = 150'

0 75 150

(IN FEET)
1 inch = 150 ft.

LEGEND

- ST — Sterile Shovel Test Location
- ST — Planned Shovel Test: Not Excavated
- Project Parcel
- Area of Potential Effect
- 1 — Photographic View



HUDSON VALLEY

Cultural Resource Consultants, Ltd.

Figure 9A: Brewster Yards Project
Phase 1B Field Reconnaissance Map
Scale 1" = 150'

0 75 150

(IN FEET)
1 inch = 150 ft.

LEGEND

- ST — Sterile Shovel Test Location
- ST — Planned Shovel Test: Not Excavated
- Project Parcel
- Area of Potential Effect
- 1 — Photographic View

M. BIBLIOGRAPHY

Bailey, Robert C.
1995 Description of the Ecoregions of the United States. http://www.fs.fed.us/land/ecosysmgmt/index.html. Accessed August 13, 2020

Beauchamps, William M.
1900 Aboriginal Occupation of New York. New York State Museum. Bulletin Number 32. Volume 7. The University of the State of New York: Albany, NY.

Beers, F.W.
1867 *Map of Putnam County, New York*. Stone & Stewart: Philadelphia, PA.

Bryce, Sandra A., Glenn E. Griffith, James M. Omemik, Greg Edinger, Steven Indrick, Olga Vargas, and Douglas Carlson
2010 Ecoregions of New York (Color Poster with Map, Descriptive Text, Summary Tables, and Photographs): Reston VA, U.S. Geological Survey, Map Scale 1: 1,250,000.

CITY/SCAPE Cultural Resource Consultants
2014 Phase IA Archaeological Assessment, Farm to Market Road Subdivision, Southeast, Putnam County, New York. Farm to Market Road Subdivision, Phase 1B Archaeological Field Reconnaissance Survey, Town of Southeast, Putnam County, New York. Submitted to OPRHP.

Cochran-Swanson, Susan and Elizabeth Green Fuller
1982 The History of Westchester: the First 300 Years. Prepared by Susan Cochran-Swanson and Elizabeth Green Fuller.

Cronon, William
1983 *Changes in the Land: Indians, Colonists, and the Ecology of New England*. Hill & Wang: New York, NY.

Eisenstaedt, Peter ed.
2005 *The Encyclopedia of New York State*. Syracuse University Press, Syracuse, NY.

Fisher, Donald W., Yngvar W. Isachsen, Lawrence V. Rickard
1970 *Geologic Map of New York, Lower Hudson Sheet*. New York State Museum and Science Service Map and Chart Series No. 15. New York State Museum, Albany, New York.

Flato, Mike
1976 An Historic Biographical Profile, of the Town of Kent, Putnam County, New York. Bicentennial Edition.

Funk, Robert E.
1976 Recent Contributions to Hudson Valley Prehistory. New York State Museum Memoir 22. Albany, NY.

Hart, J. P., and H. J. Brumbach
2005 Cooking Residues, AMS Dates, and the Middle-to-Late Woodland Transition in Central New York. *Northeast Anthropology* 69:1–34.

Moeller, Roger W.
1999 A View of Paleo Studies in Connecticut. *Bulletin of the Archaeological Society of Connecticut*. 62 (1999): 101-124.

Natural Resources Conservation Service
http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed August 13, 2020.

New York State Archaeological Council (NYAC)
1994 Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State. New York Archaeological Council.

New York State Office of Parks Recreation and Historic Preservation CRIS
Web Accessed August 13, 2020.

Parker, Arthur
1920 Archaeological History of New York. New York State Museum Bulletin. No. 237 and 238. The University of the State of New York: Albany, NY.

Pelletreau, William
1886 *The History of Putnam County, New York*. W. W Preston & Co.: Philadelphia, PA. [Reprint 1975]

Pretola, J.P. & J.A. Freedman
2009 *Management Summary: Phase III Data Recovery Black Dirt Deep Testing, Towns of Minisink & Warwick, Orange County, New York*. Submitted to the Federal Agency Regulatory Commission, Docket # CP98-150-000, OPRHP # 04PR02896 by Gray & Pape, Inc., Providence, RI.

O'Connor, R. F.
1854 *Map of Putnam County, New York*. R. F. O'Connor: New York, NY.

Oxford Publishing Co.
1912 Historical and genealogical record, Dutchess and Putnam counties, New York. [Poughkeepsie, N.Y., Oxford publishing company (Press of the A.V. Haight co), Retrieved from the Library of Congress

Ritchie, William A.
1973 Aboriginal Settlement Patterns in the Northeast. Memoir 20. New York State Museum and Science Service. Albany, NY.
1969 The Archaeology of New York State. Natural History Press: Garden City, NY.

Shaver, Peter (compiler)
1992 The National Register of Historic Places in New York State. Preservation League of New York State: Albany, NY.

Sirkin, Les
1977 Late Pleistocene Vegetation and Environments in the Middle Atlantic Region. Annals of the New York Academy of Science. February 1977. Vol. 288.

Snow, Dean R.
1980 The Archaeology of New England. Academic Press: New York, NY.

Southeast, New York, Municipal Code Part II/General Legislation, § Chapter 83: Historic Sites and Historic Districts

Sulavik, Stephen B
2005 Adirondack: of Indians and Mountains 1535-1838. Purple Mountain Press. New York.

United States Geological Survey
2019 United State Geological Survey Topographical Map. Peach Lake Quadrangle. 7.5 Minute Series.
2019 United State Geological Survey Topographical Map. Croton Falls Quadrangle. 7.5 Minute Series.
1981 United State Geological Survey Topographical Map. Croton Falls Quadrangle. 7.5 Minute Series.
1984 United State Geological Survey Topographical Map. Peach Lake Quadrangle. 7.5 Minute Series.
1928 United State Geological Survey Topographical Map. Carmel Quadrangle. 15 Minute Series.

APPENDIX A: SOIL CLASSIFICATIONS (TABLE 1)

Table 1: Soil Unit Descriptions (Natural Resources Conservation Service)					
Map Unit Symbol	**Map Unit Name**	**Soil Horizons & Texture**	**Slope**	**Drainage**	**Landform**
Ce	Catden Muck	Oa1 - 0 to 2 inches: muck Oa2 - 2 to 79 inches: muck	0 to 2%	Very poorly drained	Marshes, kettles, depressions, fens, depressions, depressions, swamps, bogs
ChB	Charlton fine sandy loam	Ap - 0 to 7 inches: fine sandy loam Bw - 7 to 22 inches: gravelly fine sandy loam C - 22 to 65 inches: gravelly fine sandy loam	3 to 8%	Well drained	Hills, ground moraines, ridges
ChC	Charlton fine sandy loam	Ap - 0 to 7 inches: fine sandy loam Bw - 7 to 22 inches: gravelly fine sandy loam C - 22 to 65 inches: gravelly fine sandy loam	8 to 15%	Well drained	Hills, ground moraines, ridges
CrC	Charlton-Chatfield complex	Oe - 0 to 2 inches: moderately decomposed plant material A - 2 to 4 inches: fine sandy loam Bw - 4 to 27 inches: gravelly fine sandy loam C - 27 to 65 inches: gravelly fine sandy loam	3 to 15%	Well drained	Ridges, hills
		Oi - 0 to 1 inches: slightly decomposed plant material A - 1 to 2 inches: fine sandy loam Bw - 2 to 30 inches: gravelly fine sandy loam 2R - 30 to 40 inches: bedrock			
CsD	Charlton-Chatfield complex	Oe - 0 to 2 inches: moderately decomposed plant material A - 2 to 4 inches: fine sandy loam Bw - 4 to 27 inches: gravelly fine sandy loam C - 27 to 65 inches: gravelly fine sandy loam	15 to 35%	Well drained	Ridges, hills
CtC	Chatfield-Hollis-Rock outcrop complex	Oi - 0 to 1 inches: slightly decomposed plant material A - 1 to 2 inches: fine sandy loam Bw - 2 to 30 inches: gravelly fine sandy loam 2R - 30 to 40 inches: bedrock	0 to 15%	Well drained	Ridges, hills
		Oi - 0 to 2 inches: slightly decomposed plant material A - 2 to 7 inches: gravelly fine sandy loam Bw - 7 to 16 inches: gravelly fine sandy loam 2R - 16 to 26 inches: bedrock		Somewhat excessively drained	Ridges, hills
		Igneous and metamorphic bedrock		N/A	N/A
HrF	Hollis-Rock outcrop complex	Oi - 0 to 2 inches: slightly decomposed plant material A - 2 to 7 inches: gravelly fine sandy loam Bw - 7 to 16 inches: gravelly fine sandy loam 2R - 16 to 26 inches: bedrock	35 to 60%	Somewhat excessively drained	Ridges, hills
		Igneous and metamorphic bedrock		N/A	N/A

LcB	Leicester loam	H1 - 0 to 8 inches: loam H2 - 8 to 26 inches: sandy loam C - 26 to 60 inches: sandy loam	3 to 8%	Somewhat poorly drained	Till plains, hills, ridges
NcA	Natchaug muck	Oa1 - 0 to 12 inches: muck Oa2 - 12 to 31 inches: muck 2Cg1 - 31 to 39 inches: silt loam 2Cg2 - 39 to 79 inches: fine sandy loam	0 to 2%	Very poorly drained	Depressions
PnB	Paxton fine sandy loam	Ap - 0 to 8 inches: fine sandy loam Bw1 - 8 to 15 inches: fine sandy loam Bw2 - 15 to 26 inches: fine sandy loam Cd - 26 to 65 inches: gravelly fine sandy loam	3 to 8%	Well drained	Drumlins, hills, ground moraines
PnC	Paxton fine sandy loam	Ap - 0 to 8 inches: fine sandy loam Bw1 - 8 to 15 inches: fine sandy loam Bw2 - 15 to 26 inches: fine sandy loam Cd - 26 to 65 inches: gravelly fine sandy loam	8 to 15%	Well drained	Drumlins, hills, ground moraines
RdB	Ridgebury complex	Oe - 0 to 1 inches: moderately decomposed plant material A - 1 to 6 inches: loam Bw - 6 to 10 inches: gravelly fine sandy loam Bg - 10 to 19 inches: gravelly fine sandy loam Cd - 19 to 66 inches: gravelly loam	3 to 8%	Poorly drained	Hills, ground moraines, depressions, drumlins, drainageways
		Oa - 0 to 1 inches: highly decomposed plant material A - 1 to 7 inches: loam Bw - 7 to 13 inches: loam Bg - 13 to 21 inches: fine sandy loam Cd - 21 to 60 inches: gravelly fine sandy loam		Somewhat poorly drained	
RgB	Ridgebury complex, very stony	Oe - 0 to 1 inches: moderately decomposed plant material A - 1 to 6 inches: loam Bw - 6 to 10 inches: gravelly fine sandy loam Bg - 10 to 19 inches: gravelly fine sandy loam Cd - 19 to 66 inches: gravelly loam	0 to 8%	Poorly drained	Hills, ground moraines, depressions, drumlins, drainageways
		Oa - 0 to 1 inches: highly decomposed plant material A - 1 to 7 inches: loam Bw - 7 to 13 inches: loam Bg - 13 to 21 inches: fine sandy loam Cd - 21 to 60 inches: gravelly fine sandy loam		Somewhat poorly drained	
Sh	Sun loam	H1 - 0 to 9 inches: loam H2 - 9 to 27 inches: loam H3 - 27 to 60 inches: gravelly fine sandy loam	0 to 3%	Very poorly drained	Depressions
Sm	Sun loam, extremely stony	H1 - 0 to 9 inches: loam H2 - 9 to 27 inches: loam	0 to 3%	Very poorly drained	Depressions

		H3 - 27 to 60 inches: gravelly fine sandy loam			
SuB	Sutton loam	Ap - 0 to 9 inches: loam Bw1 - 9 to 17 inches: fine sandy loam Bw2 - 17 to 30 inches: sandy loam C1 - 30 to 39 inches: sandy loam C2 - 39 to 60 inches: sandy loam	3 to 8%	Moderately well drained	Hills, ridges, ground moraines
W	Water				
WdB	Woodbridge loam	Ap - 0 to 6 inches: loam Bw1 - 6 to 18 inches: gravelly loam Bw2 - 18 to 29 inches: gravelly loam Cd - 29 to 65 inches: gravelly loam	3 to 8%	Moderately well drained	Drumlins, hills, ground moraines
WdC	Woodbridge loam	Ap - 0 to 6 inches: loam Bw1 - 6 to 18 inches: gravelly loam Bw2 - 18 to 29 inches: gravelly loam Cd - 29 to 65 inches: gravelly loam	8 to 15%	Moderately well drained	Drumlins, hills, ground moraines

APPENDIX B: SHOVEL TEST RECORDS

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 1	1	1	0-10	0-26	10YR 3/4	Dark yellowish brown loam, terminated at root impasse.	NCM
	2	1	0-9	0-22	10YR 3/4	Dark yellowish brown loam	NCM
		2	9-15	22-39	10YR 4/3	Brown loam	NCM
	3	1	0-9	0-23	10YR 3/4	Dark yellowish brown loam	NCM
		2	9-14	23-35	10YR 4/3	Brown loam	NCM
	4	1	0-7	0-19	10YR 3/4	Dark yellowish brown loam	NCM
		2	7-10	19-26	10YR 4/3	Brown loam, terminated at root impasse.	NCM
	5	1	0-10	0-25	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-14	25-35	7.5YR 5/4	Brown clay loam	NCM
	6	1	0-4	0-10	10YR 3/2	Very dark grayish brown loam, terminated at rock impasse	NCM
TR 2	7	1	0-10	0-25	10YR 3/4	Dark yellowish brown loam with cobbles	NCM
		2	10-13	25-32	10YR 5/6	Yellowish brown loam with cobbles, terminated at rock impasse.	NCM
	8	1	0-11	0-27	10YR 3/4	Dark yellowish brown loam with cobbles	NCM
		2	11-15	27-39	7.5YR 5/4	Brown clay loam	NCM
	9					Not excavated: slope > 12%	
	10	1	0-15	0-38	10YR 3/4	Dark yellowish brown loam with cobbles	NCM
		2	15-19	38-47	10YR 5/6	Yellowish brown fine sandy loam with gravel, terminated at rock impasse.	NCM
	11	1	0-16	0-40	10YR 3/4	Dark yellowish brown loam	NCM
		2	16-20	40-50	7.5YR 5/4	Brown loam	NCM
	11	1	0-10	0-26	10YR 4/4	Dark yellowish brown loam	NCM
		2	10-11	26-28	10YR 5/6	Yellowish brown loam, terminated at rock impasse.	NCM
	12	1	0-13	0-33	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 3	13	1	0-10	0-26	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	10-16	26-40	10YR 5/6	Yellowish brown loam with gravel	NCM
	14	1	0-12	0-30	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	12-16	30-40	10YR 5/6	Yellowish brown loam with gravel	NCM
	15	1	0-11	0-29	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	11-16	29-40	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM
	16	1	0-8	0-21	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	8-15	21-37	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM
	16E1	1	0-12	0-30	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	12-16	30-40	7.5YR 5/4	Brown silty clay loam	NCM
	16E2					Not excavated: slope > 12%	
	16N1	1	0-14	0-36	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	14-19	36-48	7.5YR 5/4	Brown silty clay loam	NCM
	16N2	1	0-9	0-24	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	9-13	24-34	7.5YR 5/4	Brown silty clay loam	NCM
	16S1	1	0-13	0-34	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	13-18	34-46	7.5YR 5/4	Brown silty clay loam	NCM
	16S2	1	0-13	0-32	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	13-15	32-38	7.5YR 5/4	Brown silty clay loam	NCM
	16W1	1	0-15	0-39	10YR 4/4	Dark yellowish brown silty clay loam	NCM
		2	15-17	39-42	10YR 5/6	Yellowish brown silty clay loam	NCM
	16W2	1	0-10	0-25	10YR 3/4	Dark yellowish brown silty clay loam	NCM
		2	10-16	25-40	7.5YR 5/4	Brown silty clay loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	17	1	0-9	0-24	10YR 3/4	Dark yellowish brown loam	1 flake
		2	9-15	24-39	7.5YR 5/4	Brown fine sandy loam with gravel	NCM
	18					Not Excavated: Perk test	
	19	1	0-11	0-29	10YR 3/4	Dark yellowish brown loam	NCM
		2	11-15	29-39	7.5YR 5/4	Brown fine sandy loam with gravel	NCM
TR 4	20	1	0-11	0-27	10YR 3/4	Dark yellowish brown loam	NCM
		2	11-15	27-39	10YR 5/4	Yellowish brown gravelly loam	NCM
	21	1	0-9	0-24	10YR 3/4	Dark yellowish brown loam	NCM
		2	9-15	24-38	10YR 5/4	Yellowish brown gravelly loam	NCM
	22					Not excavated: slope > 12%	
	23					Not excavated: slope > 12%	
	24					Not excavated: slope > 12%	
	25	1	0-9	0-23	10YR 3/4	Dark yellowish brown loam	NCM
		2	9-15	23-37	10YR 5/4	Yellowish brown gravelly loam	NCM
TR 5	26	1	0-10	0-25	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
	27	1	0-9	0-23	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
		2	9-13	23-34	10YR 5/6	Yellowish brown loam	NCM
	28	1	0-9	0-24	10YR 4/4	Dark yellowish brown loam	NCM
		2	9-14	24-35	10YR 4/6	Dark yellowish brown loam	NCM
	29					Not excavated: slope > 12%	
	30	1	0-9	0-24	10YR 4/4	Dark yellowish brown loam	NCM
		2	9-15	24-39	10YR 5/3	Brown fine sandy loam with gravel	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 6	31	1	0-11	0-29	10YR 3/3	Dark brown loam	NCM
		2	11-16	29-41	10YR 4/6	Dark yellowish brown loam	NCM
	32	1	0-9	0-24	10YR 3/3	Dark brown loam	NCM
		2	9-11	24-29	10YR 4/6	Dark yellowish brown loam, terminated at rock impasse.	NCM
	33	1	0-11	0-27	10YR 3/3	Dark brown loam, terminated at root impasse.	NCM
TR 7	34	1	0-4	0-10	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
	35	1	0-7	0-19	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
		2	7-13	19-34	10YR 5/6	Yellowish brown loam	NCM
	36					Not excavated: exposed bedrock	
	37					Not excavated: slope > 12%	
	38					Not excavated: slope > 12%	
TR 8	39	1	0-10	0-26	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-16	26-40	7.5YR 5/4	Brown fine sandy loam with gravel	NCM
TR 9	40	1	0-11	0-29	10YR 3/4	Dark yellowish brown loam	NCM
		2	11-16	29-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	41	1	0-11	0-27	10YR 3/4	Dark yellowish brown loam	NCM
		2	11-15	27-39	10YR 5/6	Yellowish brown gravelly loam	NCM
TR 10	42	1	0-9	0-23	10YR 3/4	Dark yellowish brown loam	NCM
		2	9-14	23-35	10YR 5/4	Yellowish brown gravelly loam	NCM
	43	1	0-10	0-26	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-15	26-38	10YR 5/4	Yellowish brown gravelly loam	NCM
	44					Not excavated: exposed bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 11	45	1	0-9	0-23	10YR 3/4	Dark yellowish brown loam	NCM
		2	9-14	23-35	7.5YR 5/4	Brown fine sandy loam with gravel	NCM
	46					Not excavated: exposed bedrock	
	47					Not excavated: exposed bedrock	
	48	1	0-10	0-26	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-14	26-36	10YR 5/6	Yellowish brown fine sandy loam with gravel	NCM
	49					Not excavated: slope > 12%	
TR 12	50					Not excavated: slope > 12%	
	51					Not excavated: slope > 12%	
	52	1	0-6	0-14	10YR 3/3	Dark brown loam, terminated at rock impasse.	NCM
	53					Not excavated: exposed bedrock	
	54					Not excavated: slope > 12%	
TR 13	55	1	0-7	0-17	10YR 3/3	Dark brown loam, terminated at rock impasse.	NCM
	56					Not excavated: exposed bedrock	
	57					Not excavated: slope > 12%	
	58					Not excavated: slope > 12%	
	59					Not excavated: slope > 12%	
	60					Not excavated: slope > 12%	
TR 14	61	1	0-12	0-30	10YR 3/4	Dark yellowish brown loam	NCM
		2	12-16	30-41	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM
	62	1	0-9	0-23	10YR 3/4	Dark yellowish brown loam	NCM
		2	9-13	23-33	10YR 5/6	Yellowish brown fine sandy loam with gravel	NCM
	63					Not excavated: exposed bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	64	1	0-10	0-25	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-14	25-35	10YR 5/6	Yellowish brown fine sandy loam with gravel	NCM
	65	1	0-9	0-24	10YR 3/4	Dark yellowish brown loam	NCM
		2	9-16	24-40	10YR 5/6	Yellowish brown fine sandy loam with gravel	NCM
	66					Not Excavated: Exposed Bedrock	NCM
	67	1	0-6	0-15	10YR 3/3	Dark brown silty loam	NCM
		2	6-13	15-34	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM
	68	1	0-9	0-23	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	9-15	23-37	10YR 5/6	Yellowish brown loam with gravel	NCM
TR 15	69	1	0-8	0-21	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	8-11	21-28	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM
	70	1	0-11	0-27	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	11-18	27-45	10YR 5/6	Yellowish brown fine sandy loam with gravel	NCM
	71					Not excavated: slope > 12%	
	72					Not excavated: slope > 12%	
	73					Not excavated: slope and bedrock	
	74					Not excavated: slope and bedrock	
	75					Not excavated: slope and bedrock	
	76	1	0-10	0-26	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	10-16	26-41	10YR 5/6	Yellowish brown fine sandy loam with gravel	NCM
	77					Not excavated: slope > 12%	
	78	1	0-11	0-29	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	11-17	29-43	10YR 5/6	Yellowish brown fine sandy loam with gravel	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	79					Not excavated: slope > 12%	
	80					Not excavated: slope > 12%	
	81					Not excavated: slope > 12%	
TR 16	82	1	0-11	0-27	10YR 3/4	Dark yellowish brown loam	NCM
		2	11-15	27-38	10YR 5/6	Yellowish brown loam	NCM
	83	1	0-11	0-27	10YR 3/4	Dark yellowish brown loam	NCM
		2	11-15	27-37	10YR 5/6	Yellowish brown loam	NCM
	84	1	0-13	0-32	10YR 3/4	Dark yellowish brown loam	NCM
		2	13-17	32-44	10YR 5/6	Yellowish brown loam	NCM
	85	1	0-10	0-26	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-15	26-37	10YR 5/4	Yellowish brown loam	NCM
	86					Not excavated: slope > 12%	
	87	1	0-7	0-18	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
	88					Not excavated: exposed bedrock	
	89					Not excavated: slope > 12%	
	90	1	0-11	0-27	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
TR 17	91	1	0-8	0-20	10YR 3/4	Dark yellowish brown loam	NCM
		2	8-12	20-30	10YR 5/6	Yellowish brown loam	NCM
	92	1	0-11	0-27	10YR 3/4	Dark yellowish brown loam	NCM
		2	11-13	27-34	10YR 5/6	Yellowish brown loam	NCM
	93					Not excavated: slope > 12%	
	94	1	0-9	0-25	10YR 3/4	Dark yellowish brown loam	NCM
		2	9-15	25-37	10YR 5/6	Yellowish brown loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	95	1	0-10	0-25	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-14	25-35	10YR 5/3	Brown loam	NCM
TR 18	96	1	0-7	0-19	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	7-9	19-22	10YR 4/4	Dark yellowish brown silty clay, terminated at root impasse.	NCM
	97					Not excavated: slope > 12%	
	98	1	0-8	0-20	10YR 4/4	Dark yellowish brown silty loam, terminated at rock impasse.	NCM
TR 19	99	1	0-10	0-25	10YR 4/4	Dark yellowish brown silty loam, terminated at rock impasse.	NCM
	100					Not excavated: exposed bedrock	
TR 20	101	1	0-6	0-16	10YR 3/4	Dark yellowish brown loam, terminated at dense roots	NCM
	102	1	0-10	0-25	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-14	25-35	10YR 5/6	Yellowish brown loam	NCM
	103	1	0-8	0-22	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
TR 21	104	1	0-12	0-30	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	12-15	30-37	10YR 5/4	Yellowish brown loam	NCM
	105	1	0-10	0-25	10YR 4/4	Dark yellowish brown silty loam, terminated at rock impasse.	NCM
	106	1	0-12	0-30	10YR 4/3	Brown silty loam	NCM
		2	12-15	30-39	10YR 4/6	Dark yellowish brown loam	NCM
	107	1	0-13	0-32	10YR 4/3	Brown silty loam	NCM
		2	13-16	32-41	10YR 4/6	Dark yellowish brown loam	NCM
	108	1	0-9	0-24	10YR 4/3	Brown silty loam, terminated at rock impasse.	NCM
TR 22	109	1	0-8	0-21	10YR 3/4	Dark yellowish brown loam, terminated at root impasse.	NCM
	110	1	0-10	0-25	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-12	25-31	10YR 5/6	Yellowish brown loam, terminated at rock impasse.	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	111					Not excavated: slope and bedrock	
	112	1	0-11	0-29	10YR 3/4	Dark yellowish brown loam	NCM
		2	11-16	29-41	10YR 5/6	Yellowish brown loam	NCM
	113	1	0-10	0-26	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-13	26-33	10YR 5/6	Yellowish brown loam, terminated at rock impasse.	NCM
TR 23	114	1	0-13	0-32	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	13-15	32-39	10YR 4/6	Dark yellowish brown loam, terminated at rock impasse.	NCM
	115	1	0-3	0-8	10YR 2/1	Black silty loam, terminated at rock impasse.	NCM
	116	1	0-9	0-22	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	9-11	22-29	10YR 4/6	Dark yellowish brown loam, terminated at rock impasse.	NCM
	117	1	0-1	0-2	10YR 2/1	Black silty loam, terminated at rock impasse.	NCM
	118	1	0-11	0-29	10YR 4/4	Dark yellowish brown silty loam	NCM
		2	11-17	29-42	10YR 5/6	Yellowish brown loam	NCM
TR 24	119					Not excavated: slope and bedrock	
	120					Not excavated: slope and bedrock	
	121					Not excavated: exposed bedrock	NCM
	122	1	0-12	0-31	10YR 3/4	Dark yellowish brown loam	NCM
		2	12-17	31-42	10YR 5/6	Yellowish brown loam	NCM
	123					Not excavated: exposed bedrock	
	124	1	0-5	0-13	10YR 3/2	Very dark grayish brown silty loam, terminated at rock impasse.	NCM
	125	1	0-7	0-18	10YR 3/4	Dark yellowish brown loam	NCM
		2	7-12	18-30	10YR 5/6	Yellowish brown clay loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 25	126	1	0-8	0-20	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	8-11	20-29	10YR 4/6	Dark yellowish brown loam	NCM
	127	1	0-7	0-19	10YR 4/6	Dark yellowish brown loam, terminated at rock impasse.	NCM
	128	1	0-2	0-4	10YR 3/2	Very dark grayish brown silty loam, terminated at rock impasse.	NCM
	129	1	0-11	0-27	10YR 3/2	Very dark grayish brown silty loam	NCM
		2	11-14	27-36	10YR 4/6	Dark yellowish brown silty loam	NCM
	130	1	0-12	0-30	10YR 4/6	Dark yellowish brown loam, terminated at rock impasse.	NCM
	131					Not excavated: fallen trees	
	132	1	0-11	0-29	10YR 4/4	Dark yellowish brown silty loam	NCM
		2	11-13	29-34	10YR 5/6	Yellowish brown loam, terminated at root impasse.	NCM
TR 26	133					Not Excavated: Exposed Bedrock	
	134	1	0-12	0-30	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	12-14	30-35	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
	135	1	0-10	0-26	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	10-16	26-40	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
	136	1	0-9	0-23	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	9-12	23-30	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
	137					Not excavated: slope > 12%	
	138	1	0-9	0-24	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	9-15	24-39	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM
	139					Not excavated: slope > 12%	
	140	1	0-9	0-23	10YR 3/4	Dark yellowish brown loam with gravel, terminated at rock impasse.	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	141	1	0-10	0-25	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	10-16	25-40	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM
	142	1	0-10	0-26	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	10-16	26-40	10YR 5/6	Yellowish brown loam with gravel	NCM
TR 27	143	1	0-11	0-27	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
	144	1	0-6	0-15	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
	145	1	0-11	0-29	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
	146	1	0-7	0-17	10YR 4/3	Brown loam with large cobbles	NCM
		2	7-13	17-33	10YR 5/6	Yellowish brown loam with large cobbles	NCM
	147					Not excavated: slope > 12%	
	148	1	0-8	0-20	10YR 4/3	Brown silty clay loam	NCM
		2	8-12	20-30	10YR 5/6	Yellowish brown clay loam	NCM
	149	1	0-8	0-20	10YR 4/3	Brown silty clay loam	NCM
		2	8-11	20-28	10YR 5/6	Yellowish brown clay loam, terminated at rock impasse.	NCM
	150	1	0-10	0-25	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
TR 28	151					Not excavated: slope > 12%	
	152					Not excavated: slope > 12%	
	153					Not excavated: slope > 12%	
	154	1	0-9	0-22	10YR 4/4	Dark yellowish brown loam	NCM
		2	9-13	22-34	10YR 5/6	Yellowish brown loam	NCM
TR 29	155					Not Excavated: Exposed Bedrock	
	156	1	0-9	0-24	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	9-15	24-37	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	157	1	0-11	0-28	10YR 3/4	Dark yellowish brown loam with gravel	NCM
		2	11-16	28-40	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM
TR 30	158	1	0-5	0-13	10YR 4/4	Dark yellowish brown silty loam	NCM
		2	5-12	13-30	10YR 5/6	Yellowish brown silty loam	NCM
	159	1	0-9	0-24	10YR 4/4	Dark yellowish brown silty loam	NCM
		2	9-17	24-44	10YR 5/6	Yellowish brown silty loam	NCM
TR 31	160	1	0-12	0-31	10YR 4/4	Dark yellowish brown loam	NCM
		2	12-17	31-42	10YR 5/6	Yellowish brown loam	NCM
	161	1	0-10	0-25	10YR 4/4	Dark yellowish brown loam	NCM
		2	10-14	25-35	10YR 5/6	Yellowish brown loam	NCM
	162	1	0-10	0-25	10YR 4/4	Dark yellowish brown loam	NCM
		2	10-15	25-37	10YR 5/6	Yellowish brown loam	NCM
TR 32	163	1	0-4	0-10	10YR 4/3	Brown silty loam	NCM
		2	4-10	10-25	10YR 4/4	Dark yellowish brown silty loam	NCM
		3	10-14	25-35	10YR 5/6	Yellowish brown silty loam	NCM
	164					Not Excavated: Perk test	
	165	1	0-4	0-10	10YR 4/3	Brown silty loam	NCM
		2	4-11	10-27	10YR 4/4	Dark yellowish brown silty loam	NCM
		3	11-15	27-37	10YR 5/6	Yellowish brown silty loam	NCM
	166	1	0-4	0-9	10YR 4/3	Brown silty loam	NCM
		2	4-10	9-26	10YR 4/4	Dark yellowish brown silty loam	NCM
		3	10-15	26-38	10YR 5/6	Yellowish brown silty loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	167	1	0-4	0-10	10YR 4/3	Brown silty loam	NCM
		2	4-10	10-26	10YR 4/4	Dark yellowish brown silty loam	NCM
		3	10-16	26-40	10YR 5/6	Yellowish brown silty loam	NCM
TR 33	168	1	0-7	0-17	10YR 4/3	Brown gravelly loam, terminated at bedrock	NCM
	169	1	7-10	0-26	10YR 4/3	Brown gravelly loam, terminated at bedrock	NCM
	170	1	0-11	0-28	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	28-40	10YR 5/4	Yellowish brown gravelly loam	NCM
	171	1	0-10	0-26	10YR 4/3	Brown gravelly loam	NCM
		2	10-16	26-40	10YR 5/4	Yellowish brown gravelly loam	NCM
	172					Not excavated: slope > 12%	
TR 34	173	1	0-11	0-29	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	29-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	174					Not Excavated: Perk test	
	175	1	0-10	0-26	10YR 4/3	Brown gravelly loam	NCM
		2	10-15	26-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	176	1	0-11	0-27	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	27-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	177	1	0-11	0-29	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	29-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	178	1	0-11	0-28	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	28-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	179	1	0-12	0-30	10YR 4/3	Brown gravelly loam	NCM
		2	12-16	30-41	10YR 5/6	Yellowish brown gravelly loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	180	1	0-11	0-27	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	27-38	10YR 5/6	Yellowish brown gravelly loam	NCM
	181	1	0-10	0-26	10YR 4/3	Brown gravelly loam	NCM
		2	10-15	26-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	182	1	0-9	0-24	10YR 4/3	Brown gravelly loam	NCM
		2	9-14	24-36	10YR 5/6	Yellowish brown gravelly loam	NCM
TR 35	183	1	0-9	0-24	10YR 4/4	Dark yellowish brown loam	NCM
		2	9-15	24-37	10YR 5/6	Yellowish brown loam	NCM
	184	1	0-9	0-24	10YR 4/4	Dark yellowish brown loam	NCM
		2	9-15	24-37	10YR 5/6	Yellowish brown loam	NCM
	185	1	0-9	0-23	10YR 4/4	Dark yellowish brown loam	NCM
		2	9-15	23-37	10YR 5/6	Yellowish brown loam	NCM
	186	1	0-11	0-27	10YR 4/4	Dark yellowish brown loam	NCM
		2	11-15	27-37	10YR 5/6	Yellowish brown loam	NCM
	187	1	0-9	0-24	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	9-15	24-37	10YR 5/6	Yellowish brown gravelly loam	NCM
	188	1	0-9	0-23	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	9-14	23-35	10YR 5/6	Yellowish brown gravelly loam	NCM
	189	1	0-11	0-29	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	11-13	29-33	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
	190	1	0-13	0-32	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	13-14	32-36	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	191	1	0-10	0-26	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	10-15	26-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	192	1	0-11	0-28	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	11-16	28-41	10YR 5/6	Yellowish brown gravelly loam	NCM
	193	1	0-13	0-32	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	13-15	32-39	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
TR 36	194	1	0-12	0-30	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	12-17	30-43	10YR 5/6	Yellowish brown silty loam	NCM
	195	1	0-3	0-7	10YR 4/3	Brown silty loam	NCM
		2	3-10	7-26	10YR 4/4	Dark yellowish brown silty loam	NCM
		3	10-15	26-39	10YR 5/6	Yellowish brown silty loam	NCM
	196	1	0-12	0-30	10YR 4/4	Dark yellowish brown silty loam	NCM
		2	12-16	30-40	10YR 5/6	Yellowish brown silty loam	NCM
	197	1	0-13	0-32	10YR 3/4	Dark yellowish brown silty loam, terminated at rock impasse	NCM
	198	1	0-11	0-29	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	11-15	29-39	10YR 5/6	Yellowish brown silty loam	NCM
	199	1	0-12	0-30	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	12-16	30-40	10YR 5/6	Yellowish brown silty loam	NCM
	200	1	0-7	0-17	10YR 4/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
	201	1	0-10	0-26	10YR 4/4	Dark yellowish brown loam	NCM
		2	10-14	26-36	10YR 5/6	Yellowish brown loam	NCM
	202	1	0-11	0-27	10YR 4/4	Dark yellowish brown loam	NCM
		2	11-15	27-37	10YR 5/6	Yellowish brown loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	203	1	0-10	0-25	10YR 4/4	Dark yellowish brown loam	NCM
		2	10-15	25-38	7.5YR 5/4	Brown loam with gravel	NCM
	204					Not excavated: slope and bedrock	
TR 37	205	1	0-11	0-27	10YR 4/4	Dark yellowish brown gravelly loam, terminated at rock impasse.	NCM
	206					Not excavated: slope > 12%	
	207	1	0-11	0-27	10YR 4/4	Dark yellowish brown gravelly loam, terminated at rock impasse.	NCM
	208	1	0-8	0-21	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	8-13	21-33	10YR 5/6	Yellowish brown gravelly loam	NCM
	209	1	0-8	0-21	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	8-13	21-33	10YR 5/6	Yellowish brown gravelly loam	NCM
	210	1	0-9	0-24	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	9-13	24-32	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
	211	1	0-7	0-17	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	7-11	17-28	10YR 5/6	Yellowish brown gravelly loam	NCM
	212	1	0-11	0-27	10YR 4/4	Dark yellowish brown gravelly loam, terminated at rock impasse.	NCM
	213	1	0-9	0-23	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	9-14	23-35	10YR 5/6	Yellowish brown gravelly loam	NCM
	214					Not excavated: slope and bedrock	
	215					Not excavated: slope and bedrock	
	216					Not excavated: slope and bedrock	
TR 38	217	1	0-11	0-28	10YR 4/3	Brown gravelly loam	NCM
		2	11-17	28-43	10YR 5/6	Yellowish brown gravelly loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	218	1	0-11	0-27	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	27-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	219	1	0-10	0-26	10YR 4/3	Brown gravelly loam	NCM
		2	10-15	26-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	220	1	0-11	0-28	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	28-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	221	1	0-12	0-30	10YR 4/4	Dark yellowish brown loam	NCM
		2	12-16	30-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	222	1	0-9	0-23	10YR 4/4	Dark yellowish brown loam	NCM
		2	9-15	23-37	10YR 5/6	Yellowish brown gravelly loam	NCM
	223	1	0-11	0-28	10YR 4/4	Dark yellowish brown loam	NCM
		2	11-17	28-43	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM
	224	1	0-12	0-31	10YR 4/4	Dark yellowish brown loam	NCM
		2	12-17	31-44	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM
	225	1	0-10	0-26	10YR 4/4	Dark yellowish brown loam	NCM
		2	10-16	26-40	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM
	226	1	0-8	0-20	10YR 4/3	Brown gravelly loam	NCM
		2	8-10	20-26	10YR 5/6	Yellowish brown loam, terminated at rock impasse.	NCM
	227	1	0-7	0-19	10YR 4/3	Brown gravelly loam	NCM
		2	7-9	19-23	10YR 5/6	Yellowish brown loam, terminated at rock impasse.	NCM
	228					Not excavated: exposed bedrock	
TR 39						Not excavated: exposed bedrock and steep slope	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 40	229	1	0-8	0-20	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	8-12	20-31	10YR 4/6	Dark yellowish brown gravelly loam	NCM
	230					Not excavated: Exposed Bedrock	
	231	1	0-9	0-24	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	9-14	24-36	10YR 4/6	Dark yellowish brown gravelly loam	NCM
TR 41	232	1	0-11	0-27	10YR 5/3	Brown fine sandy loam with gravel	NCM
	233	1	0-7	0-18	10YR 3/4	Dark yellowish brown fine sandy loam with gravel	NCM
		2	7-12	18-30	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM
	234					Not excavated: exposed bedrock	
	235	1	0-6	0-14	10YR 3/4	Dark yellowish brown fine sandy loam with gravel	NCM
		2	6-12	14-30	10YR 5/4	Yellowish brown fine sandy loam with gravel	NCM
TR 42	236	1	0-11	0-27	10YR 3/2	Very dark grayish brown fine sandy loam with gravel	NCM
		2	11-15	27-39	10YR 4/6	Dark yellowish brown sandy loam with gravel	NCM
	237	1	0-2	0-6	10YR 3/2	Very dark grayish brown fine sandy loam with gravel	NCM
		2	2-8	6-20	10YR 5/6	Brown sand and gravel	NCM
	238	1	0-10	0-26	10YR 3/4	Dark yellowish brown fine sandy loam with gravel	NCM
		2	10-16	26-40	10YR 5/6	Yellowish brown fine sandy loam with gravel	NCM
	239					Not excavated: exposed bedrock	
	240	1	0-10	0-26	10YR 3/3	Dark brown gravelly loam	NCM
		2	10-16	26-40	10YR 4/6	Dark yellowish brown gravelly loam	NCM
TR 43	241	1	0-11	0-27	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	27-38	10YR 5/6	Yellowish brown gravelly loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	242	1	0-10	0-26	10YR 4/3	Brown gravelly loam	NCM
		2	10-13	26-33	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
	243	1	0-11	0-29	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	29-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	244	1	0-11	0-27	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	11-15	27-37	10YR 5/6	Yellowish brown gravelly loam	NCM
	245	1	0-12	0-30	10YR 4/4	Dark yellowish brown gravelly loam	NCM
		2	12-18	30-45	10YR 5/6	Yellowish brown gravelly loam	NCM
TR 44	246	1	0-10	0-26	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	10-16	26-40	10YR 4/6	Dark yellowish brown gravelly loam	NCM
	247	1	0-11	0-27	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	11-15	27-38	10YR 4/6	Dark yellowish brown gravelly loam	NCM
	248	1	0-12	0-30	10YR 4/3	Brown gravelly loam	NCM
		2	12-16	30-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	249	1	0-10	0-26	10YR 4/3	Brown gravelly loam	NCM
		2	10-15	26-38	10YR 5/6	Yellowish brown gravelly loam	NCM
	250	1	0-10	0-25	10YR 4/3	Brown gravelly loam	NCM
		2	10-15	25-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	251	1	0-9	0-24	10YR 4/3	Brown gravelly loam	NCM
		2	9-14	24-36	10YR 5/4	Yellowish brown gravelly loam	NCM
TR 45	252	1	0-7	0-17	10YR 3/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	7-15	17-38	10YR 4/6	Dark yellowish brown loam with gravel and cobbles	NCM
	253					Not Excavated: Exposed Bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	254	1	0-9	0-23	10YR 3/2	Very dark grayish brown loam with gravel and cobbles	NCM
		2	9-13	23-33	10YR 4/4	Dark yellowish brown loam with gravel and cobbles	NCM
	255					Not Excavated: Exposed Bedrock	
	256	1	0-7	0-19	10YR 3/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	7-12	19-30	10YR 5/6	Yellowish brown loam with gravel	NCM
	257	1	0-9	0-22	10YR 3/4	Dark yellowish brown loam	NCM
TR 46	258	1	0-9	0-24	10YR 4/4	Dark yellowish brown loam	NCM
		2	9-15	24-39	10YR 5/6	Yellowish brown loam with gravel	NCM
	259	1	0-9	0-23	10YR 4/4	Dark yellowish brown loam	NCM
		2	9-13	23-34	10YR 5/6	Yellowish brown loam with gravel	NCM
	260	1	0-10	0-26	10YR 4/4	Dark yellowish brown loam	NCM
		2	10-15	26-39	10YR 5/6	Yellowish brown loam with gravel	NCM
	261	1	0-9	0-22	10YR 4/4	Dark yellowish brown loam	NCM
		2	9-1	22-32	10YR 5/6	Yellowish brown loam with gravel	NCM
	262	1	9-13	0-20	10YR 4/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
	263	1	0-11	0-28	10YR 4/4	Dark yellowish brown loam	NCM
		2	11-15	28-39	10YR 5/6	Yellowish brown loam with gravel	NCM
	264	1	0-9	0-22	10YR 4/4	Dark yellowish brown loam with rock	NCM
		2	9-13	22-32	10YR 5/6	Yellowish brown loam with rock	NCM
TR 47	265	1	0-10	0-25	10YR 4/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	10-15	25-37	10YR 5/6	Yellowish brown loam with gravel	NCM
	266	1	0-9	0-23	10YR 4/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	9-15	23-37	10YR 5/6	Yellowish brown loam with gravel and cobbles	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	267	1	0-10	0-25	10YR 4/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	10-15	25-38	10YR 5/6	Yellowish brown loam with gravel and cobbles	NCM
	268	1	0-9	0-22	10YR 4/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	9-13	22-32	10YR 5/6	Yellowish brown loam with gravel and cobbles	NCM
	269	1	0-9	0-23	10YR 4/4	Dark yellowish brown loam with gravel and cobbles, terminated at rock impasse	NCM
	270	1	0-9	0-23	10YR 4/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	9-13	23-34	10YR 5/6	Yellowish brown loam with gravel	NCM
	271	1	0-6	0-16	10YR 4/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	6-12	16-30	10YR 5/6	Yellowish brown loam with gravel	NCM
TR 48	272					Not excavated: slope > 12%	
	273					Not excavated: slope > 12%	
	274					Not excavated: slope > 12%	
	275					Not excavated: slope > 12%	
	276	1	0-9	0-24	10YR 4/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	9-13	24-34	10YR 5/6	Yellowish brown loam with gravel	NCM
	277	1	0-8	0-22	10YR 4/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	8-14	22-35	10YR 5/6	Yellowish brown loam with gravel	NCM
	278	1	0-7	0-18	10YR 4/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	7-11	18-28	10YR 5/6	Yellowish brown loam with gravel	NCM
	279	1	0-9	0-23	10YR 4/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	9-13	23-33	10YR 5/6	Yellowish brown loam with gravel	NCM
TR 49	280					Not excavated: slope and bedrock	
	281					Not excavated: slope and bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	282					Not excavated: slope and bedrock	
	283					Not excavated: slope and bedrock	
TR 50	284	1	0-6	0-15	10YR 4/4	Dark yellowish brown gravelly loam, terminated at rock impasse.	NCM
	285	1	0-8	0-21	10YR 4/4	Dark yellowish brown gravelly loam, terminated at rock impasse.	NCM
	286					Not Excavated: Exposed Bedrock	
	287					Not Excavated: Exposed Bedrock	
	288					Not Excavated: Exposed Bedrock	
	289					Not Excavated: Exposed Bedrock	
	290					Not Excavated: Exposed Bedrock	
TR 51	291	1	0-9	0-23	10YR 4/4	Dark yellowish brown gravelly loam, terminated at rock impasse.	NCM
	292	1	0-8	0-21	10YR 4/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	8-13	21-33	10YR 5/6	Yellowish brown loam with gravel	NCM
	293	1	0-10	0-25	10YR 4/4	Dark yellowish brown loam with gravel and cobbles	NCM
		2	10-15	25-39	10YR 5/6	Yellowish brown loam with gravel	NCM
TR 52	294	1	0-10	0-26	10YR 4/4	Dark yellowish brown loam	NCM
		2	10-15	26-38	10YR 5/6	Yellowish brown loam with gravel	NCM
	295	1	0-2	0-5	10YR 4/3	Brown loam	NCM
		2	2-8	5-21	10YR 4/4	Dark yellowish brown loam, terminated at rock impasse.	
	296	1	0-12	0-30	10YR 4/4	Dark yellowish brown loam	
		2	12-16	30-40	10YR 5/6	Yellowish brown loam with gravel	NCM
	297	1	0-10	0-25	10YR 4/4	Dark yellowish brown loam	NCM
		2	10-14	25-35	10YR 5/6	Yellowish brown loam with gravel	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	298	1	0-11	0-27	10YR 4/4	Dark yellowish brown loam	NCM
		2	11-15	27-39	10YR 5/6	Yellowish brown loam with gravel	NCM
	299					Not excavated: compacted by machinery	
TR 53	300	1	0-9	0-24	10YR 4/4	Dark yellowish brown loam	NCM
		2	9-13	24-34	10YR 5/6	Yellowish brown loam with gravel	NCM
	301	1	0-12	0-30	10YR 4/4	Dark yellowish brown loam	NCM
		2	12-16	30-40	10YR 5/6	Yellowish brown loam with gravel	NCM
	302	1	0-10	0-26	10YR 4/4	Dark yellowish brown loam	NCM
		2	10-14	26-36	10YR 5/6	Yellowish brown loam with gravel	NCM
	303	1	0-11	0-28	10YR 4/4	Dark yellowish brown loam	NCM
		2	11-15	28-38	10YR 5/6	Yellowish brown loam with gravel	NCM
	304	1	0-8	0-20	10YR 4/4	Dark yellowish brown loam	NCM
		2	8-12	20-31	10YR 5/6	Yellowish brown loam with gravel	NCM
	305					Not excavated: compacted by machinery	
TR 54	306	1	0-12	0-30	10YR 4/3	Brown gravelly loam	NCM
		2	12-16	30-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	307	1	0-11	0-29	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	29-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	308	1	0-11	0-28	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	28-38	10YR 5/6	Yellowish brown gravelly loam	NCM
	309					Not Excavated: Exposed Bedrock	
	310	1	0-11	0-29	10YR 4/3	Brown gravelly loam	NCM
		2	11-18	29-45	10YR 5/6	Yellowish brown gravelly loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	311	1	0-12	0-30	10YR 4/3	Brown gravelly loam	NCM
		2	12-17	30-43	10YR 5/6	Yellowish brown gravelly loam	NCM
	312	1	0-7	0-18	10YR 4/3	Brown gravelly loam, terminated at bedrock	NCM
	313	1	0-13	0-34	10YR 4/3	Brown gravelly loam	NCM
		2	13-19	34-47	10YR 5/6	Yellowish brown gravelly loam	NCM
TR 55	314	1	0-11	0-27	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	27-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	315	1	0-13	0-32	10YR 4/3	Brown gravelly loam	NCM
		2	13-17	32-44	10YR 5/6	Yellowish brown gravelly loam	NCM
	316	1	0-11	0-27	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	27-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	317					Not Excavated: Exposed Bedrock	
	318	1	0-11	0-28	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	28-38	10YR 5/6	Yellowish brown gravelly loam	NCM
	319	1	0-10	0-26	10YR 4/3	Brown gravelly loam	NCM
		2	10-16	26-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	320	1	0-11	0-27	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	27-38	10YR 5/6	Yellowish brown gravelly loam	NCM
	321	1	0-11	0-29	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	29-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	322	1	0-7	0-17	10YR 4/3	Brown gravelly loam	NCM
		2	7-12	17-30	10YR 5/6	Yellowish brown gravelly loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	323	1	0-9	0-22	10YR 4/3	Brown gravelly loam	NCM
		2	9-13	22-34	10YR 5/6	Yellowish brown gravelly loam	NCM
	324	1	0-11	0-28	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	28-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	325	1	0-15	0-39	10YR 4/3	Brown gravelly loam	NCM
		2	15-20	39-50	10YR 5/6	Yellowish brown gravelly loam	NCM
	326	1	0-7	0-18	10YR 4/3	Brown gravelly loam, terminated at bedrock	NCM
TR 56	327	1	0-12	0-30	10YR 4/3	Brown gravelly loam	NCM
		2	12-14	30-36	10YR 5/6	Yellowish brown gravelly loam	NCM
	328	1	0-11	0-27	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	27-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	329	1	0-11	0-29	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	29-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	330	1	0-10	0-26	10YR 4/3	Brown gravelly loam	NCM
		2	10-16	26-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	331	1	0-9	0-23	10YR 4/3	Brown gravelly loam	NCM
		2	9-15	23-37	10YR 5/6	Yellowish brown gravelly loam	NCM
	332					Not Excavated: Exposed Bedrock	
	333	1	0-9	0-24	10YR 3/3	Dark brown gravelly loam, terminated at rock impasse.	NCM
	334	1	0-8	0-22	10YR 4/3	Brown gravelly loam	NCM
		2	8-13	22-34	10YR 5/6	Yellowish brown gravelly loam	NCM
	335					Not Excavated: Exposed Bedrock	
	336					Not Excavated: Exposed Bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	337	1	0-7	0-18	10YR 4/3	Brown gravelly loam	NCM
		2	7-12	18-30	10YR 5/6	Yellowish brown gravelly loam	NCM
	338	1	0-9	0-23	10YR 4/3	Brown gravelly loam, terminated at bedrock	NCM
	339	1	0-10	0-25	10YR 4/3	Brown gravelly loam	NCM
		2	10-11	25-27	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
TR 57	340	1	0-9	0-22	10YR 3/3	Dark brown silty loam, terminated at rock impasse	NCM
	341	1	9-13	0-32	10YR 4/3	Brown silty loam with gravel	NCM
		2	13-16	32-41	10YR 5/6	Yellowish brown silty clay loam	NCM
	342	1	0-11	0-29	10YR 4/3	Brown silty loam with gravel	NCM
		2	11-15	29-38	10YR 5/6	Yellowish brown silty clay loam	NCM
	343	1	0-11	0-28	10YR 4/3	Brown silty loam with gravel	NCM
		2	11-16	28-41	10YR 5/6	Yellowish brown silty clay loam	NCM
	344	1	0-11	0-28	10YR 4/3	Brown silty loam with gravel	NCM
		2	11-15	28-37	10YR 5/6	Yellowish brown silty clay loam	NCM
	345					Not excavated: large fallen tree and pile of rocks	
	346	1	0-7	0-17	10YR 3/3	Dark brown loam with cobbles	NCM
		2	7-10	17-25	10YR 5/6	Yellowish brown loam, terminated at rock impasse.	NCM
	347	1	0-6	0-16	10YR 3/3	Dark brown loam with cobbles, terminated at rock impasse.	NCM
	348					Not excavated: fallen trees	
	349					Not excavated: slope > 12%	
	350					Not excavated: slope > 12%	
	351					Not excavated: exposed bedrock	
	352					Not excavated: slope and bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 58	353					Not excavated: fallen trees	
	354	1	0-13	0-34	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
	355	1	0-10	0-25	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-15	25-37	10YR 5/6	Yellowish brown loam	NCM
	356	1	0-11	0-27	10YR 3/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
	357	1	0-11	0-28	10YR 3/4	Dark yellowish brown loam	NCM
		2	11-13	28-34	10YR 5/6	Yellowish brown loam, terminated at rock impasse.	NCM
	358	1	0-8	0-21	10YR 3/2	Very dark grayish brown loam with gravel and cobbles	NCM
		2	8-12	21-31	10YR 5/6	Yellowish brown loam with cobbles	NCM
	359	1	0-9	0-24	10YR 3/3	Dark brown loam with cobbles, terminated at rock impasse.	NCM
	360	1	0-6	0-16	10YR 3/3	Dark brown loam with cobbles, terminated at rock impasse.	NCM
	361	1	0-6	0-14	10YR 3/3	Dark brown loam with cobbles, terminated at rock impasse.	NCM
	362	1	0-6	0-16	10YR 3/3	Dark brown loam with cobbles	NCM
		2	6-10	16-26	10YR 5/6	Yellowish brown loam with gravel and cobbles	NCM
	363					Not excavated: slope and bedrock	
	364					Not excavated: slope and bedrock	
	365					Not excavated: slope and bedrock	
	366					Not excavated: slope and bedrock	
	367					Not excavated: slope and bedrock	
	368					Not excavated: slope and bedrock	
TR 59	369	1	0-11	0-28	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	11-13	28-34	10YR 4/6	Dark yellowish brown silty clay loam. Stopped at rock.	NCM
	370	1	0-9	0-24	10YR 3/4	Dark yellowish brown silty loam, terminated at rock impasse.	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	371	1	0-11	0-29	10YR 4/4	Dark yellowish brown silty loam with gravel	NCM
		2	11-16	29-40	10YR 5/6	Yellowish brown silty clay loam with gravel	NCM
	372	1	0-10	0-26	10YR 4/4	Dark yellowish brown silty loam with gravel	NCM
		2	10-12	26-30	10YR 5/6	Yellowish brown silty clay loam with gravel, terminated at rock impasse.	NCM
	373	1	0-10	0-26	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	10-11	26-28	10YR 5/6	Yellowish brown silty clay loam with gravel	NCM
	374	1	0-11	0-28	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	11-14	28-36	10YR 5/6	Yellowish brown silty clay loam with gravel	NCM
	375	1	0-11	0-27	10YR 3/2	Very dark grayish brown silty loam	NCM
		2	11-15	27-38	10YR 5/6	Yellowish brown silty clay	NCM
	376	1	0-15	0-39	10YR3/3	Dark brown silty loam, terminated at rock impasse	NCM
	377	1	0-9	0-24	10YR 3/2	Very dark grayish brown silty loam, terminated at rock impasse.	NCM
	378	1	0-7	0-18	10YR 3/2	Very dark grayish brown silty loam	NCM
		2	7-11	18-29	10YR 5/6	Yellowish brown silty clay loam	NCM
	379	1	0-7	0-17	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	7-12	17-30	10YR 5/6	Yellowish brown silty clay	NCM
	380					Not excavated: slope > 12%	
	381					Not excavated: slope > 12%	
	382					Not excavated: slope > 12%	
	383					Not excavated: slope > 12%	
	384					Not excavated: slope > 12%	
TR 60	385	1	0-7	0-18	10YR 3/4	Dark yellowish brown loam, terminated at root impasse	NCM
	386					Not excavated: fallen trees	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	387	1	0-11	0-28	10YR 3/4	Dark yellowish brown loam	NCM
		2	11-15	28-38	10YR 5/6	Yellowish brown loam	NCM
	388					Not excavated: road	
	389	1	0-11	0-28	10YR 3/4	Dark yellowish brown loam	NCM
		2	11-15	28-39	10YR 5/6	Yellowish brown loam	NCM
	390	1	0-11	0-26	10YR 3/4	Dark yellowish brown loam	NCM
		2	11-15	26-38	10YR 5/6	Yellowish brown loam	NCM
	391	1	0-11	0-26	10YR 3/3	Dark brown loam	NCM
		2	11-13	26-34	10YR 5/6	Yellowish brown loam, terminated at rock impasse.	NCM
	392	1	0-9	0-24	10YR 3/3	Dark brown loam	NCM
		2	9-14	24-35	10YR 5/6	Yellowish brown loam	NCM
	393	1	0-9	0-24	10YR 3/3	Dark brown loam	NCM
		2	9-14	24-35	10YR 5/6	Yellowish brown loam	NCM
	394					Not excavated: slope > 12%	
	395					Not excavated: slope > 12%	
	396					Not excavated: slope > 12%	
	397					Not excavated: slope > 12%	
	398					Not excavated: slope > 12%	
	399					Not excavated: slope > 12%	
	400					Not excavated: slope > 12%	
TR 61	401	1	0-8	0-20	10YR 3/4	Dark yellowish brown loam	NCM
		2	8-13	20-32	10YR 5/6	Yellowish brown loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	402	1	0-11	0-27	10YR 3/4	Dark yellowish brown loam	NCM
		2	11-15	27-37	10YR 5/6	Yellowish brown loam	NCM
	403					Not excavated: fallen trees	
	404	1	0-12	0-30	10YR 3/4	Dark yellowish brown loam	NCM
		2	12-17	30-42	10YR 5/4	Yellowish brown loam with cobbles	NCM
	405	1	0-12	0-31	10YR 3/4	Dark yellowish brown loam	NCM
		2	12-17	31-43	10YR 5/4	Yellowish brown loam with cobbles	NCM
	406	1	0-7	0-18	10YR 3/3	Dark brown loam	NCM
		2	7-9	18-24	10YR 4/4	Dark yellowish brown loam with large cobbles	NCM
	407	1	0-7	0-19	10YR 3/3	Dark brown loam	NCM
		2	7-14	19-35	10YR 5/6	Yellowish brown loam	NCM
	408	1	0-10	0-26	10YR 2/2	Very dark brown loam, terminated at rock impasse.	NCM
	409					Not excavated: slope > 12%	
	410					Not excavated: exposed bedrock	
	411	1	0-10	0-25	10YR 2/2	Very dark brown loam	NCM
		2	10-14	25-36	10YR 5/6	Yellowish brown loam	NCM
	412	1	0-8	0-21	10YR 3/3	Dark brown loam	NCM
		2	8-13	21-32	10YR 5/6	Yellowish brown loam	NCM
	413					Not excavated: exposed bedrock	
	414					Not excavated: fallen trees	
	415					Not excavated: slope > 12%	
	416					Not excavated: exposed bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 62	417	1	0-7	0-19	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	7-12	19-31	10YR 5/6	Yellowish brown silty clay loam	NCM
	418	1	0-3	0-8	10YR 3/4	Dark yellowish brown silty loam, terminated at root impasse.	NCM
	419	1	0-6	0-15	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	6-13	15-32	10YR 5/6	Yellowish brown silty clay loam	NCM
	420	1	0-7	0-19	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	7-9	19-24	10YR 5/6	Yellowish brown silty clay loam, terminated at root impasse.	NCM
	421	1	0-7	0-18	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	7-11	18-28	10YR 5/6	Yellowish brown silty clay loam, terminated at root impasse.	NCM
	422	1	0-8	0-20	10YR 3/4	Dark yellowish brown silty loam, terminated at root impasse.	NCM
	423	1	0-9	0-24	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	9-10	24-26	10YR 5/6	Yellowish brown silty clay loam, terminated at rock impasse.	NCM
	424	1	0-6	0-15	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	6-12	15-30	10YR 5/6	Yellowish brown silty clay loam	NCM
	425	1	0-5	0-12	10YR 3/4	Dark yellowish brown silty loam, terminated at rock impasse.	NCM
	426	1	0-6	0-14	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	6-11	14-28	10YR 5/6	Yellowish brown silty clay loam	NCM
	427					Not Excavated: Exposed Bedrock	
	428	1	0-6	0-14	10YR 3/4	Dark yellowish brown silty loam, terminated at rock impasse.	NCM
	429	1	0-5	0-12	10YR 3/4	Dark yellowish brown silty loam, terminated at rock impasse.	NCM
	430	1	0-13	0-33	10YR 3/2	Very dark grayish brown silty loam, terminated at rock impasse.	NCM
	431	1	0-9	0-24	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	9-14	24-36	10YR 5/6	Yellowish brown silty clay loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	432					Not Excavated: Exposed Bedrock	
TR 63	433	1	0-15	0-38	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	15-18	38-46	10YR 4/6	Dark yellowish brown silty clay loam	NCM
	434	1	0-14	0-35	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	14-17	35-42	10YR 4/6	Dark yellowish brown silty clay loam. Stopped at rock.	NCM
	435	1	0-8	0-20	10YR 3/4	Dark yellowish brown silty loam, terminated at rock impasse.	NCM
	436	1	0-11	0-28	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	11-14	28-35	10YR 5/6	Yellowish brown silty clay loam	NCM
	437	1	0-12	0-30	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	12-14	30-35	10YR 5/6	Yellowish brown silty clay loam, terminated at rock impasse.	NCM
	438	1	0-13	0-34	10YR 3/3	Dark brown silty loam	NCM
		2	13-17	34-43	10YR 4/4	Dark yellowish brown silty clay loam	NCM
	439	1	0-12	0-30	10YR 3/3	Dark brown silty loam	NCM
		2	12-13	30-33	10YR 4/4	Dark yellowish brown silty clay loam, terminated at root impasse	NCM
	440	1	0-8	0-20	10YR 3/3	Dark brown silty loam, terminated at rock impasse	NCM
	441	1	0-14	0-35	10YR 3/3	Dark brown silty loam	NCM
		2	14-18	35-45	10YR 4/4	Dark yellowish brown silty clay loam	NCM
	442	1	0-9	0-23	10YR 3/3	Dark brown silty loam	NCM
		2	9-13	23-34	10YR 5/6	Yellowish brown silty clay loam	NCM
	443					Not Excavated: Exposed Bedrock	
	444	1	0-6	0-15	10YR 3/3	Dark brown silty loam	NCM
		2	6-12	15-30	10YR 5/6	Yellowish brown silty clay loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	445	1	0-7	0-18	10YR 3/3	Dark brown silty loam	NCM
		2	7-13	18-32	10YR 5/6	Yellowish brown silty clay loam	NCM
	446	1	0-3	0-8	10YR 3/2	Very dark grayish brown silty loam, terminated at rock impasse.	NCM
	447	1	0-7	0-19	10YR 3/3	Dark brown silty loam	NCM
		2	7-12	19-31	10YR 4/6	Dark yellowish brown silty clay loam	NCM
	448	1	0-9	0-24	10YR 3/3	Dark brown silty loam	NCM
		2	9-14	24-35	10YR 4/6	Dark yellowish brown silty clay loam	NCM
TR 64	449	1	0-13	0-32	10YR 3/4	Dark yellowish brown loam, terminated at root impasse.	NCM
	450	1	0-14	0-36	10YR 3/4	Dark yellowish brown loam	NCM
		2	14-18	36-46	10YR 5/6	Yellowish brown clay loam	NCM
	451	1	0-9	0-22	10YR 3/4	Dark yellowish brown loam, terminated at root impasse and rock	NCM
	452	1	0-9	0-23	10YR 3/4	Dark yellowish brown loam, terminated at root impasse.	NCM
	453	1	0-10	0-25	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-12	25-30	10YR 5/6	Yellowish brown clay loam, terminated at rock impasse.	NCM
	454	1	0-10	0-25	10YR 3/2	Very dark grayish brown loam	NCM
		2	10-15	25-37	10YR 5/6	Yellowish brown clay loam	NCM
	455					Not excavated: rock pile	
	456	1	0-8	0-20	10YR 3/2	Very dark grayish brown loam	NCM
		2	8-12	20-30	10YR 5/6	Yellowish brown clay loam	NCM
	457	1	0-10	0-25	10YR 3/2	Very dark grayish brown loam	NCM
		2	10-12	25-31	10YR 5/6	Yellowish brown clay loam, terminated at root impasse	NCM
	458	1	0-6	0-15	10YR 3/3	Dark brown loam with large cobbles	NCM
		2	6-9	15-23	10YR 5/6	Yellowish brown loam with large cobbles	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	459					Not Excavated: Exposed Bedrock	
	460	1	0-7	0-18	10YR 3/3	Dark brown loam with large cobbles, terminated at rock impasse.	NCM
	461	1	0-8	0-20	10YR 3/3	Dark brown loam with large cobbles	NCM
		2	8-13	20-32	10YR 5/6	Yellowish brown loam with large cobbles	NCM
	462	1	0-7	0-19	10YR 3/3	Dark brown loam with large cobbles, terminated at root impasse.	NCM
	463					Not Excavated: Exposed Bedrock	
	464	1	0-11	0-28	10YR 3/2	Very dark grayish brown loam, terminated at rock impasse	NCM
TR 65	465	1	0-8	0-21	10YR 3/3	Dark brown gravelly loam	NCM
		2	8-14	21-35	10YR 5/6	Yellowish brown gravelly loam	NCM
TR 66	466	1	0-10	0-26	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	10-13	26-33	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
	467	1	0-9	0-24	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	9-15	24-39	10YR 5/6	Yellowish brown gravelly loam.	NCM
	468	1	0-12	0-30	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	12-16	30-40	10YR 5/6	Yellowish brown gravelly loam.	NCM
	469	1	0-12	0-30	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	12-16	30-40	10YR 5/6	Yellowish brown gravelly loam.	NCM
	470	1	0-10	0-26	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	10-15	26-39	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
TR 67	471	1	0-11	0-27	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	11-16	27-40	10YR 5/6	Yellowish brown gravelly loam.	NCM
	472					Not Excavated: Exposed Bedrock	
	473					Not Excavated: Exposed Bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	474	1	0-11	0-27	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	11-14	27-35	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
	475	1	0-9	0-22	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	9-13	22-34	10YR 5/6	Yellowish brown gravelly loam.	NCM
	476					Not Excavated: Exposed Bedrock	
TR 68	477	1	0-5	0-12	10YR 3/3	Dark brown loam	NCM
		2	5-7	12-19	10YR 4/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
	478	1	0-9	0-22	10YR 3/4	Dark yellowish brown loam	NCM
		2	9-13	22-32	10YR 5/6	Yellowish brown loam	NCM
	479	1	0-9	0-22	10YR 3/4	Dark yellowish brown loam	NCM
		2	9-13	22-32	10YR 5/6	Yellowish brown loam	NCM
	480	1	0-7	0-19	10YR 3/4	Dark yellowish brown loam	NCM
		2	7-12	19-31	10YR 5/6	Yellowish brown loam	NCM
	481					Not excavated: exposed bedrock	
TR 69	482	1	0-7	0-19	10YR 4/4	Dark yellowish brown loam	NCM
		2	7-12	19-30	10YR 5/6	Yellowish brown silty clay loam, terminated at rock impasse.	NCM
	483	1	0-9	0-22	10YR 4/4	Dark yellowish brown loam	NCM
		2	9-13	22-33	10YR 5/6	Yellowish brown silty clay loam	NCM
	484	1	0-11	0-28	10YR 4/4	Dark yellowish brown loam	NCM
		2	11-15	28-39	10YR 5/6	Yellowish brown silty clay loam	NCM
	485	1	0-9	0-23	10YR 4/4	Dark yellowish brown loam, terminated at rock impasse.	NCM
	486					Not excavated: slope and bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 70	487	1	0-9	0-22	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	9-13	22-32	10YR 5/6	Yellowish brown gravelly loam.	NCM
	488	1	0-7	0-18	10YR 3/4	Dark yellowish brown gravelly loam, terminated at rock impasse.	NCM
	489	1	0-11	0-27	10YR 3/4	Dark yellowish brown gravelly loam	NCM
		2	11-12	27-30	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
TR 71	490	1	0-7	0-17	10YR3/4	Brown silty loam	NCM
		2	7-12	17-30	10YR4/6	Dark Yellowish brown silty fine sandy loam	NCM
TR 72	491	1	0-4	0-10	10YR 3/3	Dark brown loam, terminated at rock impasse.	NCM
	492	1	0-3	0-7	10YR 3/3	Dark brown loam, terminated at rock impasse.	NCM
	493					Not excavated: slope > 12%	
	494					Not excavated: slope and bedrock	
TR 73	495	1	0-9	0-24	10YR3/4	Brown silty loam	NCM
		2	9-14	24-36	10YR4/6	Dark Yellowish brown silty fine sandy loam	NCM
	496	1	0-9	0-24	10YR3/4	Brown silty loam	NCM
		2	9-13	24-33	10YR5/6	Yellowish brown silty fine sandy loam	NCM
	497	1	0-9	0-23	10YR3/4	Brown silty loam, terminated at rock obstruction	NCM
	498	1				Not Excavated: Exposed Bedrock	
	499	1				Not Excavated: Exposed Bedrock	
TR 74	500	1	0-7	0-19	10YR 3/3	Dark brown loam	NCM
		2	7-11	19-29	10YR 5/6	Yellowish brown loam	NCM
	501	1	0-7	0-18	10YR 3/3	Dark brown loam	NCM
		2	7-11	18-28	10YR 5/6	Yellowish brown loam	NCM
	502					Not excavated: exposed bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	503	1	0-9	0-23	10YR 3/3	Dark brown loam	NCM
		2	9-11	23-28	10YR 5/6	Yellowish brown loam, terminated at rock impasse.	NCM
	504					Not excavated: exposed bedrock	
TR 75	505	1	0-7	0-19	10YR3/4	Brown silty loam with gravel	NCM
		2	7-11	19-27	10YR5/6	Yellowish brown silty fine sandy loam with gravel	NCM
	506	1	0-9	0-24	10YR3/4	Brown silty loam with gravel	NCM
		2	9-12	24-31	10YR5/6	Yellowish brown silty fine sandy loam with gravel	NCM
	507	1	0-9	0-23	10YR3/4	Brown silty loam with gravel	
		2	9-13	23-34	10YR5/6	Yellowish brown silty fine sandy loam with gravel	Metal washer discarded
	508	1	0-9	0-23	10YR3/4	Brown silty loam with gravel	NCM
		2	9-12	23-30	10YR5/6	Yellowish brown silty fine sandy loam with gravel	NCM
	509	1	0-10	0-26	10YR3/4	Brown silty loam with gravel	
		2	10-13	26-32	10YR5/6	Yellowish brown silty fine sandy loam with gravel	
	510	1				Not Excavated: Exposed Bedrock	
TR 76	511	1	0-10	0-26	10YR 3/3	Dark brown loam	NCM
		2	10-12	26-30	10YR 5/6	Yellowish brown loam, terminated at rock impasse.	NCM
	512					Not excavated: exposed bedrock	
	513	1	0-9	0-24	10YR 3/3	Dark brown loam	NCM
		2	9-13	24-34	10YR 5/6	Yellowish brown loam	NCM
	514	1	0-8	0-20	10YR 3/4	Dark yellowish brown loam	NCM
		2	8-12	20-31	10YR 5/6	Yellowish brown loam	NCM
	515					Not excavated: slope and bedrock	
	516					Not excavated: slope and bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 77	517					Not Excavated: Exposed Bedrock	
	518					Not Excavated: Large rock and push pile	
	519	1	0-10	0-25	10YR4/3	Brown silt loam	NCM
		2	10-14	25-36	10YR4/6	Dark Yellowish brown silty clay loam	NCM
	520	1				Not Excavated: large rock pile on bedrock	
	521	1	0-7	0-19	10YR4/3	Brown silt loam	NCM
		2	7-11	19-28	10YR4/6	Dark Yellowish brown silty clay loam	NCM
TR 78	522					Not Excavated: Exposed Bedrock	
	523					Not Excavated: Exposed Bedrock	
	524					Not excavated: slope > 12%	
	525					Not excavated: slope > 12%	
	526					Not Excavated: Exposed Bedrock	
	527					Not excavated: slope and fallen trees	
TR 79	528					Not Excavated: Exposed Bedrock	
	529					Not Excavated: Exposed Bedrock	
	530					Not Excavated: Exposed Bedrock	
	531					Not Excavated: Exposed Bedrock	
	532					Not Excavated: Exposed Bedrock	
	533					Not Excavated: Exposed Bedrock	
TR 80	534					Not excavated: slope and bedrock	
	535					Not excavated: slope and bedrock	
TR 81	536	1	0-11	0-28	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	28-40	10YR 5/6	Yellowish brown gravelly loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
TR 82	537	1	0-13	0-33	10YR 4/3	Brown gravelly loam	NCM
		2	13-19	33-47	10YR 5/6	Yellowish brown gravelly loam	NCM
	538	1	0-12	0-31	10YR 4/3	Brown gravelly loam	1 flake
		2	12-17	31-44	10YR 5/6	Yellowish brown gravelly loam	NCM
	538E1	1	0-11	0-29	10YR 4/3	Brown gravelly loam	NCM
		2	11-17	29-43	10YR 5/6	Yellowish brown gravelly loam	NCM
	538E2	1	0-12	0-30	10YR 4/3	Brown gravelly loam	NCM
		2	12-17	30-44	10YR 5/6	Yellowish brown gravelly loam	NCM
	538N1	1	0-12	0-30	10YR 4/3	Brown gravelly loam	NCM
		2	12-16	30-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	538N2	1	0-13	0-33	10YR 4/3	Brown gravelly loam	NCM
		2	13-18	33-45	10YR 5/6	Yellowish brown gravelly loam	NCM
	538S1	1	0-11	0-29	10YR 4/3	Brown gravelly loam	NCM
		2	11-17	29-44	10YR 5/6	Yellowish brown gravelly loam	NCM
	538S2	1	0-14	0-35	10YR 4/3	Brown gravelly loam	NCM
		2	14-20	35-51	10YR 5/6	Yellowish brown gravelly loam	NCM
	538W1	1	0-12	0-31	10YR 4/3	Brown gravelly loam	NCM
		2	12-17	31-43	10YR 5/6	Yellowish brown gravelly loam	NCM
	538W2	1	0-11	0-28	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	28-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	539	1	0-11	0-29	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	29-40	10YR 5/6	Yellowish brown gravelly loam	NCM
TR 83	540	1	0-13	0-33	10YR 4/3	Brown gravelly loam, terminated at bedrock	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	541	1	0-9	0-24	10YR 4/3	Brown gravelly loam	NCM
		2	9-12	24-30	10YR 5/6	Yellowish brown loam, terminated at rock impasse.	NCM
	542	1	0-12	0-30	10YR 4/3	Brown gravelly loam	NCM
		2	12-16	30-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	543	1	0-11	0-28	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	28-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	544					Not excavated: disturbed	
TR 84	545	1	0-10	0-25	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-15	25-39	10YR 5/6	Yellowish brown loam	NCM
	546	1	0-7	0-22	10YR 3/4	Dark yellowish brown loam	NCM
		2	7-12	22-30	10YR 5/6	Yellowish brown loam	NCM
	547	1	0-4	0-9	10YR 3/4	Dark yellowish brown loam, terminated at dense roots	NCM
	548					Not excavated: slope > 12%	
	549					Not excavated: slope > 12%	
	550					Not excavated: fallen trees	
TR 85	551	1	0-9	0-24	10YR 4/3	Brown gravelly loam	NCM
		2	9-16	24-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	552	1	0-10	0-26	10YR 4/3	Brown gravelly loam	NCM
		2	10-15	26-37	10YR 5/6	Yellowish brown gravelly loam	NCM
	553	1	0-11	0-28	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	28-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	554	1	0-12	0-30	10YR 4/3	Brown gravelly loam	NCM
		2	12-16	30-40	10YR 5/6	Yellowish brown gravelly loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	555	1	0-11	0-27	10YR 4/3	Brown gravelly loam	NCM
		2	11-12	27-30	10YR 5/6	Yellowish brown gravelly loam	NCM
	556					Not excavated: slope and bedrock	
	557					Not excavated: slope and bedrock	
	558					Not excavated: slope and bedrock	
TR 86	559	1	0-7	0-17	10YR 3/4	Dark yellowish brown loam	NCM
		2	7-11	17-28	10YR 5/6	Yellowish brown loam	NCM
	560	1	0-6	0-16	10YR 3/4	Dark yellowish brown loam	NCM
		2	6-11	16-27	10YR 5/6	Yellowish brown loam	NCM
	561	1	0-9	0-24	10YR 3/4	Dark yellowish brown loam	NCM
		2	9-14	24-36	10YR 5/6	Yellowish brown loam	NCM
	562	1	0-7	0-19	10YR 3/4	Dark yellowish brown loam	NCM
		2	7-12	19-30	10YR 5/6	Yellowish brown loam	NCM
	563					Not Excavated: Exposed Bedrock	
	564	1	0-8	0-20	10YR 3/4	Dark yellowish brown loam	NCM
		2	8-12	20-30	10YR 5/6	Yellowish brown loam	NCM
	565					Not Excavated: Exposed Bedrock	
	566					Not excavated: slope > 12%	
	567					Not excavated: slope > 12%	
TR 87	568	1	0-11	0-27	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	27-38	10YR 5/6	Yellowish brown gravelly loam	NCM
	569	1	0-8	0-21	10YR 4/3	Brown gravelly loam	NCM
		2	8-12	21-31	10YR 5/6	Yellowish brown gravelly loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	570	1	0-11	0-28	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	28-38	10YR 5/6	Yellowish brown gravelly loam	NCM
	571	1	0-8	0-21	10YR 4/3	Brown gravelly loam	NCM
		2	8-13	21-32	10YR 5/6	Yellowish brown gravelly loam	NCM
	572	1	0-12	0-30			
		2	12-16	30-40			
	573	1	0-10	0-25	10YR 3/3	Dark brown gravelly loam	NCM
		2	10-14	25-35	10YR 5/6	Yellowish brown gravelly loam	NCM
	574	1	0-11	0-29			
		2	11-16	29-40			
	575	1	0-6	0-13	10YR 4/3	Brown gravelly loam	NCM
		2	6-10	13-25	10YR 5/6	Yellowish brown gravelly loam	NCM
	576					Not excavated: slope > 12%	
TR 88	577					Not excavated: slope > 12%	
	578	1	0-10	0-26	10YR 3/4	Dark yellowish brown loam	NCM
		2	10-15	26-38	10YR 5/6	Yellowish brown gravelly loam	NCM
	579	1	0-7	0-17	10YR 3/4	Dark yellowish brown loam	NCM
		2	7-8	17-20	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
	580	1	0-8	0-20	10YR 4/3	Brown gravelly loam	NCM
		2	8-12	20-30	10YR 5/6	Yellowish brown gravelly loam	NCM
	581	1	0-9	0-23	10YR 4/3	Brown gravelly loam	NCM
		2	9-15	23-38	10YR 5/6	Yellowish brown gravelly loam	NCM
	582					Not Excavated: Exposed Bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	583					Not Excavated: Exposed Bedrock	
	584	1	0-6	0-15	10YR 3/3	Dark brown loam with cobbles	NCM
		2	6-10	15-25	10YR 5/6	Yellowish brown loam with gravel	NCM
	585	1	0-7	0-19	10YR 4/3	Brown loam	NCM
		2	7-10	19-26	10YR 5/6	Yellowish brown loam with gravel	NCM
	586					Not excavated: slope > 12%	
	587					Not excavated: slope > 12%	
	588					Not excavated: exposed bedrock	
TR 89	589	1	0-10	0-26	10YR 4/3	Brown gravelly loam	NCM
		2	10-15	26-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	590	1	0-11	0-27	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	27-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	591	1	0-11	0-29	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	29-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	592					Not excavated: Disturbance - push piles and remains of rock wall	
	593	1	0-11	0-28	10YR 3/3	Dark brown gravelly loam	NCM
		2	11-13	28-33	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
	594	1	0-11	0-29	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	29-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	595					Not Excavated: Exposed Bedrock	
	596	1	0-9	0-24	10YR 4/3	Brown gravelly loam	NCM
		2	9-14	24-35	10YR 5/6	Yellowish brown gravelly loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	597	1	0-11	0-28	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	28-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	598					Not excavated: slope > 12%	
	599					Not excavated: slope > 12%	
	600					Not excavated: slope > 12%	
TR 90	601	1	0-10	0-26	10YR 4/3	Brown gravelly loam	NCM
		2	10-14	26-35	10YR 5/6	Yellowish brown gravelly loam	NCM
	602	1	0-11	0-27	10YR 4/3	Brown gravelly loam	NCM
		2	11-17	27-42	10YR 5/6	Yellowish brown gravelly loam	NCM
	603	1	0-8	0-21	10YR 4/3	Brown gravelly loam	NCM
		2	8-12	21-31	10YR 5/6	Yellowish brown gravelly loam	NCM
	604	1	0-7	0-18	10YR 4/3	Brown gravelly loam	NCM
		2	7-13	18-32	10YR 5/6	Yellowish brown gravelly loam	NCM
	605	1	0-9	0-22	10YR 4/3	Brown gravelly loam	NCM
		2	9-13	22-34	10YR 5/6	Yellowish brown gravelly loam	NCM
	606					Not excavated: rock wall	
	607					Not excavated: slope > 12%	
	608					Not excavated: exposed bedrock	
	609					Not excavated: slope > 12%	
	610					Not excavated: slope > 12%	
	611					Not excavated: slope > 12%	
TR 91	612	1	0-9	0-23	10YR 4/6	Dark yellowish brown silty loam	NCM
		2	9-12	23-31	10YR 5/4	Yellowish brown silty clay loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	613	1	0-11	0-29	10YR 4/6	Dark yellowish brown silty loam	NCM
		2	11-15	29-39	10YR 5/4	Yellowish brown silty clay loam	NCM
	614	1	0-10	0-26	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	10-14	26-36	10YR 5/6	Yellowish brown silty clay loam	NCM
	615	1	0-10	0-25	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	10-16	25-40	10YR 5/6	Yellowish brown silty clay loam	NCM
	616	1	0-15	0-38	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	15-18	38-46	10YR 5/4	Yellowish brown silty clay loam, terminated at rock impasse.	NCM
	617	1	0-12	0-30	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	12-15	30-39	10YR 5/4	Yellowish brown silty clay loam, terminated at rock impasse.	NCM
	618	1	0-11	0-28	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	11-14	28-36	10YR 5/6	Yellowish brown silty clay loam	NCM
	619	1	0-9	0-22	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	9-11	22-28	10YR 5/6	Yellowish brown silty clay loam, terminated at rock impasse.	NCM
TR 92	620	1	0-9	0-23	10YR 3/1	Very dark gray loam	NCM
		2	9-13	23-34	10YR 4/6	Dark yellowish brown silty clay loam	NCM
	621	1	0-9	0-24	10YR 3/1	Very dark gray loam	NCM
		2	9-10	24-26	10YR 4/6	Dark yellowish brown silty clay loam. Stopped at rock.	NCM
	622	1	0-9	0-23	10YR 3/1	Very dark gray loam	NCM
		2	9-13	23-32	10YR 4/6	Dark yellowish brown silty clay loam. Stopped at rock.	NCM
	623	1	0-3	0-8	10YR 3/4	Dark yellowish brown silty clay loam. Stopped at rock.	NCM
	624	1	0-9	0-22	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	9-14	22-35	10YR 4/6	Dark yellowish brown silty clay loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	625	1	0-7	0-17	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	7-10	17-26	10YR 5/6	Yellowish brown silty clay	NCM
	626	1	0-10	0-25	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	10-16	25-40	10YR 5/6	Yellowish brown silty clay loam	NCM
TR 93	627	1	0-7	0-17	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	7-11	17-29	10YR 5/6	Yellowish brown silty clay loam	NCM
	628	1	0-10	0-26	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	10-14	26-36	10YR 5/6	Yellowish brown silty clay loam	NCM
	629	1	0-10	0-25	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	10-16	25-40	10YR 5/6	Yellowish brown silty clay loam	NCM
	630	1	0-9	0-24	10YR 3/4	Dark yellowish brown silty loam, terminated at rock impasse.	NCM
TR 94	631					Not excavated: disturbance for well	
	632	1	0-10	0-26	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	10-15	26-38	10YR 5/6	Yellowish brown silty clay loam	NCM
TR 95	633	1	0-14	0-35	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	14-17	35-42	10YR 5/4	Yellowish brown silty clay loam, terminated at rock impasse.	NCM
	634	1	0-15	0-38	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	15-17	38-44	10YR 5/4	Yellowish brown silty clay loam, terminated at rock impasse.	NCM
	635	1	0-15	0-38	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	15-18	38-46	10YR 5/4	Yellowish brown silty clay loam, terminated at rock impasse.	NCM
	636	1	0-12	0-30	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	12-15	30-39	10YR 5/4	Yellowish brown silty clay loam, terminated at rock impasse.	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	637	1	0-9	0-24	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	9-13	24-34	10YR 5/4	Yellowish brown silty clay loam	NCM
	638	1	0-9	0-24	10YR 3/4	Dark yellowish brown silty loam, terminated at rock impasse and roots	NCM
	639	1	0-11	0-29	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	11-13	29-32	10YR 5/4	Yellowish brown silty clay loam, terminated at rock impasse.	NCM
	640	1	0-11	0-29	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	11-15	29-37	10YR 5/4	Yellowish brown silty clay loam, terminated at rock impasse.	NCM
	641	1	0-9	0-22	10YR 3/4	Dark yellowish brown silty loam, terminated at rock impasse and roots	NCM
	642	1	0-6	0-14	10YR 3/4	Dark yellowish brown silty loam, terminated at rock impasse and roots	NCM
	643					Not Excavated: Exposed Bedrock	
TR 96	644	1	0-10	0-25	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	10-13	25-32	10YR 5/6	Yellowish brown silty clay loam, terminated at rock impasse.	NCM
	645	1	0-2	0-4	10YR 3/4	Dark yellowish brown silty loam, terminated at rock impasse.	NCM
	646					Not Excavated: Exposed Bedrock	
	647	1	0-8	0-20	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	8-13	20-34	10YR 5/6	Yellowish brown silty clay loam	NCM
	648	1	0-7	0-19	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	7-12	19-30	10YR 5/6	Yellowish brown silty clay loam	NCM
TR 97	649	1	0-9	0-24	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	9-14	24-35	10YR 5/6	Yellowish brown silty clay loam	NCM
	650	1	0-11	0-28	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	11-14	28-36	10YR 5/6	Yellowish brown silty clay loam	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	651	1	0-9	0-22	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	9-11	22-28	10YR 5/6	Yellowish brown silty clay loam, terminated at rock impasse.	NCM
	652	1	0-7	0-18	10YR 3/4	Dark yellowish brown silty loam, terminated at rock impasse.	NCM
	653					Not Excavated: Exposed Bedrock	
	654					Not Excavated: Perk test	
	655	1	0-10	0-26	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	10-14	26-35	10YR 4/6	Dark yellowish brown silty clay loam. Stopped at rock.	NCM
	656	1	0-10	0-25	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	10-13	25-32	10YR 4/6	Dark yellowish brown silty clay loam. Stopped at rock.	NCM
	657	1	0-9	0-23	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	9-13	23-32	10YR 4/6	Dark yellowish brown silty clay loam. Stopped at rock.	NCM
	658	1	0-10	0-25	10YR 3/4	Dark yellowish brown silty loam	NCM
		2	10-14	25-36	10YR 4/6	Dark yellowish brown silty clay loam. Stopped at rock.	NCM
	659					Not excavated: slope and bedrock	
TR 98	660	1	0-7	0-18	10YR 4/3	Brown loam with gravel	NCM
		2	7-12	18-30	10YR 5/6	Yellowish brown loam with gravel	NCM
	661					Not excavated: exposed bedrock	
	662	1	0-9	0-23	10YR 4/3	Brown loam with gravel	NCM
		2	9-15	23-40	10YR 5/6	Yellowish brown loam with gravel	NCM
	663	1	0-9	0-23	10YR 4/3	Brown loam with gravel	NCM
		2	9-15	23-39	10YR 5/6	Yellowish brown loam with gravel	NCM
	664					Not excavated: exposed bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	665	1	0-7	0-18	10YR 4/3	Brown loam with gravel	NCM
		2	7-12	18-30	10YR 5/6	Yellowish brown loam with gravel	NCM
	666	1				Not excavated: exposed bedrock	
	667	1	0-9	0-24	10YR 4/3	Brown loam with gravel	NCM
		2	9-14	24-35	10YR 5/6	Yellowish brown loam with gravel	NCM
	668					Not excavated: slope > 12%	
	669					Not excavated: slope > 12%	
	670					Not excavated: slope > 12%	
TR 99	671	1	0-7	0-19	10YR 4/3	Brown loam with gravel	NCM
		2	7-9	19-23	10YR 5/6	Yellowish brown loam with gravel	NCM
	672	1	0-4	0-9	10YR 4/3	Brown loam with gravel	NCM
		2	4-6	9-15	10YR 5/6	Yellowish brown loam with gravel	NCM
	673					Not excavated: exposed bedrock	
	674	1	0-11	0-28	10YR 4/3	Brown loam with gravel	NCM
		2	11-15	28-39	10YR 5/6	Yellowish brown loam with gravel	NCM
	675	1	0-8	0-20	10YR 4/3	Brown loam with gravel	NCM
		2	8-12	20-30	10YR 5/6	Yellowish brown loam with gravel	NCM
	676	1	0-11	0-27	10YR 4/3	Brown loam with gravel	NCM
		2	11-15	27-39	10YR 5/6	Yellowish brown loam with gravel	NCM
	677					Not excavated: Exposed bedrock	
	678	1	0-11	0-27	10YR 4/3	Brown loam with gravel	NCM
		2	11-14	27-36	10YR 5/6	Yellowish brown loam with gravel, terminated at root impasse.	NCM
	679					Not excavated: exposed bedrock	

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	680					Not excavated: slope > 12%	
	681					Not excavated: slope > 12%	
TR 100	682	1	0-11	0-29	10YR 4/3	Brown gravelly loam	NCM
		2	11-16	29-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	683	1	0-10	0-25	10YR 3/3	Dark brown gravelly loam	NCM
		2	10-11	25-28	10YR 5/6	Yellowish brown gravelly loam, terminated at rock impasse.	NCM
	684	1	0-9	0-24	10YR 3/3	Dark brown gravelly loam	NCM
		2	9-16	24-40	10YR 5/6	Yellowish brown gravelly loam	NCM
	685	1	0-11	0-28	10YR 3/3	Dark brown gravelly loam	NCM
		2	11-15	28-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	686	1	0-1	0-27	10YR 4/3	Brown gravelly loam	NCM
		2	11-15	27-39	10YR 5/6	Yellowish brown gravelly loam	NCM
	687	1	0-8	0-20	10YR 4/3	Brown gravelly loam	NCM
		2	8-13	20-33	10YR 5/6	Yellowish brown gravelly loam	NCM
	688					Not Excavated: Exposed Bedrock	
	689	1	0-9	0-22	10YR 4/3	Brown gravelly loam	NCM
		2	9-13	22-32	10YR 5/6	Yellowish brown gravelly loam	NCM
	690	1	0-9	0-24	10YR 4/3	Brown gravelly loam	NCM
		2	9-13	24-34	10YR 5/6	Yellowish brown gravelly loam	NCM
	691					Not excavated: slope > 12%	
	692					Not excavated: slope > 12%	
TR 101	693	1	0-9	0-23	10YR 4/3	Brown gravelly loam	NCM
		2	9-11	23-27	10YR 5/4	Yellowish brown gravelly loam, terminated at rock impasse.	NCM

Transect	ST	Level	Depth (in)	Depth (cm)	Munsell	Soil Description	Cultural Material
	694	1	0-8	0-21	10YR 4/3	Brown gravelly loam	NCM
		2	8-14	21-35	10YR 5/4	Yellowish brown gravelly loam	NCM
	695					Not Excavated: Exposed Bedrock	
	696	1	0-9	0-24	10YR 4/3	Brown gravelly loam	NCM
		2	9-15	24-37	10YR 5/4	Yellowish brown gravelly loam	NCM
	697	1	0-5	0-12	10YR 3/3	Dark brown gravelly loam	NCM
		2	5-10	12-26	10YR 4/6	Dark yellowish brown gravelly loam	NCM
	698	1	0-9	0-23	10YR 3/3	Dark brown gravelly loam	NCM
		2	9-15	23-37	10YR 4/6	Dark yellowish brown gravelly loam	NCM

Appendix C: Catalog of Cultural Material

Transect	ST	Level	Count	Class	Material	Type	Description
TR 3	16	1	1	Precontact	chert	debitage	light gray, secondary reduction
TR 82	538	1	1	Precontact	chert	debitage	light gray, secondary reduction

Appendix L
NYS AMBIENT AIR QUALITY DATA
(Region 3)

NEW YORK STATE OF OPPORTUNITY. | Department of Environmental Conservation

NEW YORK STATE AMBIENT AIR QUALITY REPORT FOR 2020

New York State Ambient Air Monitoring Program

BUREAU OF AIR QUALITY SURVEILLANCE
DIVISION OF AIR RESOURCES
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

625 Broadway Albany, NY 12233-3256
P: (518) 402-8508 | DAR.web@dec.ny.gov

Summary and background information

This technical document is designed to provide summary information about the ambient air quality in New York State as it relates to the EPA's National Ambient Air Quality Standards (NAAQS). The data here is provided in the same format at the EPA NAAQS, and as such may include information at air quality monitoring stations that have since been closed. In the footer of each page there is a key to assist in the interpretation of the data. Site numbers are the NYS internal site identifiers and are different than the AQS site numbers.

This document does not cover all pollutants measured, only those that have a NAAQS criteria. More information about the other programs for which the NYSDEC collects data, and more detailed information about the instrumentation currently available at individual site can be found in the Monitoring Network Plan.

For more information about the current and historic NAAQS, standards for regulatory action, health effects of individual pollutants, and more please go to the EPA's Criteria Air Pollutants webpage.

Full datasets are available for download and review from the EPA Air Data webpage using the API.

For current Air Quality Index (AQI) Forecast and Current Observations for New York State, please go to the NYSDEC's AQI webpage.

2020 Change Notes:
Due to the COIVD-19 Pandemic, some sites were inaccessible causing data completeness to be below 75%.

File version: 4/13/2020

National Ambient Air Quality Standards

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide		**primary**	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead		**primary and secondary**	Rolling 3-month average	0.15 µg/m^3 (1)	Not to be exceeded
Nitrogen Dioxide		**primary**	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	Annual	53 ppb (2)	Annual Mean
Ozone		**primary and secondary**	8-hour	0.070 ppm (3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution	$PM_{2.5}$	**primary**	Annual	12 µg/m^3	annual mean, averaged over 3 years
		secondary	Annual	15 µg/m^3	annual mean, averaged over 3 years
		primary and secondary	24-hour	35 µg/m^3	98th percentile, averaged over 3 years
	PM_{10}	**primary and secondary**	24-hour	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide		**primary**	1-hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

(Annual Means in parentheses are based on less than 75% available data)
*Federal Ambient Air Quality Standard

[Date of Occurrence, Hour]
+ Denotes a contravention of Federal AAQS

Footnotes

(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 year, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

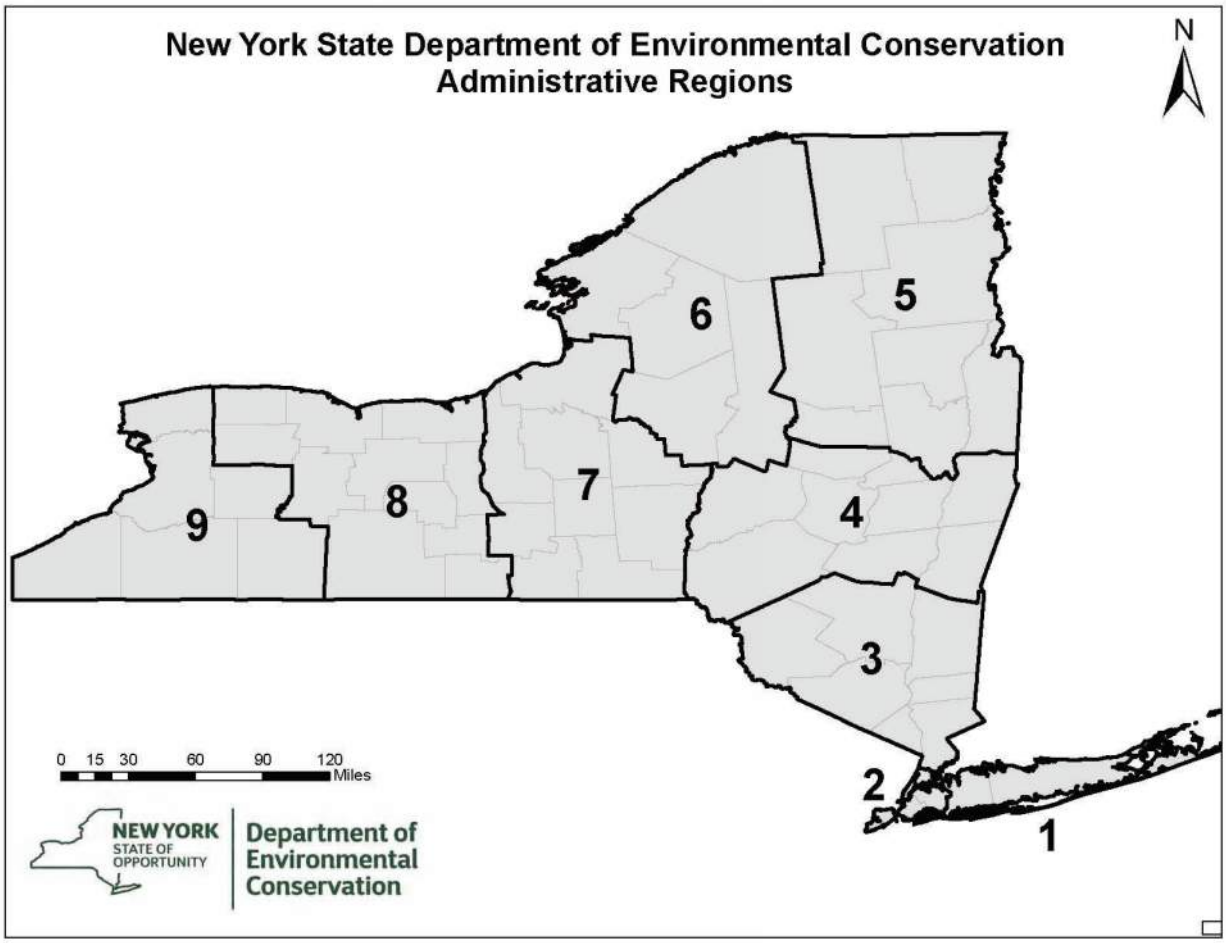
(2) The official level of the annual NO_2 standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O_3 standards additionally remain in effect in some areas. Revocation of the previous (2008) O_3 standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

(4) The previous SO_2 standards (0.14 ppm 24-hour and 0.03 ppm annual/ 30 ppb) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which implementation plans providing for attainment of the current (2010) standard have not been submitted and approved and which is designated nonattainment under the previous SO_2 standards or is not meeting the requirements of a SIP call under the previous SO_2 standards (40 CFR 50.4(3)), A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the require NAAQS.

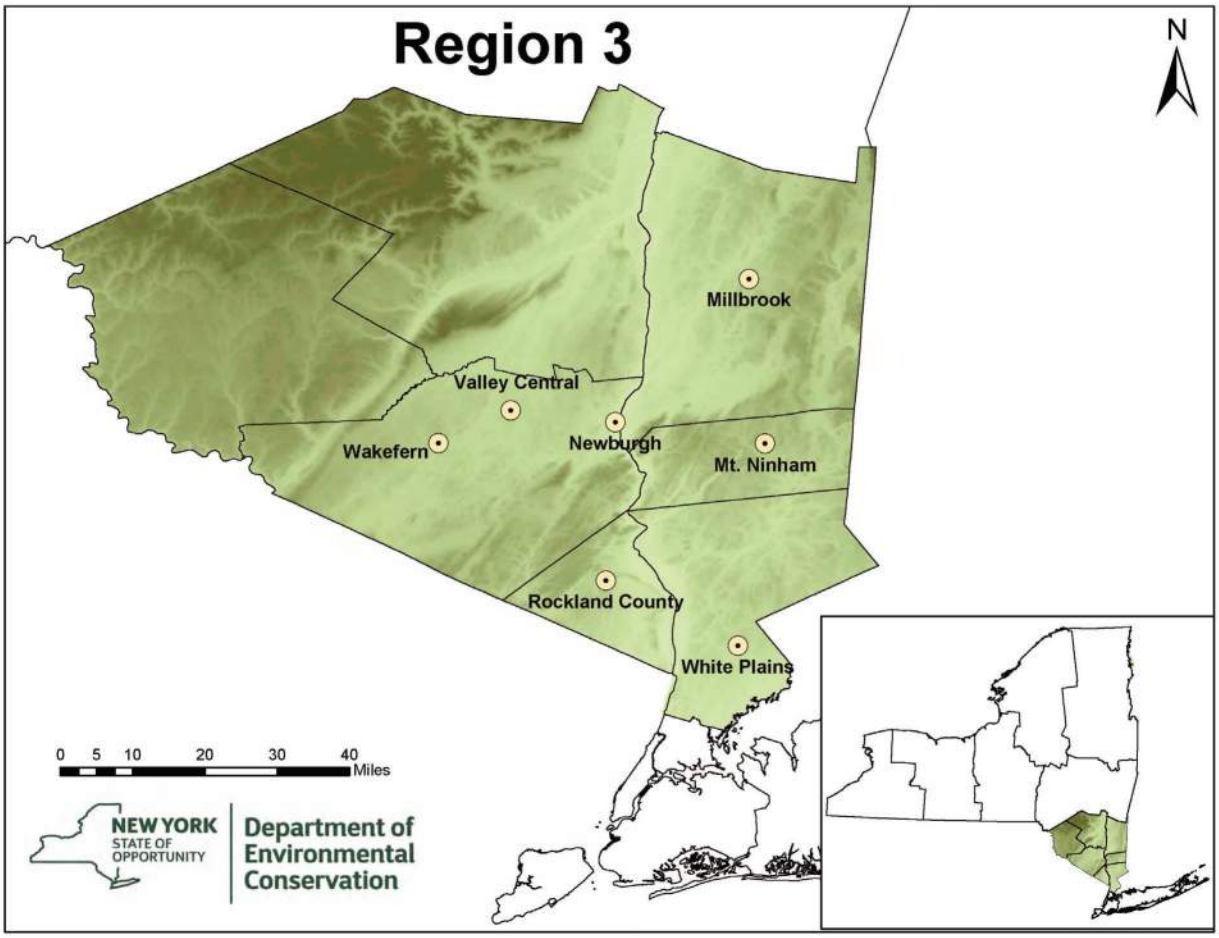
(Annual Means in parentheses are based on less than 75% available data)
*Federal Ambient Air Quality Standard

[Date of Occurrence, Hour]
+ Denotes a contravention of Federal AAQS



(Annual Means in parentheses are based on less than 75% available data)
*Federal Ambient Air Quality Standard

[Date of Occurrence, Hour]
+ Denotes a contravention of Federal AAQS



(Annual Means in parentheses are based on less than 75% available data)
*New York and Federal Ambient Air Quality Standard + Denotes a contravention of NYS/Federal AAQS

NYSDEC Region **3**

SULFUR DIOXIDE - Continuous Pulsed Fluorescence

Parameter: 42401

Annual Averages 2010 through 2020

Annual Arithmetic Mean (ppb) - Primary Standard

(12-month average not to exceed 30 PPB* [4])

Station	Site No.	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mt. Ninham	36-079-0005	0.8	0.86	0.73	0.72	0.63	0.59	0.23	0.22	0.11	0.13	0.12
Millbrook	36-027-0007	xx	1.15	1.42	2.45	0.65	0.81	0.18	0.16	0.18	0.23	0.1
Belleayre Mtn.	36-111-1005	0.5	0.52	0.31	xx	xx	xx	xx	xx	xx	xx	xx

Sampling was suspended at 5565-03 in 2013

Comparison Between NYS Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2020

		One Hour Averages average of 99th percentile for last 3 years not to exceed 75 PPB *					
		Observations		**99th Percentile, PPB**			
Station	**Site No.**	**Total Obs.**	**% Avail**	**2018**	**2019**	**2020**	**3-yr Avg.**
Mt. Ninham	36-079-0005	8,390	96	3.4	1.5	1.1	2.0
Millbrook	36-027-0007	8,606	98	3.4	1.6	1.2	2.1

(Annual Means in parentheses are based on less than 75% available data)

*New York and Federal Ambient Air Quality Standard + Denotes a contravention of NYS/Federal AAQS

NYSDEC Region **3**

INHALABLE PARTICULATES ($PM_{2.5}$)

Comparison Between NYS Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2020

(Average of last 3 years= annual means not to exceed 12 µg/m3 *;
and average of 98th percentile for last 3 years not to exceed 35 µg/m^3 *, *changed* from 65 m^3g/m^3 on 12/17/06)

Station	EPA Param Code	EPA Method Code	Site No.	Total Obs.	Maximum Values, µg/m^3			98th Percentile, µg/m^3				Quarterly Averages, 2020				Annual Mean, µg/m^3			
					1st	2nd	3rd	2018	2019	2020	3-yr Avg.	1st	2nd	3rd	4th	2018	2019	2020	3-yr Avg.
Newburgh (F)	88101	145	36-071-0002	87	26.1 5-Jul	21.5 20-Dec	21.5 8-Nov	16.2	14.5	21.5	17.4	5.7	6.4	7.0	6.1	6.4	5.8	6.3	6.2
Newburgh (C)	88502	702	36-071-0002	366	26.1 5-Jul	25.4 5-Jul	23.7 8-Nov	17.2	14.8	16.7	16.2	7.3	3.6	5.1	6.7	5.9	5.8	5.7	5.8
Rockland Co. (C)	88502	702	36-087-0005	366	25.4 5-Jul	16.9 9-Nov	16.0 20-Dec	16.4	13.5	13.7	14.5	6.4	3.1	4.7	5.8	5.5	5.2	5.0	5.2
White Plains (C)	88502	702	36-119-2004	360	21.1 5-Jul	19.1 7-Nov	16.5 8-Nov	15.2	12.3	13.5	13.6	6.5	3.1	4.4	5.9	5.3	5.0	5.0	5.1

(F) = Federal Reference Method or Federal Equivalent Method: Parameter Code: 88101
(C) = Continuous, used for AQI calculations. Values based on 24-hour averages of 1-hour values. Parameter Code 88502

(Annual Means in parentheses are based on less than 75% available data)
*New York and Federal Ambient Air Quality Standard + Denotes a contravention of NYS/Federal AAQS

NYSDEC Region **3**

OZONE - Continuous UV Light Absorption

Parameter: 44201

Comparison Between NYS Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2020

		8-hr Running Average Begin Hour							**4th Highest Daily Maximum 8-Hour Average-**			
		Observations			**Daily Highest Values, PPM**				Not to exceed an avg of 0.070 ppm during the last 3 years			
Station	**Site No.**	**Total Obs.**	**% Avail**	**Days >.070 PPM**	**1st**	**2nd**	**3rd**	**4th**	**2018**	**2019**	**2020**	**Avg.**
Valley Central	36-071-5001	235	96	0	0.062 4-Jul	0.061 2-Aug	0.06 5-Jul	0.058 30-Mar	0.064 17-May	0.058 30-Mar	0.059 9-Jul	0.060
Rockland County	36-087-0005	240	98	0	0.074 4-Jul	0.070 5-Jul	0.066 16-Jul	0.066 16-Jul	0.066 18-May	0.066 13-Apr	0.061 1-Jun	0.064
White Plains	36-119-2004	240	98	1	0.072 30-Jul	0.070 16-Jul	0.070 29-Jul	0.069 22-Sep	0.072 10-Jun	0.078 28-Jul	0.069 22-Sep	0.073
Millbrook	36-027-0007	242	99	0	0.067 11-Jul	0.064 5-Jun	0.063 22-Sep	0.061 30-Jul	0.063 10-Apr	0.065 10-Jul	0.061 30-Jul	0.063
Mt. Ninham	36-079-0005	229	94	0	0.071 22-Sep	0.067 5-Jun	0.064 16-Jul	0.062 11-Jul	0.067 18-May	0.067 10-Jul	0.062 11-Jul	0.065

(Annual Means in parentheses are based on less than 75% available data)

*New York and Federal Ambient Air Quality Standard + Denotes a contravention of NYS/Federal AAQS

NYSDEC Region **3**

LEAD - Low Volume Air Samplers

Parameter: 14128

Comparison Between NYS Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2020

		24-Hour Concentrations - µg/m³								THREE MONTH ROLLING AVERAGES Maximum not to exceed 0.15 µg/m³, effective beginning 1/1/13		
				Maximum		2nd Max.		3rd Max.		Highest Values, µg/m³		
Station	**Site No.**	**Total Obs.**	**% Avail**	**Value**	**Date**	**Value**	**Date**	**Value**	**Date**	**2018**	**2019**	**2020**
Wallkill	36-071-3002	92	75	.0839	07/02	.0432	07/29	.0241	09/15	0.01	0.01	0.01

(Annual Means in parentheses are based on less than 75% available data)

*New York and Federal Ambient Air Quality Standard + Denotes a contravention of NYS/Federal AAQS

Appendix M
CIVIL DRAWINGS

LEGEND

- EXISTING PROPERTY LINE
- YARD SETBACK
- EXISTING STONEWALL
- EXISTING 10' CONTOUR
- EXISTING WETLAND WATERCOURSE
- EXISTING WETLAND SYMBOL
- EXISTING WETLAND LIMIT LINE
- TOWN WETLAND/WATERCOURSE BUFFER
- NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE
- NYCDEP 100' WATERCOURSE LIMITING DISTANCE

RC ZONE REQUIREMENTS:

	Required:	Tax Map #45.-1-10 Existing Lot	Tax Map #45.-1-10 Proposed Lot 2	Tax Map #45.-1-11 Existing Lot	Tax Map #45.-1-11 Proposed Lot 3
Min. Lot Size:					
Square Feet:	200,000 S.F. (4.6 AC)	93.0 AC	66.2 AC *	60.5 AC	15.6 AC *
Frontage:	400'	3,609'	3,670'	3,005'	1,716'
Width:	400'	2,660' ±	2,660'±	2,270' ±	928'±
Depth:	400'	2,286' ±	1,260'±	1,294' ±	841' ±
Min. Yard Setbacks:					
Front:	100'	N/A	113.2' ±	N/A	50.4'±**
Side:	100'	N/A	270.0' ±	N/A	374.6'±
Rear:	100'	N/A	441.0 ±	N/A	487.4'±
Environmental Conservation Buffer	50'	> 50'	0'**	> 50'	0'**
Max. Building Coverage:	15%	0%	1.7%	0%	0.4%
Min. Floor Area Ratio:	0.15	N/A	0.016	N/A	0.002
Max. Percentage of Lot Coverage:	45%	0%	15%	0%	5%
Open Space Requirement:	55%	> 55%	85% ***	> 55%	95% ***
Maximum Building Stories:	3	N/A	< 3 Stories	N/A	< 3 Stories
Maximum Building Height:	35'	N/A	< 35'	N/A	< 35'
Parking Setbacks:					
Front:	100'	N/A	35.7'± **	N/A	49.3'± **
Side:	100'	N/A	220.5'±	N/A	131.7'±
Rear:	100'	N/A	666.3'±	N/A	334.5'±

* Pending subdivision approval.
** Applicant is requesting a variance.
*** The open space calculation for proposed Lot 2 include 13.5 acres of synthetic turf. The open space calculation for proposed Lot 3 include 0.3 acres of synthetic turf.

GENERAL NOTES:

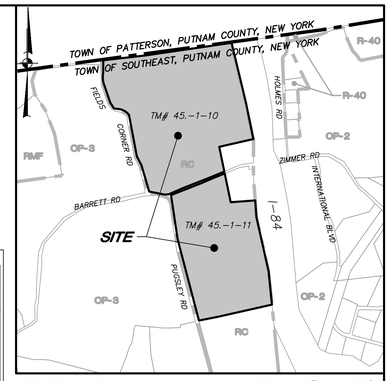
1. Property lines shown taken from map entitled "Map of Alienation Parcels Prepared for Proswing..." dated March 6, 2020 prepared by Insite Engineering, Surveying, and Landscape Architecture P.C
2. Existing topography and site features shown hereon derived from Aerial Photogrammetry, created from a drawing entitled "Pugsley Road", by Geomaps International photo dated November 30, 2019 and obtained January 13, 2020. Elevations show hereon are in vertical datum NAVD 88. The contour interval is 2'.
3. Wetlands shown hereon in Tax Map# 45.-1-10 and 45.-1-11 were flagged by Ecological Analysis on November 27, 2019 and field located by Insite Engineering, Surveying, and Landscape Architecture P.C. on December 18, 2019. Wetland LC-18 shown hereon is approximate and is based on public record of wetland location provided in the Commercial Campus at Fields Corner project and NYSDEC Environmental Mapper.
4. Wetland flag "WL F72-A" was modified in the field by Sarah Pawliczak of the NYSDEC on July 9, 2020. This drawing reflects the modified location of the wetland flag.
5. NYCDEP watercourses within the vicinity of a NYSDEC wetland are assumed to located within the NYSDEC wetland boundary.
6. Proposed project limit of disturbance is approximately 49± acres.

PARKING SUMMARY

TOTAL NUMBER OF SPACES REQUIRED PER CODE *	345
TOTAL NUMBER OF SPACES PROVIDED	449

Parking Calculations:
Recreation in Building: 35,459 sf recreation @ 1 space per 250 sf (ITE[1]) = 142 Spaces
Athletic Field Seating: 1,001 seats @ 1 space per 5 spectator seats[2] = 201 Spaces
Public Trail Use: 2 Spaces
TOTAL NUMBER OF SPACES REQUIRED PER CODE = 345 SPACES

[1] As per ITE City Recreational Center
[2] As per Town of Southeast Code §138-67(G.)



LOCATION MAP SCALE: 1" = 1,000'±

OWNER:

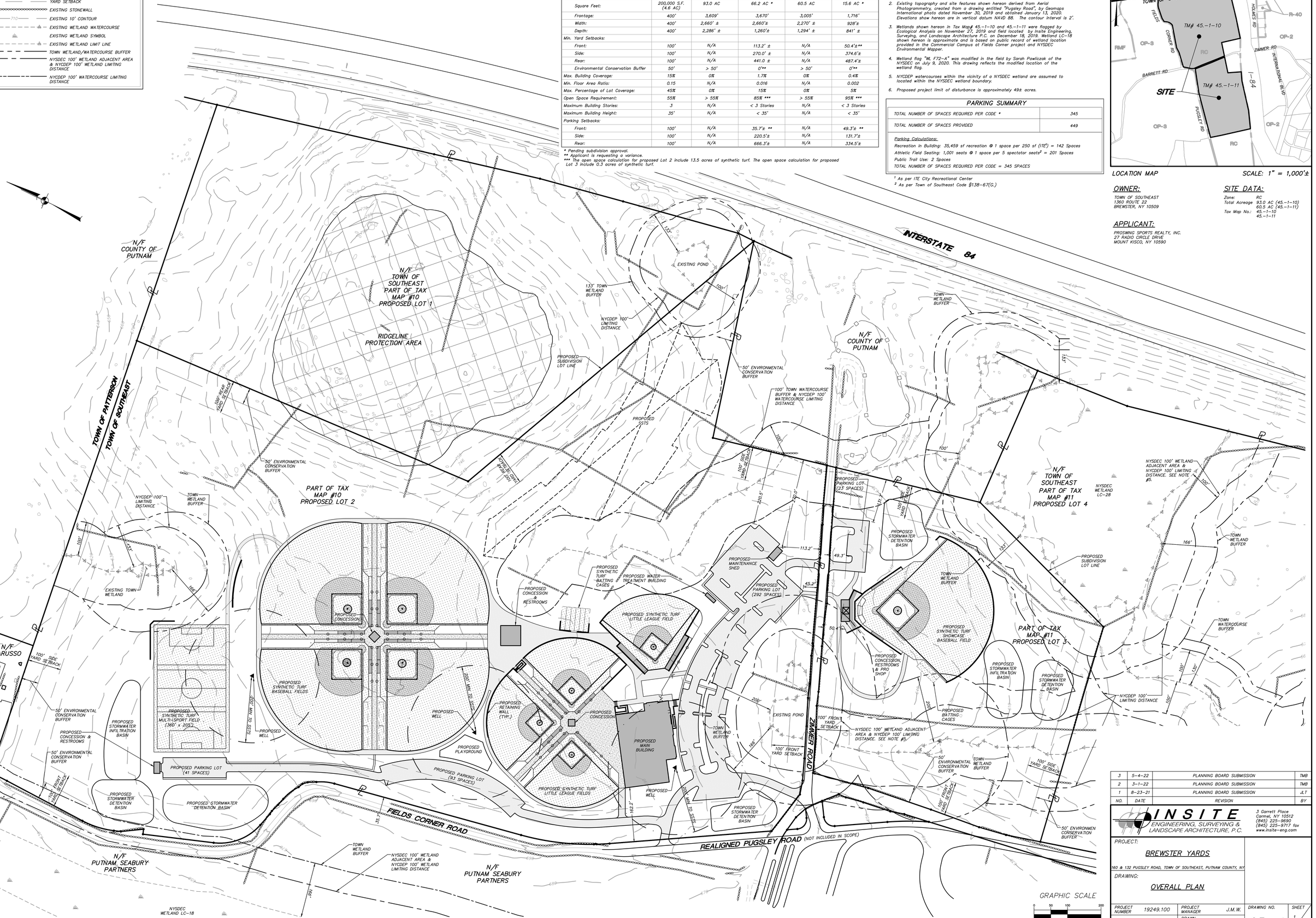
TOWN OF SOUTHEAST
1360 ROUTE 22
BREWSTER, NY 10509

APPLICANT:

PROSWING SPORTS REALTY, INC.
27 RADIO CIRCLE DRIVE
MOUNT KISCO, NY 10590

SITE DATA:

Zone:	RC
Total Acreage	93.0 AC (45.-1-10) 60.5 AC (45.-1-11)
Tax Map No.:	45.-1-10 45.-1-11



GRAPHIC SCALE
0 50 100 200
(IN FEET)
1 inch = 100 ft.

NO.	DATE	REVISION	BY
3	5-4-22	PLANNING BOARD SUBMISSION	TMB
2	3-1-22	PLANNING BOARD SUBMISSION	TMB
1	8-23-21	PLANNING BOARD SUBMISSION	JLT

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BREWSTER YARDS
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING:
OVERALL PLAN

PROJECT NUMBER	19249.100	PROJECT MANAGER	J.M.W.
DATE	7-6-21	DRAWN BY	M.E.U.
SCALE	1" = 100'	CHECKED BY	K.M.G.

DRAWING NO. OP-1 SHEET 1 / 6

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

Z:\E\19249\000 ProSwing Pugsley\03 CP-1.dwg, 5/4/2022 10:48:32 AM, AgentAgent 11

LEGEND

- EXISTING PROPERTY LINE
- EXISTING STONEWALL
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING SPOT GRADE
- EXISTING WETLAND WATERCOURSE
- EXISTING WETLAND SYMBOL
- EXISTING WETLAND LIMIT LINE
- TOWN WETLAND/WATERCOURSE BUFFER
- NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE
- NYCDEP 100' WATERCOURSE LIMITING DISTANCE

INTERSTATE 84

N/F COUNTY OF PUTNAM

N/F TOWN OF SOUTHEAST

RIDGELINE PROTECTION AREA

PROPOSED SUBDIVISION LOT LINE

EXISTING POND

133' TOWN WETLAND BUFFER

NYCDEP 100' LIMITING DISTANCE

100' TOWN WATERCOURSE BUFFER & NYCDEP 100' WATERCOURSE LIMITING DISTANCE

TOWN WETLAND BUFFER

TOWN OF PATTERSON

TOWN OF SOUTHEAST

NYCDEP 100' LIMITING DISTANCE

TOWN WETLAND BUFFER

EXISTING STONEWALL TO BE REMAIN (TYP.)

EXISTING TOWN WETLAND

EXISTING STONEWALL TO BE REMOVED (TYP.)

N/F YARUSSO

EXISTING STONEWALL TO BE REMOVED (TYP.)

N/F COUNTY OF PUTNAM

N/F TOWN OF SOUTHEAST

NYSDEC WETLAND LC-28

NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' LIMITING DISTANCE. SEE NOTE #5.

TOWN WETLAND BUFFER

PROPOSED SUBDIVISION LOT LINE

TOWN WETLAND BUFFER

TOWN WATERCOURSE BUFFER

NYCDEP 100' LIMITING DISTANCE

EXISTING POND

TOWN WETLAND BUFFER

NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' LIMITING DISTANCE. SEE NOTE #5.

TOWN WETLAND BUFFER

ZIMMER ROAD

PUGSLEY ROAD

PUGSLEY ROAD TO BE REALIGNED AS PART OF COMMERCIAL CAMPUS AT FIELDS CORNER PROJECT

FIELDS CORNER ROAD

N/F PUTNAM SEABURY PARTNERS

TOWN WETLAND BUFFER

NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE

N/F PUTNAM SEABURY PARTNERS

NYSDEC WETLAND LC-18

GRAPHIC SCALE

0 50 100 200

(IN FEET)
1 inch = 100 ft.

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

NO.	DATE	REVISION	BY
2	3-1-22	PLANNING BOARD SUBMISSION	TMB
1	8-23-21	PLANNING BOARD SUBMISSION	JLT

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BREWSTER YARDS
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING:
EXISTING CONDITIONS PLAN

PROJECT NUMBER	19249.100	PROJECT MANAGER	J.M.W.
DATE	7-6-21	DRAWN BY	M.E.U.
SCALE	1" = 100'	CHECKED BY	K.M.G.

DRAWING NO. EX-1
SHEET 2 / 6

Z:\E\19249\100 Pre-Design Pugsley\DZ Ex-1.dwg, 2/28/2022 3:44:43 PM, kgallagher, 1:1

LEGEND

- EXISTING PROPERTY LINE
- EXISTING STONE WALL
- EXISTING TREES
- EXISTING TREELINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING SPOT GRADE
- EXISTING WETLAND WATERCOURSE
- EXISTING WETLAND SYMBOL
- EXISTING WETLAND LIMIT LINE
- EXISTING EDGE OF POND / WATERCOURSE
- EXISTING TOWN WETLAND/WATERCOURSE BUFFER
- NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE
- EXISTING NYCDEP 100' WATERCOURSE LIMITING DISTANCE
- PROPOSED # OF STALLS TO BE STRIPED
- PROPOSED CONCRETE CURB
- PROPOSED RETAINING WALL
- PROPOSED PAINTED CROSSWALK
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- PROPOSED END SECTION
- PROPOSED WATER CURB STOP VALVE
- PROPOSED CLEAN OUT
- PROPOSED WELL
- PROPOSED ROOF DRAIN
- PROPOSED DRAINAGE PIPE
- PROPOSED SEWER MAIN
- PROPOSED SEWER FORCE MAIN
- PROPOSED SEWER SERVICE LINE
- PROPOSED LOW PRESSURE SEWER LINE
- PROPOSED HDPE WELL SERVICE LINE
- PROPOSED DOMESTIC WATER SERVICE LINE
- PROPOSED PVC DR-18 WATER MAIN
- PROPOSED PVC DR-18 TANK SUPPLY LINE
- PROPOSED PVC DR-18 PUMP SUPPLY LINE

TOWN OF PATTERSON
TOWN OF SOUTHEAST
FIELDS CORNER ROAD
100' FRONT YARD SETBACK
50' ENVIRONMENTAL CONSERVATION BUFFER
166'
TOWN WETLAND BUFFER
PROPOSED STORMWATER DETENTION BASIN (1.4 EDB)
PROPOSED STORMWATER INFILTRATION BASIN (1.3 IB)
PROPOSED CONCESSION & RESTROOMS
PROPOSED E-ONE PUMP PIT
PROPOSED SYNTHETIC TURF MULTI-SPORT FIELD (360' x 205')
PROPOSED STORMWATER DETENTION BASIN (1.2 EDB)
PROPOSED ASPHALT PARKING LOT
PROPOSED LIMIT OF SYNTHETIC TURF
PROPOSED RETAINING WALL
PROPOSED WELL
60.0'
24.0'
100'
NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE
MATCHLINE TO DRAWING SP-2
100' SIDE YARD SETBACK
50' ENVIRONMENTAL CONSERVATION BUFFER
100'
133'
EXISTING TOWN WETLAND
NYCDEP 100' LIMITING DISTANCE
WC 4-9
WC 4-8
WC 4-7
WC 4-6
WC 4-5
WC 4-4
WC 4-3
WC 4-2
WC 4-1
WL G6
WL G7
WL G5
WL G8
WL G4
WL G9
WL G3
WL G10
WL G11
WL G2
WL G12
WL G1 & G13

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

NO.	DATE	REVISION	BY
2	3-1-22	PLANNING BOARD SUBMISSION	TMB
1	8-23-21	PLANNING BOARD SUBMISSION	JLT

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BREWSTER YARDS
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING:
LAYOUT & LANDSCAPE AND GRADING & UTILITIES PLAN

PROJECT NUMBER	19249.100	PROJECT MANAGER	J.M.W.
DATE	7-6-21	DRAWN BY	M.E.U.
SCALE	1" = 30'	CHECKED BY	K.M.G.

DRAWING NO. SP-1
SHEET 3 / 6

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

Z:\SITE\19249\00 ProDesktop Projects\03 SP1-4.dwg, 7/28/2021 9:45:05 PM, AppWplotter: 1:1

MATCHLINE TO DRAWING SP-1

LEGEND

- EXISTING PROPERTY LINE
- EXISTING STONE WALL
- EXISTING TREES
- EXISTING TREELINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING SPOT GRADE
- EXISTING WETLAND WATERCOURSE
- EXISTING WETLAND SYMBOL
- EXISTING WETLAND LIMIT LINE
- EXISTING EDGE OF POND / WATERCOURSE
- EXISTING TOWN WETLAND/WATERCOURSE BUFFER
- NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE
- EXISTING NYCDEP 100' WATERCOURSE LIMITING DISTANCE
- PROPOSED # OF STALLS TO BE STRIPED
- PROPOSED CONCRETE CURB
- PROPOSED RETAINING WALL
- PROPOSED PAINTED CROSSWALK
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- PROPOSED END SECTION
- PROPOSED WATER CURB STOP VALVE
- PROPOSED CLEAN OUT
- PROPOSED WELL
- RD — PROPOSED ROOF DRAIN
- PROPOSED DRAINAGE PIPE
- PROPOSED SEWER MAIN
- FM — PROPOSED SEWER FORCE MAIN
- SS — PROPOSED SEWER SERVICE LINE
- LPS — PROPOSED LOW PRESSURE SEWER LINE
- WSL — PROPOSED HDPE WELL SERVICE LINE
- WS — PROPOSED DOMESTIC WATER SERVICE LINE
- W — PROPOSED PVC DR-18 WATER MAIN
- TSL — PROPOSED PVC DR-18 TANK SUPPLY LINE
- PSL — PROPOSED PVC DR-18 PUMP SUPPLY LINE

PROPOSED LOW PRESSURE FORCE MAIN
PROPOSED WELL
PROPOSED GRAVEL MAINTENANCE ACCESS
PROPOSED SYNTHETIC TURF BASEBALL FIELD
PROPOSED CLAY
PROPOSED ASPHALT SIDEWALK
PROPOSED CONCESSION
PROPOSED LOCATION FOR 14'x70' BATTING CAGE (QTY. 4)
PROPOSED 2" W. WATER SERVICE LINE
PROPOSED PLAYGROUND
50' ENVIRONMENTAL CONSERVATION BUFFER
100' FRONT YARD SETBACK
PROPOSED RETAINING WALL
PROPOSED SEWER MAIN (TYP.)
PROPOSED REDUCERS AS REQUIRED
PROPOSED SEWER MANHOLE (TYP.)
PROPOSED ASPHALT PLAZA
PROPOSED STEPS 10 RISERS
PROPOSED CONCESSION & RESTROOMS
PROPOSED ACCESSIBLE RAMP
100' TOWN WATERCOURSE BUFFER & NYCDEP 100' WATERCOURSE LIMITING DISTANCE
SMH 10
SMH 9
SMH 8
67.0' (TYP.)
35.0' (TYP.)
325'
300'
FIELDS CORNER ROAD

MATCHLINE TO DRAWING SP-3

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

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

NO.	DATE	REVISION	BY
2	3-1-22	PLANNING BOARD SUBMISSION	TMB
1	8-23-21	PLANNING BOARD SUBMISSION	JLT

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BREWSTER YARDS
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING:
LAYOUT & LANDSCAPE AND GRADING & UTILITIES PLAN

PROJECT NUMBER	19249.100	PROJECT MANAGER	J.M.W.
DATE	7-6-21	DRAWN BY	M.E.U.
SCALE	1" = 30'	CHECKED BY	K.M.G.

DRAWING NO. SP-2 SHEET 4/6

Z:\E\19249\100 Pro\dwg Pg\dwg\02 SP 1-4.dwg, 2/28/2022 9:46:26 PM, Kyle\gfloyd, 1:1

MATCHLINE TO DRAWING SP-2

MATCHLINE TO DRAWING SP-4

ZIMMER ROAD

LEGEND

- EXISTING PROPERTY LINE
- EXISTING STONE WALL
- EXISTING TREES
- EXISTING TREELINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING SPOT GRADE
- EXISTING WETLAND WATERCOURSE
- EXISTING WETLAND SYMBOL
- EXISTING WETLAND LIMIT LINE
- EXISTING EDGE OF POND / WATERCOURSE
- EXISTING TOWN WETLAND/WATERCOURSE BUFFER
- NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE
- EXISTING NYCDEP 100' WATERCOURSE LIMITING DISTANCE
- PROPOSED # OF STALLS TO BE STRIPED
- PROPOSED CONCRETE CURB
- PROPOSED RETAINING WALL
- PROPOSED PAINTED CROSSWALK
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- PROPOSED END SECTION
- PROPOSED WATER CURB STOP VALVE
- PROPOSED CLEAN OUT
- PROPOSED WELL
- RD — PROPOSED ROOF DRAIN
- PROPOSED DRAINAGE PIPE
- PROPOSED SEWER MAIN
- FM — PROPOSED SEWER FORCE MAIN
- SS — PROPOSED SEWER SERVICE LINE
- LPS — PROPOSED LOW PRESSURE SEWER LINE
- WSL — PROPOSED HDPE WELL SERVICE LINE
- WS — PROPOSED DOMESTIC WATER SERVICE LINE
- W — PROPOSED PVC DR-18 WATER MAIN
- TSL — PROPOSED PVC DR-18 TANK SUPPLY LINE
- PSL — PROPOSED PVC DR-18 PUMP SUPPLY LINE

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

NO.	DATE	REVISION	BY
2	3-1-22	PLANNING BOARD SUBMISSION	TMB
1	8-23-21	PLANNING BOARD SUBMISSION	JLT

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-enp.com

PROJECT:
BREWSTER YARDS
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING:
LAYOUT & LANDSCAPE AND GRADING & UTILITIES PLAN

PROJECT NUMBER	19249.100	PROJECT MANAGER	J.M.W.
DATE	7-6-21	DRAWN BY	M.E.U.
SCALE	1" = 30'	CHECKED BY	K.M.G.

DRAWING NO. SP-3 SHEET 5/6

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

Z:\E\19249\000\Printing\Plotting\03 SP 1-4.dwg, 7/28/2022 9:44:55 PM, AgentJohan 11

ZIMMER ROAD

PUGSLEY ROAD

MATCHLINE TO DRAWING SP-3

NO RIGHT TURN LANE SIGN

50' ENVIRONMENTAL CONSERVATION BUFFER

100' FRONT YARD SETBACK

PROPOSED ROAD WIDENING TO 24'

PROPOSED CONCESSION, RESTROOMS & PRO SHOP

PROPOSED BLEACHERS (200) SEATS

PROPOSED DRAINAGE MANHOLE (TYP.)

PROPOSED ASPHALT PARKING LOT

EXISTING GRAVEL ROAD TO REMAIN

PROPOSED STORMWATER DETENTION BASIN (2.5 EDB)

PROPOSED DUGOUT (TYP.)

PROPOSED RETAINING WALL (TYP.)

PROPOSED CLAY

PROPOSED BATTING CAGES

PROPOSED SYNTHETIC TURF SHOWCASE BASEBALL FIELD

TOWN WETLAND BUFFER

TOWN WATERCOURSE BUFFER

PROPOSED RETAINING WALL

PROPOSED STORMWATER INFILTRATION BASIN (2.6IB)

PROPOSED STORMWATER DETENTION BASIN (2.7 EDB)

NYCDEP 100' LIMITING DISTANCE

NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' LIMITING DISTANCE. SEE GENERAL NOTE #5

100' REAR YARD SETBACK

100' SIDE YARD SETBACK

NYSDEC WETLAND LC-28

LEGEND

- EXISTING PROPERTY LINE
- EXISTING STONE WALL
- EXISTING TREES
- EXISTING TREELINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING SPOT GRADE
- EXISTING WETLAND WATERCOURSE
- EXISTING WETLAND SYMBOL
- EXISTING WETLAND LIMIT LINE
- EXISTING EDGE OF POND / WATERCOURSE
- EXISTING TOWN WETLAND/WATERCOURSE BUFFER
- NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE
- EXISTING NYCDEP 100' WATERCOURSE LIMITING DISTANCE
- PROPOSED # OF STALLS TO BE STRIPED
- PROPOSED CONCRETE CURB
- PROPOSED RETAINING WALL
- PROPOSED PAINTED CROSSWALK
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED SEWER MANHOLE
- PROPOSED DRAINAGE MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED OUTLET STRUCTURE
- PROPOSED END SECTION
- PROPOSED WATER CURB STOP VALVE
- PROPOSED CLEAN OUT
- PROPOSED WELL
- RD — PROPOSED ROOF DRAIN
- PROPOSED DRAINAGE PIPE
- PROPOSED SEWER MAIN
- FM — PROPOSED SEWER FORCE MAIN
- SS — PROPOSED SEWER SERVICE LINE
- LPS — PROPOSED LOW PRESSURE SEWER LINE
- WSL — PROPOSED HDPE WELL SERVICE LINE
- WS — PROPOSED DOMESTIC WATER SERVICE LINE
- W — PROPOSED PVC DR-18 WATER MAIN
- TSL — PROPOSED PVC DR-18 TANK SUPPLY LINE
- PSL — PROPOSED PVC DR-18 PUMP SUPPLY LINE

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

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

NO.	DATE	REVISION	BY
2	3-1-22	PLANNING BOARD SUBMISSION	TMB
1	8-23-21	PLANNING BOARD SUBMISSION	JLT

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BREWSTER YARDS
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING:
LAYOUT & LANDSCAPE AND GRADING & UTILITIES PLAN

PROJECT NUMBER	19249.100	PROJECT MANAGER	J.M.W.
DATE	7-6-21	DRAWN BY	M.E.U.
SCALE	1" = 30'	CHECKED BY	K.M.G.

DRAWING NO. SP-4
SHEET 6 / 6

Z:\E\19249\000 ProDwng Pugsley\SD SP 1-4.dwg, 2/24/2022 8:53:33 PM, JeffGriffen 11

LEGEND

- EXISTING PROPERTY LINE
- YARD SETBACK
- EXISTING STONEWALL
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING WETLAND WATERCOURSE
- EXISTING WETLAND SYMBOL
- EXISTING WETLAND LIMIT LINE
- TOWN WETLAND/WATERCOURSE BUFFER
- NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE
- NYCDEP 100' WATERCOURSE LIMITING DISTANCE
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR

GENERAL NOTES:

1. Property lines shown taken from map entitled "Map of Alienation Parcels Prepared for Proswing..." dated March 6, 2020 prepared by Insite Engineering, Surveying, and Landscape Architecture P.C
2. Existing topography and site features shown hereon derived from Aerial Photogrammetry, created from a drawing entitled "Pugsley Road", by Geomaps International photo dated November 30, 2019 and obtained January 13, 2020. Elevations show hereon are in vertical datum NAVD 88. The contour interval is 2'.
3. Wetlands shown hereon in Tax Map# 45.-1-10 and 45.-1-11 were flagged by Ecological Analysis on November 27, 2019 and field located by Insite Engineering, Surveying, and Landscape Architecture P.C. on December 18, 2019. Wetland LC-18 shown hereon is approximate and is based on public record of wetland location provided in the Commercial Campus at Fields Corner project and NYSDEC Environmental Mapper.
4. Wetland flag "WL F72-A" was modified in the field by Sarah Pawliczak of the NYSDEC on July 9, 2020. This drawing reflects the modified location of the wetland flag.
5. NYCDEP watercourses within the vicinity of a NYSDEC wetland are assumed to located within the NYSDEC wetland boundary.
6. Proposed project limit of disturbance is approximately 49± acres.

LOCATION MAP SCALE: 1" = 1,000'±

OWNER:

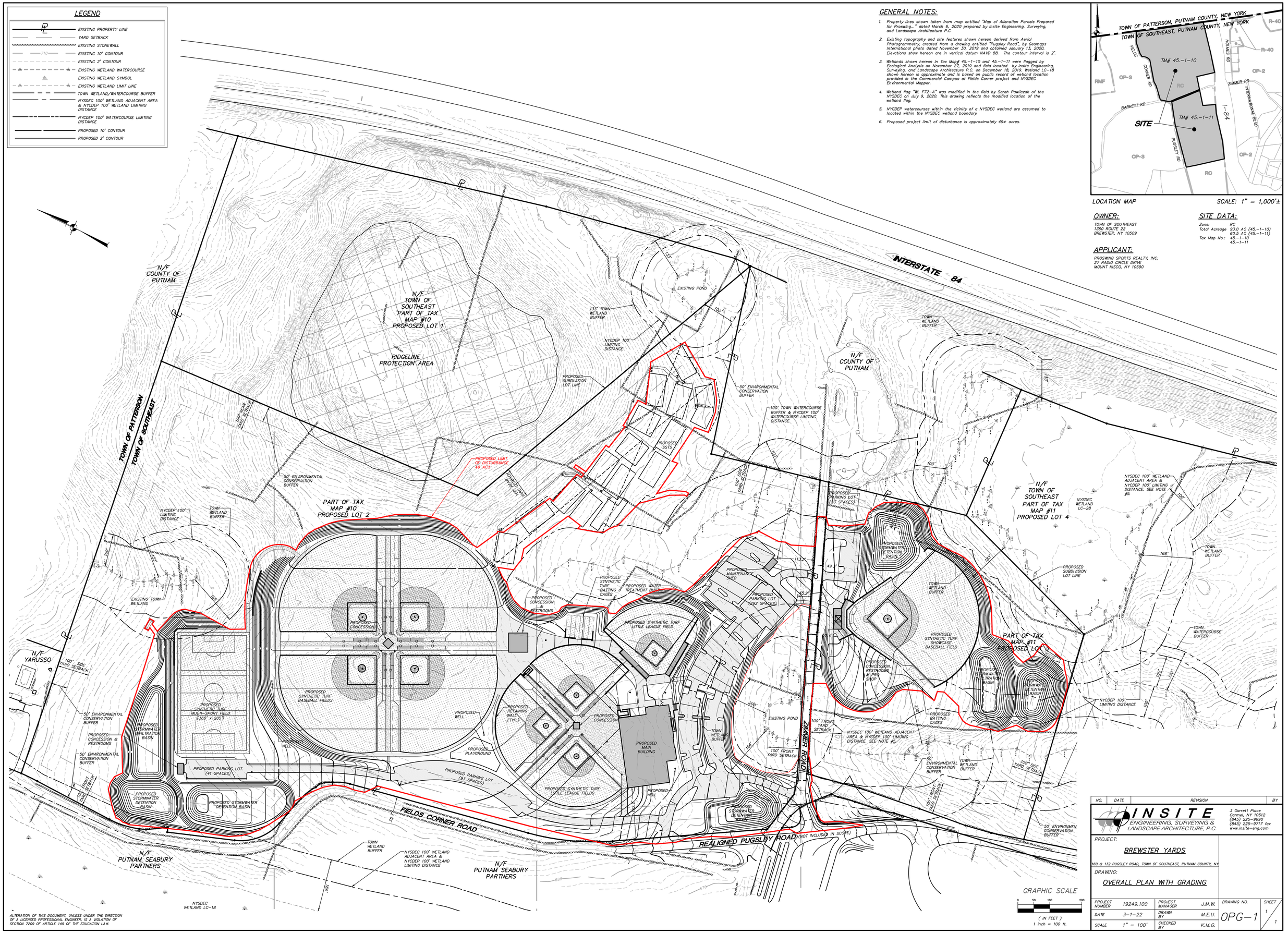
TOWN OF SOUTHEAST
1360 ROUTE 22
BREWSTER, NY 10509

APPLICANT:

PROSWING SPORTS REALTY, INC.
27 RADIO CIRCLE DRIVE
MOUNT KISCO, NY 10590

SITE DATA:

Zone:	RC
Total Acreage	93.0 AC (45.-1-10) 60.5 AC (45.-1-11)
Tax Map No.:	45.-1-10 45.-1-11



GRAPHIC SCALE
0 50 100 200
(IN FEET)
1 inch = 100 ft.

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

NO.	DATE	REVISION	BY

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
BREWSTER YARDS
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING:
OVERALL PLAN WITH GRADING

PROJECT NUMBER	19249.100	PROJECT MANAGER	J.M.W.	DRAWING NO.	SHEET
DATE	3-1-22	DRAWN BY	M.E.U.	OPG-1	1 / 1
SCALE	1" = 100'	CHECKED BY	K.M.G.		

Z:\E\19249\000 Proswing Pugsley Video Drawing Files\01 DWG Dwg, 3/29/2022 2:11:05 PM, JaysEngineer, 1:1

LEGEND

- EXISTING PROPERTY LINE
- YARD SETBACK
- EXISTING STONEWALL
- EXISTING 10' CONTOUR
- EXISTING WETLAND WATERCOURSE
- EXISTING WETLAND SYMBOL
- EXISTING WETLAND LIMIT LINE
- TOWN WETLAND/WATERCOURSE BUFFER
- NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE
- NYCDEP 100' WATERCOURSE LIMITING DISTANCE
- PROPOSED 2' LIMIT OF DISTURBANCE

SLOPES TABLE

Number	Minimum Slope	Maximum Slope	Color	Entire Parcel (sf)	Subdivided Lot (sf)	L.O.D. (sf)*
1	0%	15%		4,629,118	2,703,542	1,826,423
2	15%	25%		1,373,656	653,018	239,236
3	25%	Vertical		681,686	205,585	48,439

* LOD Includes Disturbance On Zimmer Road

SOILS LEGEND

SOILS	DESCRIPTION	HYDROLOGICAL GROUP
ChC	Charlton fine sandy loam, 8% to 15% slopes	B
CrC	Charlton–Chatfield complex 0% to 15% slopes	B
CsD	Chatfield–Charlton complex, 15% to 35% slopes	B
CtC	Chatfield–Hollis–Rock outcrop complex, 0% to 15% slopes	B
HrF	Hollis–Rock outcrop complex, 35% to 60% slopes	D
LcB	Leicester loam, 3% to 8% slopes, stony	A/D
NcA	Natchaug muck, 0% to 2% slopes	B/D
PnB	Paxton fine sandy loam, 2% to 8% slopes	C
PnC	Paxton fine sandy loam, 8% to 15% slopes	C
RdB	Ridgebury complex, 3% to 8% slopes	D
RgB	Ridgebury complex, 0% to 8% slopes	D
Sh	Sun loam	C/D
SuB	Sutton loam, 3% to 8% slopes	B
Ub	Udorthents, smoothed	B
W	Water	–
WdB	Woodbridge loam, 3% to 8% slopes	C/D
WdC	Woodbridge loam, 8% to 15% slopes	C/D

NRCS Soil Boundary Line

INTERSTATE 84

TOWN OF PATTERSON / TOWN OF SOUTHEAST

N/F COUNTY OF PUTNAM

N/F TOWN OF SOUTHEAST PART OF TAX MAP #10 PROPOSED LOT 1

PART OF TAX MAP #10 PROPOSED LOT 2

N/F TOWN OF SOUTHEAST PART OF TAX MAP #11 PROPOSED LOT 4

PART OF TAX MAP #11 PROPOSED LOT 3

N/F YARUSSO

N/F PUTNAM SEABURY PARTNERS

RIDGELINE PROTECTION AREA

EXISTING POND

PROPOSED MAIN BUILDING

PROPOSED CONCESSION & RESTROOMS

PROPOSED CONCESSION

PROPOSED CONCESSION, RESTROOMS & PRO SHOP

PROPOSED MAINTENANCE SHED

PROPOSED WATER TREATMENT BUILDING

PROPOSED PARKING LOT (292 SPACES)

PROPOSED PARKING LOT (41 SPACES)

PROPOSED PARKING LOT (93 SPACES)

PROPOSED PARKING LOT (23 SPACES)

PROPOSED SYNTHETIC TURF BASEBALL FIELDS

PROPOSED SYNTHETIC TURF MULTI-SPORT FIELD (360' x 205')

PROPOSED SYNTHETIC TURF LITTLE LEAGUE FIELD

PROPOSED SYNTHETIC TURF LITTLE LEAGUE FIELD

PROPOSED SYNTHETIC TURF SHOWCASE BASEBALL FIELD

PROPOSED SYNTHETIC TURF BATTING CAGES

PROPOSED BATTING CAGES

PROPOSED PLAYGROUND

PROPOSED RETAINING WALL (TYP.)

PROPOSED WELL

PROPOSED STORMWATER DETENTION BASIN

PROPOSED STORMWATER INFILTRATION BASIN

PROPOSED STORMWATER DETENTION BASIN

PROPOSED STORMWATER DETENTION BASIN

PROPOSED STORMWATER DETENTION BASIN

PROPOSED SUBDIVISION LOT LINE

PROPOSED LIMIT OF DISTURBANCE

PROPOSED SUBDIVISION LOT LINE

PROPOSED SUBDIVISION LOT LINE

EXISTING TOWN WETLAND

TOWN WETLAND BUFFER

NYCDEP 100' LIMITING DISTANCE

NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE

NYSDEC WETLAND LC-18

NYSDEC WETLAND LC-28

NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' LIMITING DISTANCE. SEE NOTE #5.

NYSDEC 100' WETLAND ADJACENT AREA & NYCDEP 100' WETLAND LIMITING DISTANCE

50' ENVIRONMENTAL CONSERVATION BUFFER

100' TOWN WATERCOURSE BUFFER & NYCDEP 100' WATERCOURSE LIMITING DISTANCE.

100' FRONT YARD SETBACK

100' SIDE YARD SETBACK

50' FRONT YARD SETBACK

FIELDS CORNER ROAD

REALIGNED PUGSLEY ROAD (NOT INCLUDED IN SCOPE)

ZIMMER ROAD

GRAPHIC SCALE

0 50 100 200

(IN FEET)

1 inch = 100 ft.

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

NO.	DATE	REVISION	BY
2	3-1-22	PLANNING BOARD SUBMISSION	TMB
1	12-15-21	GENERAL REVISIONS	MEU

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

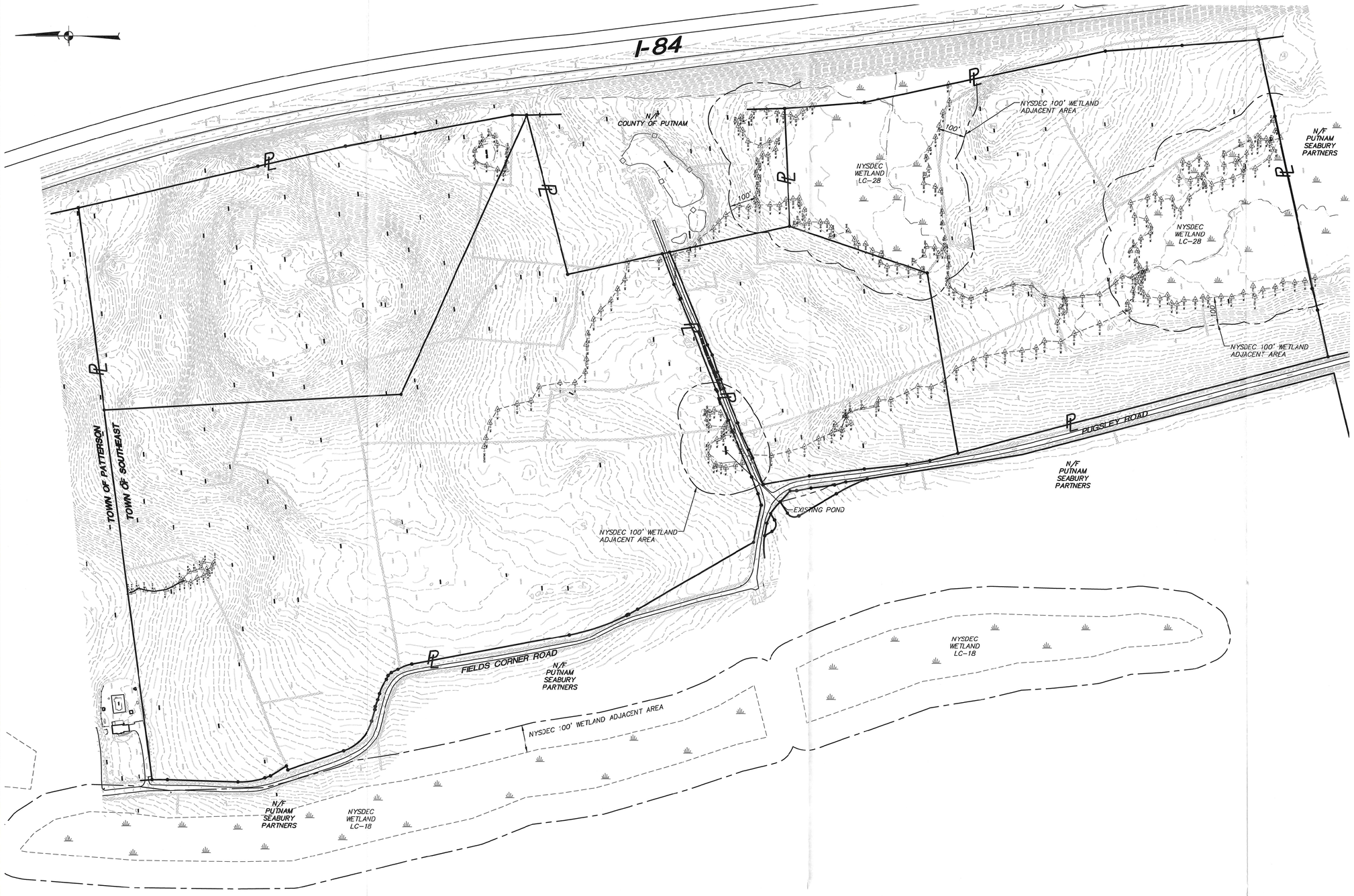
PROJECT:
BREWSTER YARDS
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

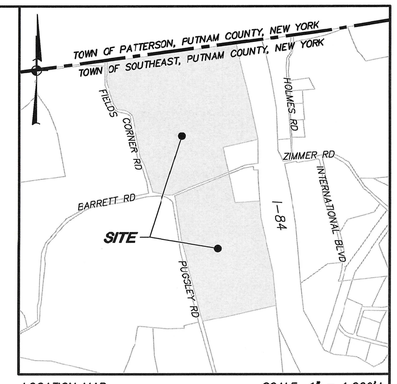
DRAWING:
SOILS & SLOPES MAP

PROJECT NUMBER	19249.100	PROJECT MANAGER	J.M.W.
DATE	8-20-21	DRAWN BY	M.E.U.
SCALE	1" = 100'	CHECKED BY	K.M.G.

DRAWING NO. SS-1 SHEET 1 / 1

Z:\E19\N100\Proofing Together\3-5-5 Leg. 3/4/2022 8:15:57 AM, ashler.11





LOCATION MAP SCALE: 1" = 1,000'±

OWNER:

TOWN OF SOUTHEAST
1360 ROUTE 22
BREWSTER, NY 10509

SITE DATA:

Zone: RC
Total Acreage 93.0 AC (45.-1-10)
60.5 AC (45.-1-11)
Tax Map No.: 45.-1-10
45.-1-11

APPLICANT:

PROSWING SPORTS REALTY, INC.
14 AUTUMN RIDGE ROAD
SOUTH SALEM, NY 10590

GENERAL NOTES:

1. Property lines shown taken from map entitled "Map of Allenation Parcels Prepared for Proswing..." dated Mach 6, 2020 prepared by Insite Engineering, Surveying, and Landscape Architecture P.C
2. Existing topography and site features shown hereon derived from Aerial Photogrammetry, created from a drawing entitled "Pugsley Road", by Geomaps International photo dated November 30, 2019 and obtained January 13, 2020. Elevations show hereon are in vertical datum NAVD 88. The contour interval is 2'.
3. Wetlands shown hereon were flagged by Ecological Analysis on November 27, 2019 and field located by Insite Engineering, Surveying, and Landscape Architecture P.C. on December 18, 2019.
4. Wetland flag "WL F72-A" was modified in the field by Sarah Pawliczak of the NYSDEC on July 9, 2020. This drawing reflects the modified location of the wetland flag.

LEGEND

- EXISTING PROPERTY LINE
- 100' YARD SETBACK
- EXISTING APPROXIMATE EDGE OF ROAD
- 710 EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING WATERCOURSE
- EXISTING WETLAND SYMBOL
- EXISTING WETLAND LIMIT LINE
- NYSDEC 100' WETLAND ADJACENT AREA

NYSDEC FRESHWATER WETLAND BOUNDARY VALIDATION

The freshwater wetland boundary as represented on these plans accurately depicts the limits of Freshwater Wetland LC-28 as delineated by Ecological Analysis on November 27, 2019.

DEC Staff: Sarah Pawliczak 07 29 2020 Surveyor/Engineer:

Date Valid: 07/29/2020 Expiration Date: 07/29/2025 SEAL

JOHN M. WATSON LICENSED PROFESSIONAL ENGINEER NO. 77830 STATE OF NEW YORK

Wetland boundary delineations as validated by the New York State Department of Environmental Conservation remain valid for five (5) years unless existing exempt activities, area hydrology, or land use practices change (e.g., agricultural to residential). After five (5) years the boundary must be revalidated by DEC staff. Revalidation may include a new delineation and survey of the wetland boundary.

Any proposed construction, grading, filling, excavating, clearing or other regulated activity in the freshwater wetland or within 100 feet of the wetland boundary as depicted on this plan requires a permit from the NYS Department of Environmental Conservation under Article 24 of the Environmental Conservation Law (Freshwater Wetlands Act) prior to commencement of work.

GRAPHIC SCALE
0 75 150 300
(IN FEET)
1 inch = 150 ft.

REVIEWED
JUL 7 2020
Natural Resources
NYSDEC Region 3, New Paltz

NO.	DATE	REVISION	BY

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9590
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
PROSWING SPORTS
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

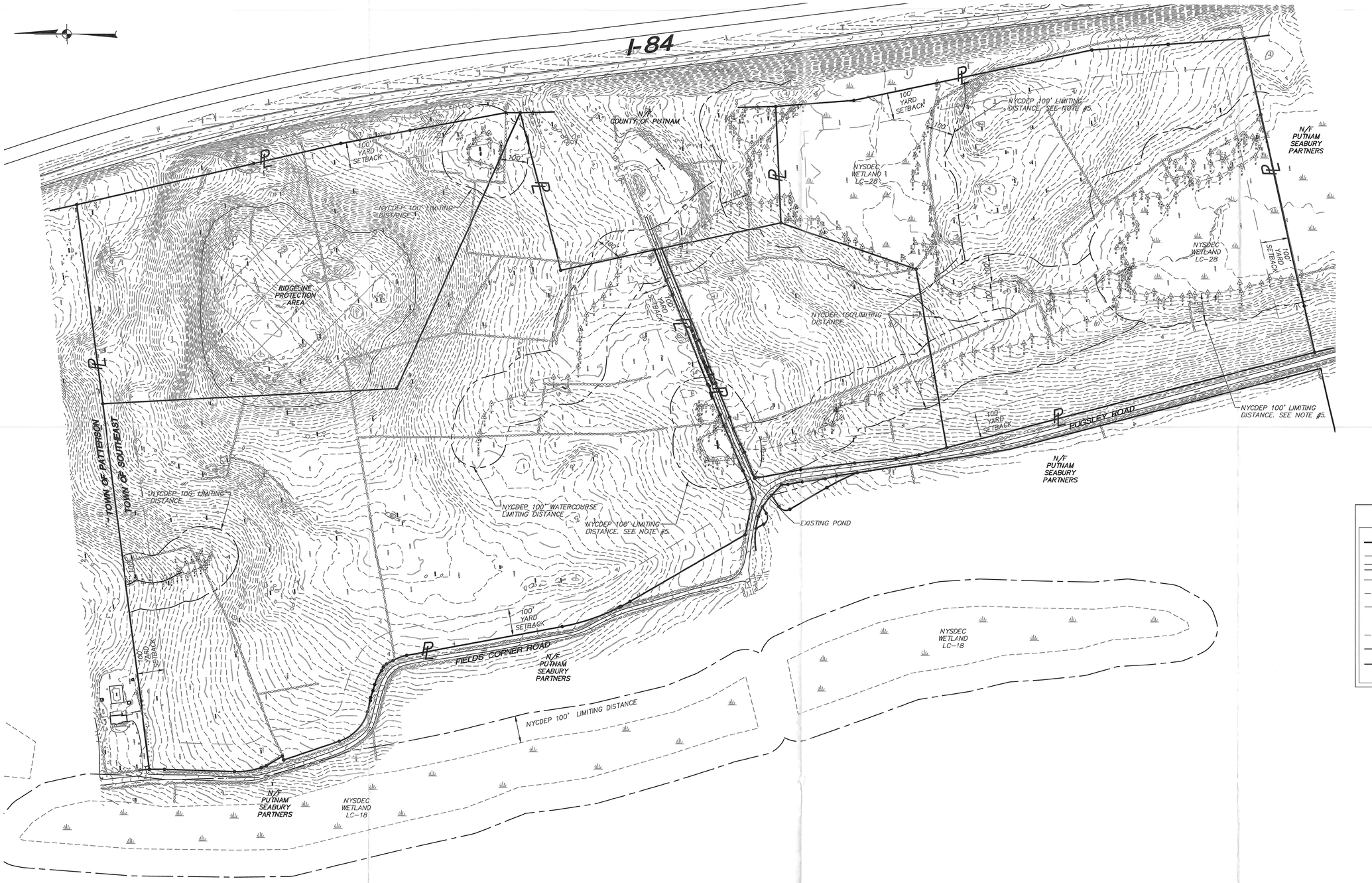
DRAWING:
WETLAND VALIDATION MAP

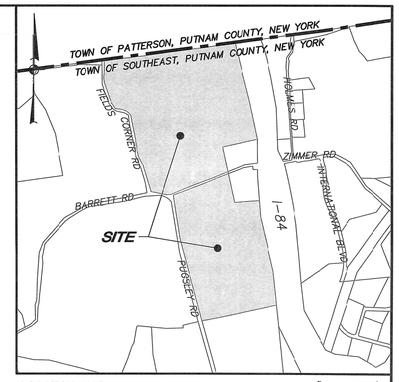
JOHN M. WATSON LICENSED PROFESSIONAL ENGINEER NO. 77830 STATE OF NEW YORK

PROJECT NUMBER	19245.100	PROJECT MANAGER	J.M.W.
DATE	7-9-20	DRAWN BY	J.F.R.
SCALE	1" = 150'	CHECKED BY	K.M.G.

DRAWING NO. WV-1 SHEET 1 / 1

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.





LOCATION MAP SCALE: 1" = 1,000'±

OWNER:

TOWN OF SOUTHEAST
1,380 ROUTE 22
BREWSTER, NY 10509

SITE DATA:

Zone: RC
Total Acreage 83.0 AC (45.-1-10)
60.5 AC (45.-1-11)
Tax Map No.: 45.-1-10
45.-1-11

APPLICANT:

PROSWING SPORTS REALTY, INC.
14 AUTUMN RIDGE ROAD
SOUTH SALEM, NY 10590

GENERAL NOTES:

1. Property lines shown taken from map entitled "Map of Alienation Parcels Prepared for Proswing..." dated Mach 6, 2020 prepared by Insite Engineering, Surveying, and Landscape Architecture P.C
2. Existing topography and site features shown hereon derived from Aerial Photogrammetry, created from a drawing entitled "Pugsley Road", by Geomaps International photo dated November 30, 2019 and obtained January 13, 2020. Elevations show hereon are in vertical datum NAVD 88. The contour interval is 2'.
3. Wetlands shown hereon were flagged by Ecological Analysis on November 27, 2019 and field located by Insite Engineering, Surveying, and Landscape Architecture P.C. on December 18, 2019.
4. Wetland flag "WL F72-A" was modified in the field by Sarah Pawlczak of the NYSDEC on July 9, 2020. This drawing reflects the modified location of the wetland flag.
5. NYCDEP watercourses within the vicinity of a NYSDEC wetland are assumed to located within the NYSDEC wetland boundary.

LEGEND

- EXISTING PROPERTY LINE
- 100' YARD SETBACK
- EXISTING APPROXIMATE EDGE OF ROAD
- 710 EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING WATERCOURSE
- EXISTING WETLAND SYMBOL
- EXISTING WETLAND LIMIT LINE
- NYCDEP 100' LIMITING DISTANCE
- EXISTING NYCDEP 100' WATERCOURSE LIMITING DISTANCE

NYCDEP Watercourse Delineation Validation

The watercourse delineations as represented on this plan accurately depicts the limits of the NYCDEP watercourses as verified by Jason Coppola on 9/8/20

NYCDEP Represeniative Signature _____ Date of Confirmation 11/5/2020

Watercourse delineations as confirmed by NYCDEP remain valid for five years from date of confirmation. For official use of the watercourse delinections after this five year period, the delineations must be reconfirmed by NYCDEP staff. This may include reflagging and surveying of the watercourse delineations if changes are noted.

GRAPHIC SCALE
0 75 150 300
(IN FEET)
1 inch = 150 ft.

NO.	DATE	REVISION	BY

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place
Carmel, NY 10512
(845) 225-9690
(845) 225-9717 fax
www.insite-eng.com

PROJECT:
PROSWING SPORTS
160 & 132 PUGSLEY ROAD, TOWN OF SOUTHEAST, PUTNAM COUNTY, NY

DRAWING:
WATERCOURSE VALIDATION MAP

STATE OF NEW YORK JOHN W. WATERS No. 77595 LICENSED PROFESSIONAL ENGINEER

PROJECT NUMBER	19249.100	PROJECT MANAGER	J.M.W.
DATE	10-29-20	DRAWN BY	J.F.R.
SCALE	1" = 150'	CHECKED BY	K.M.G.

DRAWING NO. WC-1 SHEET 1/1

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.